

# कृषि तथा पशुपन्धी तालिम पाठ्यक्रम

## Agriculture and Livestock Training Curriculum



**Government of Nepal**  
**Ministry of Agriculture and Livestock Development**  
**Agriculture Information and Training Centre**  
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## विषयसूची

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|    |                                                                                             |    |
|----|---------------------------------------------------------------------------------------------|----|
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### मत्स्यपालन तालिम

|   |                                                                    |     |
|---|--------------------------------------------------------------------|-----|
| 1 | Commercial Carp Fish Farming Training (Officer level) (one weeks)  | 96  |
| 2 | Commercial Trout Fish Farming Training (Officer level) (one weeks) | 100 |

# कृषि तालिम पाठ्यक्रम

## Basic In Service Training on Agriculture Planning and Management for Gazetted class-II

Training Duration: 30 working days

Total no. of classes: 90

Session per day: 3

Session duration: 90 minutes

### Module I: Overview of Food and Agriculture Sector of Nepal

| Day | Time        | Title                                                                                            | Content Outline                                                                                                                                                                                                                                                                                                                                                                                                                         | Methodology         | Session |      |
|-----|-------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|------|
|     |             |                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                         |                     | Theo.   | Pra. |
| 1   | 10:30-12:00 | Overview of Nepalese Agriculture, Livestock and Fisheries in relation to Macro Economic Scenario | <ul style="list-style-type: none"> <li>• Characteristics of Nepalese Agriculture, Livestock and Fisheries in Macroeconomic perspective</li> <li>• Trends of Agricultural, Livestock and Fisheries development in terms of production, productivity and price</li> <li>• Agriculture trade situation, its determinants, and causes and consequences</li> <li>• Key issues, challenges and opportunities in agricultural trade</li> </ul> | Lecture, Discussion | 1       | 0    |
|     | 12:15-1:45  | Historical Perspectives of Agricultural, Livestock and Fisheries Development                     | <ul style="list-style-type: none"> <li>• Priorities and major programs in various periodic plans</li> <li>• Technology development (Research) and extension approaches in agriculture, livestock and fisheries</li> </ul>                                                                                                                                                                                                               | Lecture, Discussion | 1       | 0    |
|     | 2:30-4:00   | Food Sovereignty, Right to Food and Food and Nutrition Security                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                         | Lecture, Discussion | 1       | 0    |

|                                                                       |             |                                                                                                                      |                                                                                                                                                                                                                                                                             |                     |       |   |   |
|-----------------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------|---|---|
|                                                                       | 10:30-12:00 | An overview of Agriculture related Policies, Acts and Rules                                                          | <ul style="list-style-type: none"> <li>• Critical analysis of agriculture related policies</li> <li>• Main features of some important acts and rules</li> <li>• Implementation status and weakness</li> <li>• Suggestive approaches for effective implementation</li> </ul> | Lecture, Discussion | 1     | 0 |   |
| 2                                                                     | 12:15-1:45  | Land Use Policy and Management                                                                                       |                                                                                                                                                                                                                                                                             | Lecture, Discussion | 1     | 0 |   |
|                                                                       | 2:30-4:00   | Major drivers and constraints of agriculture Modernization (commercialization and mechanization)                     |                                                                                                                                                                                                                                                                             |                     | 1     | 0 |   |
| 3                                                                     | 10:30-12:00 | Farmers welfare and support policies of Government of Nepal                                                          |                                                                                                                                                                                                                                                                             | Lecture, Discussion | 1     | 0 |   |
|                                                                       | 12:15-1:45  | Current state of Technology Development, Advancement and Linkage among Education, Research and Extension Institution | <ul style="list-style-type: none"> <li>• concept and principles</li> <li>• current status, opportunities, gaps and challenges</li> <li>• way forward</li> </ul>                                                                                                             | Lecture, Discussion | 1     | 0 |   |
|                                                                       | 2:30-4:00   | Agriculture Development Strategy (ADS)                                                                               | <ul style="list-style-type: none"> <li>• Overview of ADS in Federal context</li> <li>• Critical analysis of ADS implementation</li> </ul>                                                                                                                                   | Lecture, Discussion | 1     | 0 |   |
|                                                                       |             |                                                                                                                      |                                                                                                                                                                                                                                                                             |                     | Total | 9 | 0 |
| <b>Module II: Agricultural Program Planning: Tools and Techniques</b> |             |                                                                                                                      |                                                                                                                                                                                                                                                                             |                     |       |   |   |

|                                                    |             |                                                               |                                                                                                                                                                                                                                                                                            |                     |          |          |
|----------------------------------------------------|-------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|----------|
|                                                    | 10:30-12:00 | Overview of Agriculture Planning Process                      | <ul style="list-style-type: none"> <li>• Planning process of Federal, Provincial and Local levels</li> <li>• Linkage of three tiers of government in planning process</li> </ul>                                                                                                           | Lecture, Discussion | 1        | 0        |
| 4                                                  | 12:15-1:45  | Logical Framework Approach (LFA) of Project Formulation       | <ul style="list-style-type: none"> <li>• Basic principle and importance of LFA</li> <li>• Process of LFA</li> <li>• Component of Log Frame Matrix</li> </ul>                                                                                                                               | Lecture, Discussion | 1        | 0        |
|                                                    | 2:30-4:00   | Constructing Log Frame Matrix                                 | <ul style="list-style-type: none"> <li>• Group Exercise</li> </ul>                                                                                                                                                                                                                         | Group Exercise      | 0        | 1        |
|                                                    | 10:30-12:00 | Monitoring and Evaluation of agriculture program and projects | <ul style="list-style-type: none"> <li>• Benefit Monitoring &amp; Evaluation (BME)</li> <li>• Participatory Monitoring and Evaluation (PME)</li> <li>• Monitoring and Evaluation Tools and Technique</li> <li>• Characteristics of good indicators of monitoring and evaluation</li> </ul> | Lecture, Discussion | 1        | 0        |
| 5                                                  | 12:15-1:45  | M & E practices in agriculture programs and projects in Nepal |                                                                                                                                                                                                                                                                                            | Exercise            | 0        | 1        |
|                                                    | 2:30-4:00   |                                                               |                                                                                                                                                                                                                                                                                            | Lecture, Discussion | 0        | 0        |
|                                                    |             |                                                               |                                                                                                                                                                                                                                                                                            | <b>Total</b>        | <b>3</b> | <b>2</b> |
| <b>Module III: Governance and Service Delivery</b> |             |                                                               |                                                                                                                                                                                                                                                                                            |                     |          |          |
| 6                                                  | 10:30-12:00 | Recent Development in Public Management in Nepal              |                                                                                                                                                                                                                                                                                            | Lecture, Discussion | 1        | 0        |
|                                                    | 12:15-1:45  | Good Governance                                               | <ul style="list-style-type: none"> <li>• Concept and features of Good Governance</li> <li>• Government efforts being undertaken to ensure Good Governance</li> </ul>                                                                                                                       | Lecture, Discussion | 1        | 0        |
|                                                    | 2:30-4:00   | Inclusive Governance                                          |                                                                                                                                                                                                                                                                                            | Lecture, Discussion | 1        | 0        |



|                                                                            |             |                                                                               |                                                                                                                                                                                                                                                    |                     |          |          |
|----------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|----------|
|                                                                            | 10:30-12:00 | Accountability, Responsiveness and Integrity (ARI) in Public Service Delivery |                                                                                                                                                                                                                                                    | Lecture, Discussion | 1        | 0        |
| 7                                                                          | 12:15-1:45  | MIS/E-Governance                                                              | <ul style="list-style-type: none"> <li>• Importance of MIS in an organization</li> <li>• Importance of E-Governance in present context</li> </ul>                                                                                                  | Lecture, Discussion | 1        | 0        |
|                                                                            | 2:30-4:00   | Financial Administration                                                      | <ul style="list-style-type: none"> <li>• Main features of fiscal administration act &amp; regulation</li> <li>• Common unintentional errors in fiscal administration</li> <li>• Problems &amp; challenges</li> </ul>                               | Lecture, Discussion | 1        | 0        |
| 8                                                                          | 10:30-12:00 | Management of Public Procurement                                              |                                                                                                                                                                                                                                                    | Lecture, Discussion | 1        | 0        |
|                                                                            | 12:15-1:45  | Disaster management                                                           | <ul style="list-style-type: none"> <li>• •Concept and importance</li> <li>•Preparedness, early warning and mitigation system in Nepal</li> <li>•Mechanism of disaster management in Nepal</li> <li>•Tips for better disaster management</li> </ul> | Lecture, Discussion | 1        | 0        |
|                                                                            | 2:30-4:00   | Right to Information                                                          |                                                                                                                                                                                                                                                    | Lecture, Discussion | 1        | 0        |
|                                                                            |             |                                                                               |                                                                                                                                                                                                                                                    | <b>Total</b>        | <b>9</b> | <b>0</b> |
| <b>Module IV: Managing Self &amp; Managing Interpersonal Relationships</b> |             |                                                                               |                                                                                                                                                                                                                                                    |                     |          |          |
| 9                                                                          | 10:30-12:00 | Managing Self                                                                 |                                                                                                                                                                                                                                                    | Lecture, Discussion | 1        | 0        |
|                                                                            | 12:15-1:45  | Appreciative Inquiry: developing positive attitude                            |                                                                                                                                                                                                                                                    | Lecture, Discussion | 1        | 0        |
|                                                                            | 2:30-4:00   | Managing Time and Priority                                                    | <ul style="list-style-type: none"> <li>• Importance of Time</li> <li>• Effective time management</li> </ul>                                                                                                                                        | Lecture, Discussion | 1        | 0        |

|       |             |                                              |                                                                                                                                                                             |                     |    |   |
|-------|-------------|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----|---|
| 10    | 10:30-12:00 | Stress management                            | <ul style="list-style-type: none"> <li>• Causes and impacts of stress</li> <li>• Managing stress</li> </ul>                                                                 | Lecture, Discussion | 1  | 0 |
|       | 12:15-1:45  | Motivation Skills                            | <ul style="list-style-type: none"> <li>• Concept and theories of work motivation</li> <li>• Work motivation practices in Nepal</li> </ul>                                   | Lecture, Discussion | 1  | 0 |
|       | 2:30-4:00   | Emotional Intelligence                       |                                                                                                                                                                             | Lecture, Discussion | 1  | 0 |
| 11    | 10:30-12:00 | Decision Making Skills                       | <ul style="list-style-type: none"> <li>• Concepts</li> <li>• Decision making steps</li> <li>• Decision making practices in Nepal</li> </ul>                                 | Lecture, Discussion | 1  | 0 |
|       | 12:15-1:45  | Leadership Skill                             | <ul style="list-style-type: none"> <li>• Concepts, characteristics of a good leader</li> <li>• Effective leadership</li> </ul>                                              | Lecture, Discussion | 1  | 0 |
|       | 2:30-4:00   | Interpersonal Relationship                   | <ul style="list-style-type: none"> <li>• Concepts of interpersonal relationship</li> <li>• Maintaining good interpersonal relationship</li> </ul>                           | Lecture, Discussion | 1  | 0 |
| 12    | 10:30-12:00 | Team building                                | <ul style="list-style-type: none"> <li>• Importance, stages and effectiveness</li> </ul>                                                                                    | Lecture, Discussion | 1  | 0 |
|       | 12:15-1:45  | Total Quality Management (TQM)               | <ul style="list-style-type: none"> <li>• Quality service, Quality product and improvement</li> <li>• Quality circle</li> </ul>                                              | Lecture, Discussion | 1  | 0 |
|       | 2:30-4:00   | Managing Conflict for Personal Effectiveness | <ul style="list-style-type: none"> <li>• Understanding interpersonal conflict at work place</li> <li>• Conflict styles</li> <li>• Conflict resolution techniques</li> </ul> | Lecture, Discussion | 1  | 0 |
| 13    | 10:30-12:00 | Negotiating Effectively                      | <ul style="list-style-type: none"> <li>• Importance of negotiation skills</li> <li>• Techniques of effective negotiation</li> </ul>                                         | Lecture, Discussion | 1  | 0 |
|       | 12:15-1:45  | Delegation of Authority                      | <ul style="list-style-type: none"> <li>• Advantage of authority delegation</li> <li>b. Techniques of authority delegation</li> </ul>                                        | Lecture, Discussion | 1  | 0 |
|       | 2:30-4:00   |                                              |                                                                                                                                                                             |                     | 0  | 0 |
| Total |             |                                              |                                                                                                                                                                             |                     | 14 | 0 |

| <b>Module V: Cross-cutting Areas/Emerging trends in Agriculture</b> |                                                                               |                                                                                                                                                                                                                                                                                                                                                                  |                     |    |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----|
| 10:30-12:00                                                         | Agricultural Governance in Federal context                                    | <ul style="list-style-type: none"> <li>• Constitutional Provisions</li> <li>• Structure and Functions</li> <li>• Resource Mobilization for Agriculture Development in Federal Framework</li> <li>• Issues and Suggestions for improving coordination between three tiers of government Nepal</li> </ul>                                                          | Lecture, Discussion | 10 |
| 12:15-1:45                                                          | WTO and Regional Trading Arrangements                                         | <ul style="list-style-type: none"> <li>• Concept of globalization</li> <li>• Genesis of WTO</li> <li>• Major agreements - AOA, TRIPS, SPS and TBT</li> <li>• Challenges and opportunities of Nepalese Agriculture in post accession phase</li> <li>• Advantages and disadvantages of joining Regional Trading Arrangements such as BIMSTC, BRI, SASEC</li> </ul> | Lecture, Discussion | 10 |
| 2:30-4:00                                                           | Intergovernmental organizations in Agriculture Sector (OIE, IPCC, CODEX.....) |                                                                                                                                                                                                                                                                                                                                                                  | Lecture, Discussion | 10 |
| 10:30-12:00                                                         | Indo-Nepal Agriculture Trade, Issues, Challenges and Ways Forward             |                                                                                                                                                                                                                                                                                                                                                                  | Lecture, Discussion | 10 |
| 12:15-1:45                                                          | Gender and Social Inclusion (GESI)                                            | <ul style="list-style-type: none"> <li>• Gender analysis in agriculture planning</li> <li>• Mainstreaming gender equity in agriculture</li> <li>• Gender Responsive Budget (GRB)</li> <li>• Social inclusion analysis in agriculture planning</li> </ul>                                                                                                         | Lecture, Discussion | 10 |

|    |             |                                                                                         |                                                                                                                                                                                                                                                       |                     |   |   |
|----|-------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|
|    | 2:30-4:00   | Agricultural Marketing and Marketing Management                                         | <ul style="list-style-type: none"> <li>• Status of agricultural marketing and market management in Nepal</li> <li>• Issues and constraints</li> <li>• New approaches in agricultural marketing</li> </ul>                                             | Lecture, Discussion | 1 | 0 |
| 16 | 10:30-12:00 | Genesis, present status, problems and opportunity of Agricultural Cooperatives in Nepal |                                                                                                                                                                                                                                                       | Lecture, Discussion | 1 | 0 |
|    | 12:15-1:45  | Agriculture Insurance                                                                   |                                                                                                                                                                                                                                                       | Lecture, Discussion | 1 | 0 |
|    | 2:30-4:00   | Concept and practice of Value Chain Development in Agriculture                          |                                                                                                                                                                                                                                                       | Lecture, Discussion | 1 | 0 |
|    | 10:30-12:00 | Climate Change & Agriculture in Nepal                                                   | <ul style="list-style-type: none"> <li>• Impact and Adaptation Strategies</li> <li>• Climate smart agriculture</li> </ul>                                                                                                                             | Lecture, Discussion | 1 | 0 |
| 17 | 12:15-1:45  | Organic Farming & Certification System; and GAP                                         | <ul style="list-style-type: none"> <li>• World scenario</li> <li>• Government policies and priorities in Organic Farming</li> <li>• Status and Scope in Nepal</li> <li>• Certification System</li> <li>• Good Agricultural Practices (GAP)</li> </ul> | Lecture, Discussion | 1 | 0 |
|    | 2:30-4:00   | Modern Information and Communication Technologies for Agricultural Development          | <ul style="list-style-type: none"> <li>• Review of conventional ICTs in agriculture</li> <li>• Digital agriculture</li> <li>• Use of social media in agriculture</li> <li>• Internet of things</li> </ul>                                             | Lecture, Discussion | 1 | 0 |

|                                |             |                                                                            |                                                                                                                                                                                                                                                |                     |    |   |
|--------------------------------|-------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----|---|
| 18                             | 10:30-12:00 | Youth and Agriculture (Rationale, strategies, Possible Intervention areas) |                                                                                                                                                                                                                                                | Lecture, Discussion | 1  | 0 |
|                                | 12:15-1:45  | Protocol and etiquette for officials                                       |                                                                                                                                                                                                                                                | Lecture, Discussion | 1  | 0 |
|                                | 2:30-4:00   | Protocol and etiquette for officials                                       |                                                                                                                                                                                                                                                |                     | 0  | 1 |
|                                |             |                                                                            |                                                                                                                                                                                                                                                | Total               | 14 | 1 |
| <b>Module VI: Project Work</b> |             |                                                                            |                                                                                                                                                                                                                                                |                     |    |   |
| 19                             | 10:30-12:00 | Preparation of Project Concept Note (PCN)                                  | <ul style="list-style-type: none"> <li>• Concept and importance of PCN</li> <li>• Common format of PCN</li> </ul>                                                                                                                              | Lecture, Discussion | 1  | 0 |
|                                | 12:15-1:45  | Common Tools for Field Survey                                              | <ul style="list-style-type: none"> <li>• Different Participatory Tools and Techniques</li> </ul>                                                                                                                                               | Lecture, Discussion | 1  | 0 |
|                                | 2:30-4:00   | Research Methods in Agriculture Development                                | <ul style="list-style-type: none"> <li>• Research needs of Agricultural, Livestock and Fisheries Development</li> <li>• Research as employed in agricultural extension and training</li> <li>• Participatory Technology Development</li> </ul> | Lecture, Discussion | 1  | 0 |
| 20                             | 10:30-12:00 | Research/ Proposal Writing                                                 | <ul style="list-style-type: none"> <li>• Need for preparing a Research / Study proposal</li> <li>• Common format of a Research/ Study proposal</li> <li>• Introduction to Field Study/ Project work</li> </ul>                                 | Lecture, Discussion | 1  | 0 |
|                                | 12:15-1:45  | Data Processing and Analysis                                               | <ul style="list-style-type: none"> <li>• Data coding and tabulation</li> <li>• Data analysis (use of major statistics and computer application)</li> <li>• Interpretation of results</li> <li>• Statistical Tests &amp; Inferences</li> </ul>  | Lecture, Discussion | 1  | 0 |
|                                | 2:30-4:00   | Report Writing Skills                                                      |                                                                                                                                                                                                                                                | Lecture, Discussion | 1  | 0 |

|             |                                         |  |                     |    |    |
|-------------|-----------------------------------------|--|---------------------|----|----|
| 10:30-12:00 | Presentation Skill                      |  | Lecture, Discussion | 1  | 0  |
| 12:15-1:45  | Preparation of Research/ Study Proposal |  | Lecture, Discussion | 1  | 0  |
| 2:30-4:00   | Preparation of Research/ Study Proposal |  | Lecture, Discussion | 1  | 0  |
| 22,23,24    | Field work                              |  |                     | 0  | 15 |
| 25,26       | Report Preparation                      |  |                     | 0  | 6  |
| 27          | Report Presentation                     |  |                     | 0  | 3  |
|             |                                         |  | Total               | 58 | 27 |
|             |                                         |  | Grand Total         |    | 85 |

(Training Materials: White board, Chart paper, Marker, Meta cards, Multimedia)

## Basic In Service Training on Agriculture Planning and Management for Gazetted class III

Training Duration: 30 working days

Total no. of classes: 90

Session per day: 3

Session duration: 90 minutes

Total number of classes: (Theory-61, Practical-29)

| <b>Module I: Managing Self &amp; Managing Interpersonal Skills</b> |             |                                      |                                                                                                                                                                                  |                     |         |      |
|--------------------------------------------------------------------|-------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|------|
| Day                                                                | S.N.        | Title                                | Content Outline                                                                                                                                                                  | Methodology         | Session |      |
|                                                                    |             |                                      |                                                                                                                                                                                  |                     | Theo.   | Pra. |
| 1                                                                  | 10:30-12:00 | Managing Self                        | <ul style="list-style-type: none"> <li>• Concept of self</li> <li>• Self awareness</li> <li>• Self management</li> </ul>                                                         | Lecture, Discussion | 1       | 0    |
|                                                                    | 12:15-1:45  | Developing Positive Attitude at Work | <ul style="list-style-type: none"> <li>• Features of positive attitude</li> <li>• Dimensions of positive attitude</li> <li>• Ways to develop positive attitude</li> </ul>        | Lecture, Discussion | 1       | 0    |
|                                                                    | 2:30-4:00   | Managing Time and Priority           | <ul style="list-style-type: none"> <li>• Importance of Time</li> <li>• Time and priority (urgent and importance)</li> <li>• Effective time management skill</li> </ul>           | Lecture, Discussion | 1       | 0    |
| 2                                                                  | 10:30-12:00 | Stress management                    | <ul style="list-style-type: none"> <li>• Causes, symptoms of stress</li> <li>• Impacts of stress in organization and individual</li> <li>• Methods of managing stress</li> </ul> | Lecture, Discussion | 1       | 0    |
|                                                                    | 12:15-1:45  | Motivation Skills                    | <ul style="list-style-type: none"> <li>• Concept and theories of work motivation</li> <li>• Motivating factors</li> <li>• Work motivation practices in Nepal</li> </ul>          | Lecture, Discussion | 1       | 0    |
|                                                                    | 2:30-4:00   | Emotional Intelligence               | <ul style="list-style-type: none"> <li>• Importance of emotions</li> <li>• Positive and negative emotions</li> <li>• Ways to manage emotions at work place</li> </ul>            |                     | 1       | 0    |

|   |             |                                 |                                                                                                                                                                                                                                |                     |    |   |
|---|-------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----|---|
|   | 10:30-12:00 | Decision Making Skills          | <ul style="list-style-type: none"> <li>• Concepts</li> <li>• Identifying different alternative/option</li> <li>• Selecting best alternative</li> <li>• Decision making practices in Nepal</li> </ul>                           | Lecture, Discussion | 1  | 0 |
| c | 12:15-1:45  | Effective Managerial Leadership | <ul style="list-style-type: none"> <li>• Concepts, characteristics of a good leader</li> <li>• Differentiation between manager and leader</li> <li>• Effective leadership styles</li> </ul>                                    | Lecture, Discussion | 1  | 0 |
|   | 2:30-4:00   | Interpersonal Relationship      | <ul style="list-style-type: none"> <li>• Concepts of interpersonal relationship</li> <li>• Managing ego state (child, adult, parent)</li> <li>• Maintaining effective interpersonal relationship</li> </ul>                    | Lecture, Discussion | 1  | 0 |
| d | 10:30-12:00 | Team building                   | <ul style="list-style-type: none"> <li>• Importance of team and group</li> <li>• Stages of team process</li> <li>• Managing team and service quality in the organization (TQM)</li> </ul>                                      | Lecture, Discussion | 1  | 0 |
|   | 12:15-1:45  | Managing Conflict               | <ul style="list-style-type: none"> <li>• Understanding conflict at work place</li> <li>• Conflict management strategies</li> <li>• Behavioral guidelines for managing conflict</li> </ul>                                      | Lecture, Discussion | 1  | 0 |
| e | 2:30-4:00   | Negotiating Effectively         | <ul style="list-style-type: none"> <li>• Importance of negotiation skills</li> <li>• Steps of negotiation</li> <li>• Techniques of effective negotiation</li> </ul>                                                            | Lecture, Discussion | 1  | 0 |
|   | 10:30-12:00 | Delegation of Authority         | <ul style="list-style-type: none"> <li>• Importance of delegation of authority</li> <li>• Process of delegating authority</li> <li>• Benefits of authority delegation</li> <li>• Techniques of authority delegation</li> </ul> | Lecture, Discussion | 1  | 0 |
|   | 12:15-1:45  | Living Spiritual Life           | <ul style="list-style-type: none"> <li>• Meaning of spirituality</li> <li>• Human relationship with spiritual being</li> <li>• Benefit of spiritual life</li> </ul>                                                            | Lecture, Discussion | 1  | 0 |
|   |             |                                 |                                                                                                                                                                                                                                | Total               | 14 | 0 |



| <b>Module II: Agriculture and related Sectoral Policies and Strategies</b> |             |                                                                             |                                                                                                                                                                                                                                                                                                     |                     |   |   |
|----------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|
| 9                                                                          | 10:30-12:00 | Agriculture Policies and Strategies of Nepal                                | <ul style="list-style-type: none"> <li>National Agricultural Policy, 2061</li> <li>Other Policies Related to Agriculture Development</li> <li>Agricultural Development Strategy (2015-2035)</li> </ul>                                                                                              | Lecture, Discussion | 1 | 0 |
|                                                                            | 12:15-1:45  | Historical Perspectives of Agricultural Development                         | <ul style="list-style-type: none"> <li>Overview of Nepalese agriculture sector and contemporary Issue</li> <li>Priorities and major programs in various periodic plans</li> <li>Technology development (Research) and extension approaches</li> <li>extension models in Nepal) in Nepal.</li> </ul> | Lecture, Discussion | 1 | 0 |
| 7                                                                          | 2:30-4:00   | Current Periodic Plan, vision 2100 and SDG's relevant to Agriculture Sector |                                                                                                                                                                                                                                                                                                     | Lecture, Discussion | 1 | 0 |
|                                                                            | 10:30-12:00 | Food sovereignty and food security                                          | Food Sovereignty, Right to Food and Food and Nutrition Security                                                                                                                                                                                                                                     | Lecture, Discussion | 1 | 0 |
| 8                                                                          | 12:15-1:45  | An overview of Agriculture related Acts and Rules                           | <ul style="list-style-type: none"> <li>Main features of some important acts and rules ( Focus on Seed, quarantine/animal health, fertilizer)</li> <li>Implementation status and weakness</li> <li>Suggestive approaches for effective implementation</li> </ul>                                     | Lecture, Discussion | 1 | 0 |
|                                                                            | 2:30-4:00   | Farmers welfare and support policies/programme of Government of Nepal       | <ul style="list-style-type: none"> <li>Farmers welfare, subsidy and support policies/programme in agriculture sector</li> </ul>                                                                                                                                                                     | Lecture, Discussion | 1 | 0 |
| 8                                                                          | 10:30-12:00 | Agricultural Research-Extension-Education Interface in Nepal                | <ul style="list-style-type: none"> <li>Introduction to NARC and its Activities</li> <li>Government Policy regarding Agriculture Research</li> <li>Research-Extension-Education Interface Mechanism</li> <li>Current Issues in Research-Extension Education Interface</li> </ul>                     | Lecture, Discussion | 1 | 0 |
|                                                                            | 12:15-1:45  | Regulatory Framework in Agriculture Sector                                  | Seed, Pesticide, Food Technology, Fertilizer, quarantine Pest and Diseases, Meat etc                                                                                                                                                                                                                | Lecture, Discussion | 1 | 0 |

|                                                                        |             | Total                                                                    |                                                                                                                                                                                                                                                                                                                                                                                            | 8                   | 0   |
|------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|
| <b>Module III: Agricultural Program Planning: Tools and Techniques</b> |             |                                                                          |                                                                                                                                                                                                                                                                                                                                                                                            |                     |     |
| 6                                                                      | 10:30-12:00 | Overview of Agriculture Planning Process                                 | <ul style="list-style-type: none"> <li>• Planning and Budgeting cycle</li> <li>• Planning process of Federal, Provincial and Local levels</li> <li>• Linkage of three tiers of government in planning process</li> <li>• Some tips for realistic planning and budgeting</li> </ul>                                                                                                         | Lecture, Discussion | 1 0 |
|                                                                        | 12:15-1:45  | Overview of Project and Project Cycle                                    | <ul style="list-style-type: none"> <li>• Concept of Project and Project Cycle</li> <li>• Different aspects of project preparation, Construction of problem tree, objective tree and solution tree</li> <li>• Case study from our completed or ongoing Projects regarding Project and Project Cycle</li> </ul>                                                                              | Lecture, Discussion | 1   |
|                                                                        | 2:30-4:00   | Logical Framework Approach (LFA) of Project Formulation                  | <ul style="list-style-type: none"> <li>• Basic principle and importance of LFA</li> <li>• Process of LFA</li> <li>• Component of Log Frame Matrix</li> <li>• Group Exercise on Constructing Log Frame Matrix</li> </ul>                                                                                                                                                                    | Lecture, Discussion | 1 1 |
| 01                                                                     | 10:30-12:00 | Monitoring and Evaluation of agriculture program and projects            | <ul style="list-style-type: none"> <li>• Concept of Monitoring and Evaluation</li> <li>• Benefit Monitoring &amp; Evaluation (BME)</li> <li>• Participatory Monitoring and Evaluation(PME)</li> <li>• Input and output monitoring</li> <li>• Characteristics of good indicators of monitoring and evaluation</li> <li>• Major Weakness and Strengths of Existing M and E system</li> </ul> | Lecture, Discussion | 1 0 |
|                                                                        | 12:15-1:45  | Strength Weakness, Opportunity and Threat (SWOT) analysis with exercises |                                                                                                                                                                                                                                                                                                                                                                                            | Exercise            | 0 1 |

|                                                   |             |                                                                               |                                                                                                                                                                                                                                                                                                             |                     |   |   |
|---------------------------------------------------|-------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|
|                                                   | 2:30-4:00   | Public Private Partnership In Agricultural Development Program/Activities     | <ul style="list-style-type: none"> <li>• Concept</li> <li>• Need of partnership and contracting out, outsourcing in Agriculture programmes</li> <li>• Different Partnership models used in Agriculture sector, Process of Partnership and Contract Out</li> <li>• Challenge and future Prospects</li> </ul> | Lecture, Discussion | 1 | 0 |
| <b>Module IV: Governance and Service Delivery</b> |             |                                                                               |                                                                                                                                                                                                                                                                                                             |                     |   |   |
| <b>Total</b>                                      |             |                                                                               |                                                                                                                                                                                                                                                                                                             |                     |   |   |
|                                                   | 10:30-12:00 | Governance                                                                    | <ul style="list-style-type: none"> <li>• Evolution of good governance</li> <li>• Good Governance and its features</li> <li>• Government efforts being undertaken to ensure Good Governance</li> </ul>                                                                                                       | Lecture, Discussion | 1 | 0 |
| II                                                | 12:15-1:45  | Agricultural Governance in Federal context                                    | <ul style="list-style-type: none"> <li>• Constitutional Provisions</li> <li>• Structure and Functions</li> <li>• Resource Mobilization for Agriculture Development in Federal Framework</li> <li>• Issues and Suggestions for improving coordination between three tiers of government in Nepal</li> </ul>  | Lecture, Discussion | 1 | 0 |
|                                                   | 2:30-4:00   | Recent Development in Public Management in Nepal                              | <ul style="list-style-type: none"> <li>• Concept of Management and NPM</li> <li>• Dimensions of NPM</li> <li>• NPM Practices In Nepal</li> </ul>                                                                                                                                                            | Lecture, Discussion | 1 | 0 |
|                                                   | 10:30-12:00 | Inclusive Governance                                                          | <ul style="list-style-type: none"> <li>• Inclusive governance system of Nepal</li> <li>• Constitutional provision</li> </ul>                                                                                                                                                                                | Lecture, Discussion | 1 | 0 |
| 12                                                | 12:15-1:45  | Accountability, Responsiveness and Integrity (ARI) in Public Service Delivery | <ul style="list-style-type: none"> <li>• Meaning and importance of accountability and responsiveness</li> <li>• Accountable and unaccountable government</li> <li>• Meaning of integrity</li> <li>• Developing integrity</li> </ul>                                                                         | Lecture, Discussion | 1 | 0 |

|                                                           |             |                                                                                      |                                                                                                                                                                                                                                                                             |                     |   |   |
|-----------------------------------------------------------|-------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|
|                                                           | 2:30-4:00   | Financial Administration                                                             | <ul style="list-style-type: none"> <li>• Main features of fiscal administration act &amp; regulation</li> <li>• Common unintentional errors in fiscal administration</li> <li>• Problems &amp; challenges</li> </ul>                                                        | Lecture, Discussion | 1 | 0 |
| 13                                                        | 10:30-12:00 | Management of Public Procurement                                                     | <ul style="list-style-type: none"> <li>• Bidding process</li> <li>• Analysing and selecting bidder</li> <li>• Contract awarding</li> <li>• Procurement management in agriculture sector</li> </ul>                                                                          | Lecture, Discussion | 2 | 0 |
|                                                           | 12:15-1:45  | Disaster management                                                                  | <ul style="list-style-type: none"> <li>• Concept and importance</li> <li>• Preparedness, early warning and mitigation system in Nepal</li> <li>• Mechanism of disaster management in Nepal</li> <li>• Tips for better disaster management</li> </ul>                        | Lecture, Discussion | 1 | 0 |
|                                                           |             |                                                                                      |                                                                                                                                                                                                                                                                             | Total               | 9 | 0 |
| <b>Module V: Agricultural Commercialization and Trade</b> |             |                                                                                      |                                                                                                                                                                                                                                                                             |                     |   |   |
| 14                                                        | 10:30-12:00 | WTO and Regional Trading Arrangements                                                | <ul style="list-style-type: none"> <li>• Concept of globalization</li> <li>• Genesis of WTO</li> <li>• Major agreements - AOA, TRIPS, SPS and TBT</li> <li>• Challenges and opportunities of Nepalese Agriculture in post accession phase</li> <li>• Way forward</li> </ul> | Lecture, Discussion | 1 | 0 |
|                                                           | 12:15-1:45  | Bi-lateral and multi-lateral, Agriculture Trade, Issues, Challenges and Ways Forward | <ul style="list-style-type: none"> <li>• Bilateral and multilateral Trading Arrangements (SAFTA, BIMSTC, BRI, SASEC)</li> <li>• Advantages and disadvantages of joining Regional trade</li> <li>• Indo-Nepal trade</li> <li>• China-Nepal trade</li> </ul>                  | Lecture, Discussion | 1 | 0 |
|                                                           | 2:30-4:00   | Agri- Entrepreneurship Development                                                   | <ul style="list-style-type: none"> <li>• Start-up Agribusiness and its Prospects in Nepal</li> <li>• Concept of Agribusiness Incubation and its application in Nepal</li> </ul>                                                                                             | Lecture, Discussion | 1 | 0 |

|                                                                      |             |                                                                                                  |                                                                                                                                                                                                                                                                                            |                     |   |   |
|----------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|
| 15                                                                   | 10:30-12:00 | Agricultural Marketing and Marketing Management                                                  | <ul style="list-style-type: none"> <li>• Status of agricultural marketing and market management in Nepal</li> <li>• Agriculture price policies, market monitoring and Consumer protection</li> <li>• Issues and constraints</li> <li>• New approaches in agricultural marketing</li> </ul> | Lecture, Discussion | 1 | 0 |
|                                                                      | 12:15-1:45  | Major drivers and constraints of agriculture modernization (commercialization and mechanization) |                                                                                                                                                                                                                                                                                            | Lecture, Discussion | 1 | 0 |
|                                                                      | 2:30-4:00   | Strategy for Food Self Sufficiency in Nepal                                                      |                                                                                                                                                                                                                                                                                            | Lecture, Discussion | 1 | 0 |
| 16                                                                   | 10:30-12:00 | Agriculture Insurance                                                                            |                                                                                                                                                                                                                                                                                            | Lecture, Discussion | 1 | 0 |
|                                                                      | 12:15-1:45  | Concept and practice of Value Chain Development in Agriculture                                   |                                                                                                                                                                                                                                                                                            | Lecture, Discussion | 1 | 0 |
|                                                                      | 2:30-4:00   |                                                                                                  |                                                                                                                                                                                                                                                                                            | Lecture, Discussion | 0 | 0 |
|                                                                      |             |                                                                                                  |                                                                                                                                                                                                                                                                                            | Total               | 8 | 0 |
| <b>Module VI: Cross-Cutting Areas/Emerging Trends in Agriculture</b> |             |                                                                                                  |                                                                                                                                                                                                                                                                                            |                     |   |   |
|                                                                      | 10:30-12:00 | Gender and Social Inclusion (GESI)                                                               | <ul style="list-style-type: none"> <li>• Gender analysis in agriculture planning</li> <li>• Mainstreaming gender equity in agriculture</li> <li>• Gender Responsive Budgeting and Audit (Practices)</li> <li>• Social inclusion analysis in agriculture planning</li> </ul>                | Lecture, Discussion | 1 | 0 |
| 17                                                                   |             |                                                                                                  |                                                                                                                                                                                                                                                                                            |                     |   |   |

|  |             |                                                                                         |                                                                                                                                                                                                           |                     |   |   |
|--|-------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|
|  | 12:15-1:45  | Genesis, Present Status, Problems and Opportunity of Agricultural Cooperatives in Nepal |                                                                                                                                                                                                           | Lecture, Discussion | 1 | 0 |
|  | 2:30-4:00   | Climate Change & Agriculture in Nepal: Impact and Adaptation Strategies                 |                                                                                                                                                                                                           | Lecture, Discussion | 1 | 0 |
|  | 10:30-12:00 | Organic Farming & Certification System; and GAP                                         | <ul style="list-style-type: none"> <li>World scenario</li> <li>Status and Scope in Nepal</li> <li>Certification System</li> <li>Good Agricultural Practices (GAP)</li> </ul>                              | Lecture, Discussion | 1 | 0 |
|  | 12:15-1:45  | Modern Information and Communication Technologies for Agricultural Development          | <ul style="list-style-type: none"> <li>Review of conventional ICTs in agriculture</li> <li>Digital agriculture (Application of INAM, ICHOPAL etc.)</li> <li>Use of social media in agriculture</li> </ul> | Lecture, Discussion | 1 | 0 |
|  | 2:30-4:00   | Youth and Agriculture (Rationale, Strategies, Possible Intervention areas)              |                                                                                                                                                                                                           | Lecture, Discussion | 1 | 0 |
|  | 10:30-12:00 | Business plan preparation                                                               | <ul style="list-style-type: none"> <li>Concept, Principle and Components</li> <li>Business Plan Preparation (Exercise)</li> </ul>                                                                         | Exercise            | 0 | 2 |
|  | 12:15-1:45  | Protocols and etiquettes for officials (Practical)                                      |                                                                                                                                                                                                           | Exercise            | 1 | 1 |
|  | 2:30-4:00   | Right to Information                                                                    |                                                                                                                                                                                                           | Lecture, Discussion | 1 | 0 |
|  |             |                                                                                         | 18                                                                                                                                                                                                        |                     |   |   |
|  |             |                                                                                         | 19                                                                                                                                                                                                        |                     |   |   |

|                                |             |                                             |                                                                                                                                                                                                                                       |                     |   |   |
|--------------------------------|-------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|
| 20                             | 10:30-12:00 | Globalization issues                        | <ul style="list-style-type: none"> <li>Plant Variety Protection</li> <li>Access and Benefit Sharin (ABS) From genetic Resources and associated Traditional Knowledge</li> <li>CBD, IPGRFA etc.</li> </ul>                             | Lecture, Discussion | 1 | 0 |
| <b>Module VI: Project Work</b> |             |                                             |                                                                                                                                                                                                                                       |                     |   |   |
| <b>Total</b>                   |             |                                             |                                                                                                                                                                                                                                       |                     |   |   |
| 21                             | 10:30-12:00 | Preparation of Project Concept Note (PCN)   | <ul style="list-style-type: none"> <li>Concept and importance of PCN</li> <li>Common format of PCN</li> </ul>                                                                                                                         | Lecture, Discussion | 1 | 0 |
|                                | 12:15-1:45  | Research Methods in Agriculture Development | <ul style="list-style-type: none"> <li>Sampling design</li> <li>Experimental designs</li> <li>Participatory Technology Development</li> </ul>                                                                                         | Lecture, Discussion | 1 | 0 |
|                                | 2:30-4:00   | Common Tools for Field Survey (alter)       | <ul style="list-style-type: none"> <li>Knowledge, Attitude and Practice Test</li> <li>Problem Census and Problem Solving(PC/PS)</li> <li>Questionnaire</li> <li>Participatory Rural Appraisal Tools and Techniques</li> </ul>         | Lecture, Discussion | 1 | 0 |
| 22                             | 10:30-12:00 | Research/ Proposal Writing                  | <ul style="list-style-type: none"> <li>Need for preparing a Research / Study proposal</li> <li>Common format of a Research/ Study proposal</li> <li>Introduction to Field Study/ Project work</li> </ul>                              | Lecture, Discussion | 1 | 0 |
|                                | 12:15-1:45  | Data Processing and Analysis                | <ul style="list-style-type: none"> <li>Data coding and tabulation</li> <li>Data analysis (use of major statistics and computer application)</li> <li>Interpretation of results</li> <li>Statistical Tests &amp; Inferences</li> </ul> | Lecture, Discussion | 1 | 0 |
|                                | 2:30-4:00   | Report Writing Skills                       |                                                                                                                                                                                                                                       | Lecture, Discussion | 1 | 0 |

|                |             |                                                        |  |                     |    |    |
|----------------|-------------|--------------------------------------------------------|--|---------------------|----|----|
| 23             | 10:30-12:00 | Presentation Skill                                     |  | Lecture, Discussion | 1  | 0  |
|                | 12:15-1:45  | Preparation of Research/ Study Proposal for Field work |  | Lecture, Discussion | 1  | 0  |
| 24,25,26,27,28 |             | Field work                                             |  |                     | 0  | 15 |
|                |             | Report Preparation                                     |  |                     | 0  | 6  |
|                |             | Report Presentation                                    |  |                     | 0  | 3  |
|                |             | Individual assignments                                 |  |                     | 0  | 0  |
|                |             |                                                        |  | Total               | 8  | 24 |
|                |             |                                                        |  | Grand Total         | 61 | 29 |
|                |             |                                                        |  |                     | 90 |    |

10% OF TOTAL SESSION CAN BE ALTERED ACCORDING TO TRAINEE'S EXPECTATION

(Training Materials: White board, Chart paper, Marker, Meta cards, Multimedia)



सेवाकालिन तालिम (Personnel In-service Training) (रा.प.अनं. प्रथम)

तालिम अवधि: ३५ दिन

तालिम कार्यदिन: ३०

सहभागी संख्या: बढीमा २० जना

कुल कक्षा संख्या: १२०

लक्षित सहभागी: संघीय निजामती सेवामा कृषि सेवा अन्तर्गत कार्यरत रा.प.अनं. प्रथम (प्राविधिक सहायक)

| क्र.स.                                                                     | शिर्षक                                                  | कक्षाको उद्देश्य<br>(Objective)                                                                                             | कक्षाको संभाग (Outlines)                                                                                                                                                                                                                                                                                                                                                                                | प्रकृति     |           |       |
|----------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|-------|
|                                                                            |                                                         |                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                         | सैद्धान्तिक | व्यवहारिक | जम्मा |
| खण्ड १: कानूनी व्यवस्था (ऐन, नीति, आदेश) औचित्य, समस्या, प्रक्रिया, भूमिका |                                                         |                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                         | ११          | ३         | १४    |
| १                                                                          | कृषि सम्बन्धी विभिन्न ऐन तथा नियमावलीहरू                | कृषि सम्बन्धी विभिन्न पुराना र नयाँ ऐन/नियमावलीहरूको कार्यान्वयनमा प्राविधिकको भूमिकाको बारेमा प्रष्ट हुने ।                | <ul style="list-style-type: none"> <li>- बीउविजन ऐन तथा नियमावली</li> <li>- जीवनाशक विषादी व्यवस्थापन ऐन तथा नियमावली</li> <li>- बिरूवा संरक्षण ऐन तथा नियमावली</li> <li>- अन्य ऐन र नियमावलीहरू (खाद्य ऐन, ....)</li> </ul>                                                                                                                                                                            | १           |           | १     |
| २                                                                          | पशुपन्छी तथा मत्स्य सम्बन्धी विभिन्न ऐन तथा नियमावलीहरू | पशुपन्छी तथा मत्स्य सम्बन्धी विभिन्न पुराना र नयाँ ऐन/नियमावलीहरूको कार्यान्वयनमा प्राविधिकको भूमिकाको बारेमा प्रष्ट हुने । | <ul style="list-style-type: none"> <li>- पशुस्वास्थ्य ऐन तथा नियमावली</li> <li>- पशु बधशाला तथा मासु जाँच ऐन तथा नियमावली</li> <li>- दाना पदार्थ ऐन तथा नियमावली</li> <li>- जलचर संरक्षण ऐन, २०१७</li> <li>- अन्य ऐन तथा नियमावलीहरू</li> </ul>                                                                                                                                                         | १           |           | १     |
| ३                                                                          | कृषि सम्बन्धी विभिन्न नीतिहरू                           | कृषि सम्बन्धी विभिन्न पुराना र नयाँ नीतिहरूको कार्यान्वयनमा प्राविधिकको भूमिकाको बारेमा प्रष्ट हुने ।                       | <ul style="list-style-type: none"> <li>- राष्ट्रिय कृषि नीति, २०६१</li> <li>- राष्ट्रिय चिया नीति, २०५७</li> <li>- राष्ट्रिय कफी नीति २०६०</li> <li>- कृषि व्यवसाय प्रवर्द्धन नीति २०६३</li> <li>- कृषि यान्त्रिकरण प्रवर्द्धन नीति, २०७१</li> <li>- सिंचारइ नीति, २०७०</li> <li>- कृषि जैविक विविधता नीति, २०६३ (संशोधन समेत)</li> <li>- मौरी प्रवर्द्धन नीति, २०७४</li> <li>- अन्य नीतिहरू</li> </ul> | १           |           | १     |
| ४                                                                          | पशुपन्छी तथा मत्स्य सम्बन्धी विभिन्न नीतिहरू            | पशुपन्छी तथा मत्स्य सम्बन्धी विभिन्न पुराना र नयाँ नीतिहरूको कार्यान्वयनमा प्राविधिकको भूमिकाको बारेमा प्रष्ट हुने ।        | <ul style="list-style-type: none"> <li>- पन्छीपालन नीति, २०६८</li> <li>- दुग्ध विकास नीति, २०६४</li> <li>- खर्क नीति, २०६८</li> <li>- अन्य नीतिहरू (सार्वजनिक निजी साझेदारी नीति, पशुपन्छी प्रजननमा अपनाइएका नीति तथा रणनीतिहरू ....)</li> </ul>                                                                                                                                                        | १           |           | १     |

|   |                                                                  |                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                       |   |  |   |
|---|------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|---|
| ५ | कृषिसँग सम्बन्धित अन्य कानून, ऐन, नीति, आदेशहरू                  | कृषि/पशुपन्छी तथा मत्स्यसँग सम्बन्धित विभिन्न कानून, ऐन, नीति, आदेशहरूको कार्यान्वयनमा प्राविधिकको भूमिकाको बारेमा प्रष्ट हुने।               | <ul style="list-style-type: none"> <li>नेपालको संविधान, २०७२ मा कृषि क्षेत्र (कार्य विस्तृतिकरण सहित)</li> <li>कृषि अनुसन्धान परिषद ऐन, २०४८</li> <li>खाद्य अधिकार तथा खाद्य सम्प्रभुता सम्बन्धी ऐन, २०७५</li> <li>दूध तथा दुग्ध पदार्थको स्वच्छता एवं गुणस्तर निर्देशिका, २०७५</li> <li>नेपाल असल कृषि अभ्यास कार्यान्वयन</li> </ul> | २ |  | २ |
|   |                                                                  |                                                                                                                                               | <ul style="list-style-type: none"> <li>निर्देशिका, २०७५</li> <li>पशु चिकित्सा परिषद ऐन,</li> <li>जैविक प्रविधि नीति, २०६३</li> <li>खाद्य तथा दाना वस्तुहरूमा निर्धारित न्यूनतम अनिवार्य गुणस्तर</li> <li>वर्डफ्लू रोग नियन्त्रण आदेश, २०६४ (संशोधन सहित)</li> <li>अन्य कानून, ऐन, नीति, आदेशहरू</li> </ul>                            |   |  |   |
| ६ | सामान्य प्रशासन र कर्मचारी आचरण सम्बन्धी कानूनी व्यवस्था         | कार्यालय प्रशासन र कर्मचारी आचरण सम्बन्धी ज्ञान र सीप बढ्ने।                                                                                  | <ul style="list-style-type: none"> <li>निजामती सेवा ऐन र कर्मचारी आचरण</li> <li>प्रशासन तथा शुसासन सम्बन्धी ऐन</li> <li>दर्ता, चलानी, टिप्पणी, हाजिरी, विदा, का.स.मू. जिन्सी सामान व्यवस्थापन र जिन्सी निरीक्षण अदी सीप</li> <li>“व्यवस्था, समस्या तथा सहजिकरण”</li> </ul>                                                            | १ |  | १ |
| ७ | कर्मचारीको उत्तरदायीत्व                                          | तालिममा सहभागीहरूको प्रभावकारी सेवा, भ्रष्टाचार नियन्त्रण, सु-शासनको अधिकार र कर्मचारीका हक हित र अधिकारको बारेमा ज्ञान र सीप अभिवृद्धि हुने। | <ul style="list-style-type: none"> <li>“समस्या तथा सहजीकरण”</li> <li>भ्रष्टाचार नियन्त्रण</li> <li>सूचनाको अधिकार</li> <li>अर्धन्यायीक निकायमा कानूनी प्रक्रिया</li> <li>प्रभावकारी सेवाको लागि हुनुपर्ने कर्मचारीको चारित्रिक गुणहरू</li> </ul>                                                                                      | १ |  | १ |
| ८ | आर्थिक प्रशासन सम्बन्धी कानूनी व्यवस्था                          | आर्थिक प्रशासन सम्बन्धी ज्ञान सीप बढ्ने।                                                                                                      | <ul style="list-style-type: none"> <li>“समस्या तथा सहजीकरण”</li> <li>आर्थिक प्रशासनको परिचय</li> <li>सरकारी लेखा प्रणाली</li> <li>सार्वजनिक खरिद</li> <li>बजेट निर्माण तथा निकासा प्रक्रिया</li> <li>लेखा परीक्षण</li> </ul>                                                                                                          | १ |  | १ |
|   | कार्यसञ्चालनगत चुनौती र अवसरहरू (सहभागीहरूको परिवर्तन मूल्यांकन) | तालिममा सहभागीहरूले हाल भैरहेका कार्यसञ्चालनगत तथा कानूनी चुनौतीहरूको बारेमा पृष्ठपोषण गर्न सक्नेछन्।                                         | <ul style="list-style-type: none"> <li>“सामूहिक छलफल र प्रस्तुतिकरण”</li> <li>समूह छलफलको लागि विधि र निर्देशन गर्ने</li> <li>समूह बनाउने र हरेक समूहलाई छुट्टाछुट्टै शिर्षक (ऐन तथा नियमावली, नीति, कृषि सम्बन्धी प्राथमिकता, कृषि</li> </ul>                                                                                        |   |  |   |

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| ९                                                                                                              |                                                                                                                                                                |                                                                                                                                            | सम्बन्धी कार्यान्वयन पक्ष) दिरङ्ग<br>त्यसका सकारात्मक पक्ष, कमजोरी<br>पक्ष र कमजोरी न्यूनिकरणको लागि<br>पृष्ठपोषण तयार गरी प्रस्तुतिकरण गर्न<br>लगाउने,<br>– प्रस्तुतिकरणको सामूहिक छलफल<br>गर्ने<br>– सहभागीहरूलाई समय समयमा<br>आवश्यक सहयोग गर्दै प्रस्तुतिकरणमा<br>आएका विषयवस्तुहरूमा छलफल<br>गराउने । | १ | ३ | ४ |
| खण्ड २: योजना र विकास (वर्तमान अवस्था, सरकारी नीति, औचित्यता र हाम्रो भूमिका)                                  |                                                                                                                                                                |                                                                                                                                            |                                                                                                                                                                                                                                                                                                            | ४ | ० | ४ |
| १०                                                                                                             | दीर्घकालीन<br>योजना र कृषि<br>कृषिसँग प्रत्यक्ष र<br>अप्रत्यक्ष रूपमा<br>सम्बन्धित राष्ट्रिय तथा<br>अन्तर्राष्ट्रिय<br>दीर्घकालीन योजनाको<br>बारेमा बुझ्नेछन । | तालिममा सहभागीहरूले<br>योजनाको प्रकारहरू<br>छुट्टाउनुको साथै कृषि<br>विकास रणनीतिको बारेमा<br>ज्ञान अभिवृद्धि हुने छ ।                     | – योजनाको परिचय<br>– योजनाका प्रकारहरू<br>– कृषि विकास रणनीति                                                                                                                                                                                                                                              | १ |   | १ |
|                                                                                                                |                                                                                                                                                                | – दिगो विकास लक्ष्य,<br>दीर्घकालीन संच,<br>२१०० मा कृषि<br>– Zero hunger challenge<br>Initiative,<br>– Multi-sector<br>Nutritional Plan    | १                                                                                                                                                                                                                                                                                                          | १ |   |   |
| ११                                                                                                             | आवधिक योजना<br>र कृषि                                                                                                                                          | तालिममा सहभागीहरूले<br>चालु आवधिक योजनाहमा<br>कृषि क्षेत्रले लिएका<br>प्राथमिकता तथा<br>कार्यक्रमहरूको बारेमा<br>जानकारी प्राप्त गर्नेछन । | – आवधिक योजना<br>– पन्ध्रौं योजना कृषि तथा पशुपन्छी<br>सम्बन्धी नीति, रणनीति र प्रमुख<br>कार्यक्रमहरू                                                                                                                                                                                                      | १ |   | १ |
| १२                                                                                                             | कृषि सम्बन्धी<br>मुख्यमुख्य<br>कार्यक्रमहरू                                                                                                                    | तालिममा सहभागीहरूले<br>कृषि सम्बन्धी सरकारी<br>प्राथमिकता तथा मुख्य<br>कार्यक्रमहरूको बारेमा<br>जानकारी प्राप्त गर्नेछन ।                  | – कृषि विकासमा लिएका प्राथमिकता<br>तथा मुख्य कार्यक्रमहरू<br>– पशु तथा मत्स्य विकासमा लिएका<br>प्राथमिकता तथा मुख्य कार्यक्रमहरू                                                                                                                                                                           | १ |   | १ |
| खण्ड ३: सरकारी तथा गैरसरकारी निकाय बीच अन्तरसम्बन्ध (वर्तमान अवस्था, सरकारी नीति,<br>औचित्यता र हाम्रो भूमिका) |                                                                                                                                                                |                                                                                                                                            |                                                                                                                                                                                                                                                                                                            | ९ | ० | ९ |
| १३                                                                                                             | कृषि/पशुपन्छी<br>विकास सम्बन्धी<br>संघीय संरचना                                                                                                                | तालिममा सहभागीहरू संघीय<br>कृषि तथा पशुपन्छी विकास<br>मन्त्रालय र मातहतका<br>निकायहरूको संरचनाको<br>बारेमा प्रष्ट हुनेछन ।                 | – कृषि तथा पशुपन्छी विकास मन्त्रालय<br>– केन्द्रीय निकायहरू<br>– विभागहरू<br>– परिषद्, बोर्ड, संस्थानहरू<br>– समित, कम्पनीहरू                                                                                                                                                                              | १ |   | १ |

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| १४ | कृषि/पशुपन्ध्री विकास सम्बन्धी प्रादेशिक तथा स्थानीय तहको संरचना     | तालिममा सहभागीहरू प्रदेश र स्थानीय तहको कृषि तथा पशुपन्ध्री प्रसार सम्बन्धी संरचनाको बारेमा प्रष्ट हुनेछन ।                                                    | <ul style="list-style-type: none"> <li>- कृषि/पशुपन्ध्री/मत्स्य विकास सम्बन्धी प्रादेशिक संरचना</li> <li>- प्रदेश मातहतका निकायहरू</li> <li>- स्थानीय तहहरूमा कृषि/पशुपन्ध्री/मत्स्य सम्बन्धी संरचनागत व्यवस्था</li> </ul>                                                                                                         | १ |  | १ |
| १५ | कृषि/पशुपन्ध्री विकासमा विभिन्न तहको भूमिका                          | तालिममा सहभागीहरू संघीय संरचनामा विभिन्न तहहरूको भूमिका र तिनीहरू बीचको समन्वयको आवश्यकता र महत्वको बारेमा प्रष्ट हुनेछन ।                                     | <ul style="list-style-type: none"> <li>- संघीय निकायहरूको अधिकार क्षेत्र</li> <li>- प्रदेशको अधिकार क्षेत्र</li> <li>- स्थानीय तहको अधिकार क्षेत्र</li> <li>- सबै तहहरूको संयुक्त अधिकार क्षेत्र</li> <li>- कृषि विकासमा विभिन्न तहहरू विच समन्वयको आवश्यकता र महत्व</li> </ul>                                                    | १ |  | १ |
| १६ | कृषि/पशुपन्ध्री विकासमा वित्तीय संस्था, सहकारी तथा समूहको भूमिका     | तालिममा सहभागीहरूले कृषि विकासको लागि वित्तीय क्षेत्रमा सरकारी नीति कर्जा प्रवाह प्रक्रिया र सहकारी क्षेत्र तथा समूहको भूमिकाको बारेमा जानकारी प्राप्त गर्ने । | <ul style="list-style-type: none"> <li>- कृषि/पशुपन्ध्री/मत्स्य क्षेत्रमा लगानीका स्रोतहरू र तिनीहरूको सकारात्मक तथा नकारात्मक पक्षहरू</li> <li>- कृषि विकासको लागि सरकारी वित्तीय नीति</li> <li>- वित्तीय संस्थाहरूबाट कृषि ऋण प्रक्रिया</li> <li>- कृषि विकासमा सहकारीको भूमिका</li> <li>- कृषि विकासमा समूहको भूमिका</li> </ul> | १ |  | १ |
| १७ | कृषि विकासमा सरकारी अनुदान व्यवस्था                                  | तालिममा सहभागीहरूको कृषि क्षेत्रमा अनुदान प्रक्रियाको बारेमा ज्ञान अभिवृद्धि हुने ।                                                                            | <ul style="list-style-type: none"> <li>- कृषि अनुदानमा सरकारको प्राथमिकताका क्षेत्रहरू</li> <li>- अनुदानको प्रकृती</li> <li>- कृषि अनुदान प्रदान गरिरहेका निकायहरू</li> <li>- कृषि अनुदान प्रक्रिया, कार्यविधी</li> </ul>                                                                                                          | १ |  | १ |
| १८ | कृषि/पशुपन्ध्री विकासमा संलग्न विभिन्न निजी फार्म/संस्थाहरूको भूमिका | सहभागीहरूले कृषि/पशुपन्ध्री विकासमा संलग्न विभिन्न कम्पनी तथा निजी संस्थाहरूको बारेमा जानकारी प्राप्त गर्नेछन ।                                                | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- एग्रीभेटहरूको अवस्था र भूमिका</li> <li>- विभिन्न स्रोतकेन्द्रहरूको अवस्था र भूमिका</li> <li>- व्यवसायीक फार्महरूको अवस्था र भूमिका</li> </ul>                                                                                                                            | १ |  | १ |
| १९ | साझेदारीमा कृषि प्रसार कार्यक्रम                                     | सहभागीहरूको कृषि/पशुपन्ध्री विकासमा साझेदारी कार्यक्रम मोडेल र विधिको बारेमा ज्ञान अभिवृद्धि हुने ।                                                            | <ul style="list-style-type: none"> <li>- साझेदारी कार्यक्रमको परिचय</li> <li>- साझेदारी कार्यक्रमका सिद्धान्त</li> <li>- साझेदारी कार्यक्रमका प्रक्रिया</li> <li>- कृषि अनुदानको प्रकृति, प्रक्रिया र प्राथमिकता</li> </ul>                                                                                                        | १ |  | १ |

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| २०                       | विश्व व्यापार संगठन र नेपाल                                               | विश्व व्यापार संगठन सम्बन्धी सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।                                               | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- कृषि सम्बन्धी संज्ञौताहरू</li> <li>- अविकशित र अल्पविकसित देशहरूले विश्व व्यापार संगठनबाट प्राप्त अवसरहरू</li> <li>- नेपालमा विश्व व्यापार संगठनका संज्ञौताहरू कार्यान्वयनमा प्राविधिकहरूको भूमिका</li> </ul> | १  |   | १  |
| २१                       | कृषि सम्बन्धी विभिन्न अन्तराष्ट्रिय संघसंस्थाहरूको बारेमा सामान्य जानकारी | विभिन्न कृषि सम्बन्धी अन्तराष्ट्रिय संघसंस्थाहरू सम्बन्धी सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।                  | <ul style="list-style-type: none"> <li>- OIE को परिचय र भूमिका</li> <li>- APHCA को परिचय र भूमिका</li> <li>- PPC को परिचय र भूमिका</li> <li>- FAO को परिचय र भूमिका</li> <li>- SAC</li> </ul>                                                                           | १  |   | १  |
| खण्ड ४: व्यक्तित्व विकास |                                                                           |                                                                                                                 |                                                                                                                                                                                                                                                                         | १४ | ३ | १७ |
| २२                       | आचरण विकास (Attitude building)                                            | सहभागीहरूको व्यक्तित्व विकास सम्बन्धी अनुसरण गर्नुपर्ने आचरण सुधार/ विकास सम्बन्धी ज्ञान र सीप अभिवृद्धि हुने । |                                                                                                                                                                                                                                                                         | १  |   | १  |
| २३                       | सकारात्मक सोच विकास (Positive thinking)                                   | सहभागीहरूको सकारात्मक सोच विकास सम्बन्धी ज्ञान र सीप अभिवृद्धि हुने ।                                           |                                                                                                                                                                                                                                                                         | १  |   | १  |
| २४                       | योगाभ्यास, तनाव व्यवस्थापन र जीवन सूत्र                                   | सहभागीहरूको स्वस्थ जीवन सम्बन्धी ज्ञान र सीप अभिवृद्धि हुने ।                                                   |                                                                                                                                                                                                                                                                         | १  |   | १  |
| २५                       | जनसम्पर्क सीप                                                             | सहभागीहरूमा जनसम्पर्क सीप सम्बन्धी ज्ञान र सीप अभिवृद्धि हुने ।                                                 |                                                                                                                                                                                                                                                                         | १  |   | १  |
| २६                       | मौलिक सिर्जना                                                             | सहभागीहरूको मौलिक सिर्जनाको बारेमा ज्ञान र सीप अभिवृद्धि हुने ।                                                 |                                                                                                                                                                                                                                                                         | १  |   | १  |
| २७                       | कृषि/पशुपन्छी प्रसारमा नेतृत्व विकास                                      | सहभागीहरूमा नेतृत्व विकासको बारेमा ज्ञान र सीप अभिवृद्धि हुने ।                                                 | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- कृषि/पशुपन्छी प्रसारमा नेतृत्व विकासको महत्व</li> <li>- नेतृत्व विकास गर्ने तरिका</li> </ul>                                                                                                                  | १  |   | १  |
| २८                       | उत्प्रेरणा (सिद्धान्त, उत्प्रेरणा जगाउने तरिका)                           | सहभागीहरूमा उत्प्रेरणाको बारेमा ज्ञान र सीप अभिवृद्धि हुने ।                                                    | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- सिद्धान्त</li> <li>- उत्प्रेरणा जगाउने तरिका</li> </ul>                                                                                                                                                       | १  |   | १  |

|    |                                           |                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   |   |   |
|----|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|
| २९ | ग्रहण प्रक्रिया                           | सहभागीहरूमा ग्रहण प्रक्रियाको बारेमा ज्ञान र सीप अभिवृद्धि हुने ।                                                                                                                                              | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- प्रक्रिया</li> <li>- पद्धति</li> <li>- ग्रहण तरिका</li> <li>- ग्रहण वर्ग वर्गीकरण</li> </ul>                                                                                                                                                                                                                                                                                              | १ |   | १ |
| ३० | सहजिकरण सीप (Facilitation Skill)          | कक्षाको अन्त्यसम्ममा सहभागीहरूको:<br><ul style="list-style-type: none"> <li>- सहजिकरण सीपको बारेमा सैद्धान्तिक ज्ञान अभिवृद्धि हुने ।</li> <li>- सहजिकरण सीपको बारेमा सीप र दक्षता अभिवृद्धि हुने ।</li> </ul> | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- सहजिकरणको चरण र प्रक्रिया ।</li> <li>- सहजिकरणका विभिन्न (पुराना र आधुनिक) मोडलहरू</li> <li>- सहजिकरणका विधिहरूको सबल र दुर्बल पक्षहरू</li> <li>- सहजिकरणका विधिको प्रदर्शन Mock (Group presentation and feedback) session</li> </ul>                                                                                                                                                     | २ | १ | ३ |
| ३१ | प्रस्तुतिकरण सीप (Platform Skill)         | कक्षाको अन्त्यसम्ममा सहभागीहरूको प्रस्तुतिकरण सीपको अभिवृद्धि हुने ।                                                                                                                                           | <ul style="list-style-type: none"> <li>- Element of Effective Communication (Verbal, Vocal, Visual)</li> <li>- Key element of Basic platform skill.</li> <li>- Voice (Volume, pitch, rate, pauses, pronunciation, filler words...)</li> <li>- Body language (personal appearance, attitude, posture, body movement, Gestures, facial expressions, eye contact)</li> <li>- Controlling nervousness (Tips reduce or deal with nervousness)</li> </ul> | १ |   | १ |
| ३२ | द्वन्द्व व्यवस्थापन (Conflict management) | कक्षाको अन्त्यसम्ममा सहभागीहरूको द्वन्द्व व्यवस्थापन सम्बन्धी ज्ञान र कलामा अभिवृद्धि हुने ।                                                                                                                   | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- द्वन्द्वका कारणहरू</li> <li>- द्वन्द्वका रूपहरू</li> <li>- द्वन्द्व व्यवस्थापनका तरिकाहरू</li> <li>- द्वन्द्व व्यवस्थापनको उपयुक्त मोडेल</li> </ul>                                                                                                                                                                                                                                       | १ |   | १ |
| ३३ | पृष्ठपोषण                                 | कक्षाको अन्त्यसम्ममा पृष्ठपोषण सम्बन्धी सहभागीहरूको ज्ञान र सीपमा अभिवृद्धि हुने ।                                                                                                                             | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- पृष्ठपोषणका प्रकारहरू</li> <li>- पृष्ठपोषण लिने/दिने तरिका,</li> <li>- भूमिका निर्वाह अभ्यास Mock session</li> </ul>                                                                                                                                                                                                                                                                      | १ | १ | २ |
| ३४ | Managing Self                             | कक्षाको अन्त्यसम्ममा सहभागीहरूले जोहारी विण्डोका संभागहरूको बारेमा जानकारी प्राप्त गरी Open area, hidden area र Unknown area बढाउन साथै आफ्नो अदृश्य गुणहरूको बारेमा पृष्ठपोषण गर्न सक्षम सक्नेछन् ।           | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- Johari Window Analysis</li> <li>- संभागहरू र तिनीहरूको महत्व</li> <li>- यसको व्यवहारिक उपयोग</li> <li>- विप्लेशन गर्ने विधि/तरिका</li> </ul>                                                                                                                                                                                                                                              | १ |   | १ |

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| ३५                                                        | मस्तिष्क मन्थन<br>(Brain storming)     | सहभागीहरूको समस्या समाधानको लागि नयाँ विचारहरू दिन र विश्लेषण गर्ने ज्ञान र सीपमा अभिवृद्धि हुने ।                           | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- महत्व</li> <li>- प्रक्रिया/विधि</li> </ul>                                                                                                                                                                                                                |   | १ | १  |
| खण्ड ५: कार्यक्रम तर्जुमा, कार्यान्वयन र अनुगमन मूल्यांकन |                                        |                                                                                                                              |                                                                                                                                                                                                                                                                                                                     | ९ | ९ | १८ |
| ३६                                                        | समस्या संकलन र समस्या समाधान विधि      | कक्षाको अन्त्यसम्ममा समस्या संकलन र समस्या समाधानको बारेमा सहभागीहरूको ज्ञान र सीपमा अभिवृद्धि हुने ।                        | <ul style="list-style-type: none"> <li>- समस्याको परिचय</li> <li>- समस्या संकलन गर्ने विधि</li> <li>- समस्या समाधान गर्ने विधि</li> <li>- समस्या संकलन र समाधान गर्ने उपयुक्त मोडेल</li> </ul>                                                                                                                      | १ | १ | २  |
| ३७                                                        | योजना तर्जुमाका मोडलहरू                | कक्षाको अन्त्यसम्ममा विभिन्न योजना तर्जुमा सम्बन्धी मोडलहरूको बारेमा सहभागीहरूको ज्ञान र सीपमा अभिवृद्धि हुने ।              | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- योजना तर्जुमाका विभिन्न मोडलहरू,</li> <li>- विधि र महत्व</li> </ul>                                                                                                                                                                                       | १ |   | १  |
|                                                           |                                        | - सहभागितात्मक योजना तर्जुमा (Participatory/ Buttom Up planning/ BUP) को महत्व र विधि                                        | १                                                                                                                                                                                                                                                                                                                   | १ |   |    |
| ३८                                                        | योजना चक्र र योजना विश्लेषण            | कक्षाको अन्त्यसम्ममा योजना चक्रको बारेमा सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।                                                | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- योजना चक्रका चरणहरू</li> <li>- योजना चक्रका चरणहरूको बारेमा विस्तृत जानकारी</li> <li>- योजनाको विप्लेशन गर्ने तरिका</li> </ul>                                                                                                                            | १ |   | १  |
| ३९                                                        | नतिजामुखी कार्यक्रम अनुगमन र मूल्यांकन | कक्षाको अन्त्यसम्ममा नतिजामुखी कार्यक्रममा अनुगमन र मूल्यांकनको महत्वको बारेमा सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।          | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- अनुगमन तथा मूल्यांकन विधि,</li> <li>- प्रभावकारी कार्यक्रम कार्यान्वयनमा अनुगमन तथा मूल्यांकनको महत्व</li> </ul>                                                                                                                                          | १ | १ | २  |
| ४०                                                        | आयोजनाको अवधारणापत्र लेखन (PCN)        | कक्षाको अन्त्यसम्ममा सहभागीहरूको आयोजना/ परियोजना लेखनको बारेमा ज्ञानमा अभिवृद्धि भर्इ सौच तालिका विश्लेषण गर्न सक्षम हुने । | <ul style="list-style-type: none"> <li>- अवधारणापत्र लेखनको परिचय</li> <li>- आयोजनाका संभागहरू</li> <li>- सौच तालिकाको (Logical framework) उपयोग</li> <li>- कक्षागत क्रियाकलाप/अभ्यास (४ वटा समूह गठन गरी SWOT तयार पार्न लगाउने र जोडेर विश्लेषण गर्ने)</li> <li>- SWOT को उपयोगको व्यवहारीक सीप दिने ।</li> </ul> | १ | २ | ३  |

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| ४१            | व्यवसायीक योजना तर्जुमाको अवधारणा, विधि र प्रकृया | कक्षाको अन्त्यसम्ममा सहभागीहरू व्यवसायीक योजना बनाउन सक्षम हुने ।                                                      | <ul style="list-style-type: none"> <li>– अवधारणा</li> <li>– विधि तथा प्रक्रिया</li> <li>– प्रशिक्षार्थीहरूलाई सम्बन्धित शिर्षकमा व्यवसायीक योजना बनाउन सिकाउने ।</li> </ul>                                                                                                                                                                                                                                               | १ | ३ | ४ |
| ४२            | वार्षिक कार्यक्रम तथा प्रगति बनाउने तरिका         | कक्षाको अन्त्यसम्ममा सहभागीहरूले रा.यो.आ.को मापदण्डमा तोकिएको फर्मेटमा वार्षिक कार्यक्रम तथा प्रगति बनाउन सक्षम हुने । | <ul style="list-style-type: none"> <li>– विभिन्न फारमहरू र महलहरूको परिचय</li> <li>– हरेक महलको प्रयोग गर्ने सीप</li> <li>– वार्षिक कार्यक्रम बनाउने तरिका</li> <li>– मासिक/चौमासिक/अष्टमासिक/ वार्षिक प्रगति प्रतिवेदन तयारि (Competency based skill),</li> <li>– भार र भारित (भौतिक र वित्तिय) प्रगतिको अर्थ र तयार पार्ने/निकाल्ने तरिका: (प्रयोगात्मक, विभिन्न वार्षिक आधारभूत फारमहरू, उपलब्धि मूल्यांकन)</li> </ul> | २ | २ | ४ |
| खण्ड ६: तालिम |                                                   |                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                           | ५ | १ | ६ |
| ४३            | तालिम र तालिम चक्र                                | सहभागीहरूको तालिम चक्रको बारेमा थप ज्ञान र सीपमा अभिवृद्धि हुने ।                                                      | <ul style="list-style-type: none"> <li>– परिचय</li> <li>– तालिमचक्रका चरणहरू र महत्वको बारेमा जानकारी</li> <li>– तालिमको उद्देश्यहरूको वर्गीकरण (प्रकार) र उद्देश्य निर्धारणको तरिका</li> <li>– कृषि प्रसारमा सीपयुक्त तालिमको महत्व</li> </ul>                                                                                                                                                                           | १ |   | १ |
| ४४            | तालिमको आवश्यकता पहिचान                           | सहभागीहरूले Front-End analysis गर्न जान्ने ।                                                                           | <ul style="list-style-type: none"> <li>– आवश्यकता पहिचान गर्ने विभिन्न तरिकाहरू</li> <li>– समस्या पहिचानमा अगाडी पछाडी विश्लेषण (Front-End analysis) को महत्व र यसको प्रयोग विधि</li> </ul>                                                                                                                                                                                                                               | १ |   | १ |
| ४५            | तालिम चक्रमा ISD/ADDI Model को प्रयोग             | सहभागीहरूले ADDI Model को बारेमा ज्ञान प्राप्त गर्नेछन् ।                                                              | <ul style="list-style-type: none"> <li>– ADDI Model को परिचय</li> <li>– ADDI Model का संभागहरू र तिनीहरूको सामान्य जानकारी</li> </ul>                                                                                                                                                                                                                                                                                     | १ |   | १ |
| ४६            | कक्षाको रूपरेखा निर्माण (Session Design)          | सहभागीहरूले तालिमको लागि 5D Method बाट कक्षाको रूपरेखा विकास गर्न सक्नेछन् ।                                           | <ul style="list-style-type: none"> <li>– कक्षाको रूपरेखा बनाउँदा 5D Method का संभागहरू</li> <li>– 5D Method बाट Session Design गर्ने तरिका</li> <li>– Session Design गर्ने प्रयोगात्मक कृयाकलाप गराउने</li> </ul>                                                                                                                                                                                                         | १ | १ | २ |



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| ४७                                                                            | कक्षा योजना<br>(Lesson Plan)                                                                                                                                                                                                                   | सहभागीहरूले कक्षाको अन्त्यसम्ममा कक्षा योजना बनाउन सक्षम हुनेछन् ।                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>- कक्षा योजनाका मूलभूत कुराहरू</li> <li>- कक्षा योजना बनाउने तरिका</li> <li>- कक्षा योजना बनाउने कक्षागत कृयाकलाप</li> </ul>                                                                                                      | १  |   | १  |
| खण्ड ७: कृषि तथा पशुपन्छी सम्बन्धी प्रविधि प्रसार (प्रक्रिया र समस्या समाधान) |                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                          | ११ | ५ | १६ |
| ४८                                                                            | कृष/पशुसेवा प्रसार सहभागीहरूमा कृष/पशुसेवा प्रसारको उपयुक्त तरिका छनौट र प्रदर्शनको बारेमा दक्षता अभिवृद्धि हुने ।<br>नेपालमा हालसम्म लागु भएका कृषि प्रसारका पद्धतिहरू र तिनीहरूको प्रभावकारिताको बारेमा सहभागीहरूको ज्ञानमा अभिवृद्धि हुने । | कृष/पशुसेवा प्रसारको बारेमा सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>- प्रसारको अवधारणा र सिद्धान्त</li> <li>- प्रसारका तरिकाहरूको वर्गीकरण</li> <li>- आधुनिक प्रविधिहरू (Internet, email, Youtube, Mobile app., etc with their categorical classification) को प्रकृति, विश्वसनीयता र उपयोग</li> </ul> | १  |   | १  |
|                                                                               |                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>- अवस्था र प्रविधिको प्रकृति अनुसार उपयुक्त प्रसार तरिका</li> <li>- कृषि/पशु सेवा प्रसारमा प्रदर्शनको महत्व तथा उपयोगिता</li> <li>- स्थानीय स्तरमा प्रदर्शनको व्यवहारिक प्रयोग (कक्षागत कृयाकलाप)</li> </ul> | १                                                                                                                                                                                                                                                                        | १  |   |    |
|                                                                               |                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>- कृषि प्रसार पद्धतिहरूको वर्गीकरण र तिनीहरूको प्रभावकारीता</li> <li>- नविनतम प्रसार पद्धतिहरू</li> </ul>                                                                                                    | १                                                                                                                                                                                                                                                                        | १  |   |    |
| ४९                                                                            | कृषक समूह/समित                                                                                                                                                                                                                                 | कृषक समूह/समितिको महत्व, समूह गठन र परिचालनको बारेमा सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।                                                                                                                                                           | <ul style="list-style-type: none"> <li>- समूहको परिभाषा र वर्गीकरण</li> <li>- कृषक समूह गठन र उपयुक्त समूहको आकार</li> <li>- समूह विकास चरण</li> <li>- समूहको विधान</li> </ul>                                                                                           | १  |   | १  |
|                                                                               |                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>- समूहमा द्वन्द व्यवस्थापन</li> <li>- समूह हितकोष व्यवस्थापन र परिचालन</li> <li>- कृषि/पशु सेवा प्रसारमा समूहगत विधिको महत्व</li> <li>- समूहगत प्रसारका सीमितताहरू</li> </ul>                                | १                                                                                                                                                                                                                                                                        | १  |   |    |

|                               |                                                |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                           |   |   |   |
|-------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|
| ५०                            | सहकारी र कृषि विकासमा यसको महत्व               | कृषि विकासमा सहकारीको महत्वको बारेमा सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।                                                                                                                                                  | <ul style="list-style-type: none"> <li>- सहकारीको परिचय</li> <li>- सहकारीका मूल्य तथा सिद्धान्तहरू</li> <li>- नेपालमा कृषि सम्बन्धी सहकारीको अवस्था र भूमिका</li> <li>- सहकारी गठन प्रकृया</li> <li>- सहकारी सम्बन्धी कानूनी व्यवस्था</li> <li>- सहकारी बचतकोष व्यवस्थापन र परिचालन</li> </ul>                                                                                            | १ |   | १ |
| ५१                            | कृषिमा समावेशीकरण र लैंगिक मुलप्रवाहीकरण       | समावेशीकरण, मूलप्रवाहीकरण र लैंगिकता सम्बन्धी सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।                                                                                                                                         | <ul style="list-style-type: none"> <li>- अवधारणा</li> <li>- नेपालमा यसको अवस्था तथा प्राथमिकता</li> <li>- आवश्यकता र औचित्यता</li> </ul>                                                                                                                                                                                                                                                  | १ |   | १ |
| ५२                            | कृषि प्रसारमा सञ्चार (Concept and application) | सञ्चार तथा सञ्चारका साधनहरूको बारेमा सहभागीहरूको ज्ञान, सीप र धारणामा अभिवृद्धि हुने ।<br>- कृषि सूचना तथा प्रशिक्षण केन्द्रमा उपलब्ध विभिन्न सञ्चारका साधनहरूको अवलोकन, अध्ययन तथा अन्य नयाँ साधनहरूको प्रयोग अभ्यास      | <ul style="list-style-type: none"> <li>- सञ्चारको परिभाषा</li> <li>- सञ्चारका तरिकाहरू</li> <li>- सञ्चारका साधनहरूको विशेषता अनुसार (including Internet, email, Youtube, Mobile app., etc) वर्गीकरण</li> <li>- सञ्चारको आधारभूत चरण, आचरण र प्रकृया</li> <li>- आधुनिक सञ्चारका साधन/ माध्यमहरूको बहुआयामिक पक्ष</li> </ul>                                                                | २ |   | २ |
|                               |                                                |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                           |   | १ | १ |
| ५३                            | कृषि/पशुपन्छी तथा मत्स्य अनुसन्धान             | सहभागीहरूले कृषि अनुसन्धान प्रक्रिया, गतिविधि र कृषि अनुसन्धानका नयाँ उपलब्धीहरूको बारेमा सहभागीहरूको ज्ञान, सीप र धारणामा अभिवृद्धि हुने ।<br>- नेपाल कृषि अनुसन्धान परिषद अन्तर्गत निकायहरूमा अवलोकन र कृष्याकलाप अध्ययन | <ul style="list-style-type: none"> <li>- नेपालमा कृषि/पशुपन्छी तथा मत्स्य अनुसन्धानको अवस्था</li> <li>- नेपालमा कृषि/पशुपन्छी तथा मत्स्य अनुसन्धान क्षेत्रमा संलग्न निकायहरू</li> <li>- नेपाल कृषि अनुसन्धान परिषदका कृष्याकलापहरू</li> <li>- नेपालमा अनुसन्धान प्रक्रियामा अपनाउदै आएका आधारभूत चरणहरू</li> <li>- भैरहेका नयाँ अनुसन्धान गतिविधिहरू, नयाँ सिफारिस प्रविधिहरू)</li> </ul> | २ |   | २ |
|                               |                                                |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                           |   | ४ | ४ |
| खण्ड ८: कृषि तथ्यांक तथा बजार |                                                |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                           | ५ | ३ | ८ |

|               |                                                                                                                                                           |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                  |   |    |    |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|
| ५४            | कृषि तथ्यांक                                                                                                                                              | नेपालको कृषि तथ्यांकिय प्रणाली र नयाँ कृषि तथ्यांकको बारेमा सहभागीहरूको ज्ञान र धारणामा अभिवृद्धि हुने ।                                                                                                                             | <ul style="list-style-type: none"> <li>- तथ्यांक</li> <li>- नेपालको कृषि तथ्यांक</li> <li>- कृषि तथ्यांक संकलन विधि</li> <li>- नेपालमा कृषि तथ्यांक प्रणाली</li> <li>- कृषि व्यवस्थापन सूचना प्रणाली</li> </ul>                                                                                                                                                  | १ | १  | २  |
| ५५            | कृषि तथा पशुपन्छी बजार व्यवस्था                                                                                                                           | नेपालको कृषि तथा पशुपन्छी बजार व्यवस्थाको बारेमा सहभागीहरूको ज्ञान, सीप र धारणामा अभिवृद्धि हुने ।                                                                                                                                   | <ul style="list-style-type: none"> <li>- कृषि बजार</li> <li>- बजारका वर्गिकरण/प्रकारहरू</li> <li>- कृषि बजारको विशेषता</li> <li>- कृषकमुखी बजार</li> <li>- नेपालमा कृषि बजारको अवस्था</li> <li>- कृषि बजारका अवसर र चुनौतीहरू</li> <li>- नेपालका मुख्य मुख्य बजारहरू</li> <li>- सम्बन्धी जानकारी, बजार व्यवस्थापन समिति</li> <li>- बजार सूचना प्रणाली</li> </ul> | २ |    | २  |
|               |                                                                                                                                                           | - नजिकको कृषि बजारमा गरिइ अपनाइएका बजार सूचना प्रणालीको बारेमा जानकारी लिने ।                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                  | २ | २  |    |
| ५६            | कृषिको मूल्य श्रृंखला विकास                                                                                                                               | कृषिको मूल्य श्रृंखला विकासको बारेमा सहभागीहरूको ज्ञान अवधारणामा अभिवृद्धि हुने ।                                                                                                                                                    | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- मूल्य श्रृंखलाको अवधारणा र विकास</li> <li>- कृषि तथा पशुजन्य उत्पादनको मूल्य श्रृंखला</li> <li>- उत्पादनमा Value addition र तरिका</li> </ul>                                                                                                                                                           | २ |    | २  |
| खण्ड ९: विविध |                                                                                                                                                           |                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                  | ३ | २५ | २८ |
| ५७            | जलवायु परिवर्तन कृषि/पशुपन्छी/मत्स्य उत्पादनमा जलवायु परिवर्तनको असर तथा यसको न्यूनिकरण र अनुकूलनका उपायहरूको बारेमा सहभागीहरूको ज्ञानमा अभिवृद्धि हुने । | जलवायु परिवर्तनको कारण, असर र वर्तमान अवस्थाको बारेमा सहभागीहरूको ज्ञानमा अभिवृद्धि हुने ।                                                                                                                                           | <ul style="list-style-type: none"> <li>- परिचय</li> <li>- जलवायु परिवर्तनका कारणहरू</li> <li>- जलवायु परिवर्तनको असर</li> <li>- जलवायु परिवर्तनको वर्तमान अवस्था</li> </ul>                                                                                                                                                                                      | १ |    | १  |
|               |                                                                                                                                                           | <ul style="list-style-type: none"> <li>- कृषि/पशुपन्छी/मत्स्य उत्पादनमा जलवायु परिवर्तनको असर</li> <li>- जलवायु परिवर्तनको र यसको न्यूनिकरण असर गर्ने उपायहरू</li> <li>- कृषि उत्पादनमा जलवायु परिवर्तन अनुकूलनका उपायहरू</li> </ul> | १                                                                                                                                                                                                                                                                                                                                                                | १ |    |    |
| ५८            | तालिमको उद्देश्य बारे जानकारी                                                                                                                             | सहभागीहरूले आधारभूत सेवाकालीन तालिमको उद्देश्य र महत्वको बारेमा जानकारी पाउनेछन ।                                                                                                                                                    | <ul style="list-style-type: none"> <li>- सेवाकालीन तालिमको अवधारणा र उद्देश्य बारे जानकारी दिने</li> <li>- सेवाकालीन तालिमको औचित्य बारे जानकारी दिने ।</li> </ul>                                                                                                                                                                                               | १ |    | १  |

|     |                                                                 |                                                                                       |                                                                                                                                                                                           |  |    |    |
|-----|-----------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----|----|
| ५९  | समसामयिक विषय र समस्या समाधान छुलफल, विज्ञहरूसँगको अन्तर्क्रिया | पृथक विधिबाट सहभागीहरूको अपेक्षा र समस्याहरूको सम्बोधन भरइ सेवामा उत्प्रेरणा बढ्ने ।  | – कृषि तर्फ (बालीविज्ञान/माटो/बाली संरक्षण/बागवानी/कृषि प्रसार/एग्री इको. एण्ड मार्केटिङ) र पशुपालन/पशुस्वास्थ्य/माछा समूहहरू छुट्टाछुट्टै समूहमा बाँडिने र विज्ञसँग अन्तर्क्रिया गर्ने । |  | ४  | ४  |
| ६०  | अवलोकन, प्रतिवेदन तयारी, प्रतिवेदन प्रस्तुति                    | सहभागीहरूले तालिममा सिकेका कुराहरू व्यवहारिक रूपमा प्रस्तुत गर्ने अवसर प्राप्त हुने । | – सम्बन्धित क्षेत्रको अवलोकन भ्रमण, Etiquette, .<br>– कक्षामा सिकेका र भ्रमणबाट प्राप्त सिकारइहरू समेटिएको प्रतिवेदन तयारी<br>– प्रस्तुतिकरण                                              |  | १६ | १६ |
| ६१  | तालिम उदघाटन र समापन                                            |                                                                                       | – तालिम उदघाटन, प्रमाणपत्र वितरण<br>– समापन                                                                                                                                               |  | २  | २  |
| ६२  | तालिम मूल्यांकन मध्यवधिक मूल्यांकन                              | पूर्व मूल्यांकन र अन्तिम मूल्यांकन                                                    |                                                                                                                                                                                           |  | २  | २  |
|     |                                                                 |                                                                                       |                                                                                                                                                                                           |  | १  | १  |
| कूल |                                                                 |                                                                                       |                                                                                                                                                                                           |  | ७१ | ४९ |

#### तालिम मूल्यांकनको आधार:

| क्र.स. | मूल्यांकन सूचक (विषय)                                                           | अंकभार |
|--------|---------------------------------------------------------------------------------|--------|
| १.     | दैनिक हाजिरी र अनुशासन (पोषाक, समयमा आउने जाने, ..) (Attendance and Discipline) | २०     |
| २.     | कक्षामा सक्रिय सहभागीता (Actively participation)                                | १०     |
| ३.     | सामूहिक प्रतिवेदन र प्रस्तुतिकरण (Group reporting and presentation)             | १०     |
| ४.     | तालिमको दैनिक प्रतिवेदन (Daily Report)                                          | ४०     |
| ५.     | मध्यवधिक परीक्षा मूल्यांकन (Mid-term evaluation)                                | ५      |
| ६.     | तालिमको अन्तिम मूल्यांकन परीक्षा (Final evaluation)                             | १५     |
| कूल:   |                                                                                 | १००    |

#### द्रष्टव्य:

- तालिममा सहभागीहरू कूल हाजिरी दिनको कम्तिमा ९० प्रतिशत हाजिरी हुनुपर्नेछ ।
- तालिमको पाठ्यक्रम आवश्यकता अनुसार समय सापेक्ष संशोधन हुनेछ ।
- तालिम पाठ्यक्रममा समावेश भएका बढीमा १५ प्रतिशत तालिम शिर्षकहरू तत्कालिन बढी आवश्यकताको आधारमा थपघट गर्न सकिनेछ ।
- तालिम मापदण्ड र नियम पालना नगर्ने सहभागीहरूलाई प्रमाणपत्र प्रदान गर्न बाध्य हुनेछैन ।
- यो तालिम पाठ्यक्रम संघीय निकायमा कार्यरत रा.प.अनं. प्रथम प्राविधिकहरूको आधारभूत सेवाकालीन तालिमको लागि पाठ्यक्रमको रूपमा प्रयोग हुनेछ ।

तालिम पाठ्यक्रम सारांश तथा विश्लेषण:

| खण्ड                                | कूल कक्षा संख्या |             |       |
|-------------------------------------|------------------|-------------|-------|
|                                     | सैद्धान्तिक      | प्रयोगात्मक | जम्मा |
| १. ऐन, नीति, आदेश                   | ११               | ३           | १४    |
| २. योजना र विकास                    | ४                | ०           | ४     |
| ३. अन्तरसम्बन्ध                     | ९                | ०           | ९     |
| ४. व्यक्तित्व विकास                 | १४               | ३           | १७    |
| ५. कार्यक्रम योजना र कार्यान्वयन    | ९                | ९           | १८    |
| ६. तालिम                            | ५                | १           | ६     |
| ७. कृषि तथा पशुपन्छी प्रविधि प्रसार | ११               | ५           | १६    |
| ८. कृषि तथ्यांक तथा बजार            | ५                | ३           | ८     |
| ९. विविध                            | ३                | २५          | २८    |
| जम्मा                               | ७१               | ४९          | १२०   |
| प्रतिशत                             | ५९               | ४१          | १००   |

**GAP/GHP/GMP/HACCP सम्बन्धि अभिमुखिकरण तालिम (सहायकस्तर कर्मचारीका लागि)**

Training Duration: 7 working days

Total no. of classes: 28

Session per day: 4

Session duration: 90 minutes

Total number of classes: (Theory-25, Practical-3)

Objective: 1) TO orient participants about GAP/GHP/GMP/HACCP

2) To be able to facilitate producers to adopt GAP

| Day | Time        | Title                                                                  | Content Outline                                  | Methodology         | Session |           |
|-----|-------------|------------------------------------------------------------------------|--------------------------------------------------|---------------------|---------|-----------|
|     |             |                                                                        |                                                  |                     | Theory  | Practical |
| 1   | 10:30-12:00 | Introduction about FANSEP Project                                      |                                                  | Lecture, Discussion | 1       | 0         |
|     | 12:00-1:30  | Concept and status of GAP                                              | Concept, genesis, Asia GAP, SAARC GAP            | Lecture, Discussion | 1       | 0         |
|     | 2:00-3:30   | Introduction and History of GAP in Nepal                               | History, Status and Prospectus of GAP Challenges | Lecture, Discussion | 1       | 0         |
|     | 3:30-5:00   | Nepal Gap Standard                                                     |                                                  | Lecture, Discussion | 1       | 0         |
| 2   | 10:30-12:00 | Certification Process of GAP Products                                  |                                                  | Lecture, Discussion | 1       | 0         |
|     | 12:00-1:30  | Internal Control System                                                |                                                  | Lecture, Discussion | 1       | 0         |
|     | 2:00-3:30   | Provision of GAP and GMP in ADS and other agriculture related policies |                                                  | Lecture, Discussion | 1       | 0         |
|     | 3:30-5:00   | Safe Pesticide Handling and Application of PGRs                        |                                                  | Lecture, Discussion | 1       | 0         |
| 3   | 10:30-12:00 | Concept and status of GHP and GMP                                      | Dairy directive                                  | Lecture, Discussion | 1       | 0         |
|     | 12:00-1:30  | Good Husbandry Practice for dairy animal and goats                     |                                                  | Lecture, Discussion | 1       | 0         |

|   |             |                                                                                        |                                              |                     |   |   |
|---|-------------|----------------------------------------------------------------------------------------|----------------------------------------------|---------------------|---|---|
|   | 2:00-3:30   | Concept and Application of Bio-security in Farm                                        |                                              | Lecture, Discussion | 1 | 0 |
|   | 3:30-5:00   | Farm Registration, Traceability and Recall                                             |                                              | Lecture, Discussion | 1 | 0 |
| 4 | 10:30-12:00 | Good Manufacturing Practices in Meat Industry                                          |                                              | Lecture, Discussion | 1 | 0 |
|   | 12:00-1:30  | Good Manufacturing Practices in Dairy Industry                                         |                                              | Lecture, Discussion | 1 | 0 |
|   | 2:00-3:30   | SPS Provisions and their Requirements                                                  |                                              | Lecture, Discussion | 1 | 0 |
|   | 3:30-5:00   | Food Safty and Quality Control                                                         |                                              | Lecture, Discussion | 1 | 0 |
| 5 | 10:30-3:30  | Field Visit to Gap Certified Farm                                                      |                                              | Field Visit         | 0 | 3 |
|   | 3:30-5:00   | Market Perspective of GAP Products in Nepal from GAP Certified Farmer                  |                                              | Lecture, Discussion | 1 | 0 |
| 6 | 10:30-12:00 | Concept of Risk Analysis                                                               | •Pest risk analysis<br>•Animal risk analysis | Lecture, Discussion | 1 | 0 |
|   | 12:00-1:30  | Risk Assessment and Management at Primary Production                                   |                                              | Lecture, Discussion | 1 | 0 |
|   | 2:00-3:30   | Concept and Principles of Hazard Analysis and Critical Control Point (HACCP)           |                                              | Lecture, Discussion | 1 | 0 |
|   | 3:30-5:00   | Sanitation, Hygiene and Quality Standard in Agriculture and Livestock Food Value Chain |                                              | Lecture, Discussion | 1 | 0 |

|             |             |                                                                                       |  |                     |    |   |
|-------------|-------------|---------------------------------------------------------------------------------------|--|---------------------|----|---|
| 7           | 10:30-12:00 | Environmental and Social Safeguard Issues Consideration on Production of GAP Products |  | Lecture, Discussion | 1  | 0 |
|             | 12:00-1:30  | Package of Practices (POP) of Vegetables                                              |  | Lecture, Discussion | 1  | 0 |
|             | 2:00-3:30   | Package of Practices (POP) of Fruits                                                  |  | Lecture, Discussion | 1  | 0 |
|             | 3:30-5:00   | Record Keeping                                                                        |  | Lecture, Discussion | 1  | 0 |
| Total       |             |                                                                                       |  |                     | 25 | 3 |
| Grand Total |             |                                                                                       |  |                     | 28 |   |

(Training Materials: White board, Chart paper, Marker, Meta cards, Multimedia)



तालिमको नाम: बाली बीमा प्रशिक्षक तालिम

तालिमको अवधि: ६ दिन

तालिमको उद्देश्य: सहभागिहरूलाई बाली तथा पशुपन्छी बीमा सम्बन्धी ज्ञान प्रदान गरी बाली तथा पशुपन्छी बीमा प्रशिक्षक तयार गर्नुको साथै अभिकर्ता सम्बन्धी ज्ञान प्रदान गर्नु

स्तर: प्राविधिक अधिकृत

प्रति दिन कक्षा संख्या: ३

कक्षा अवधि: १.५ घण्टा

| क्र.स. | विषयवस्तु/शीर्षक                                                   | उप-शीर्षक                                                                          | सिकाई प्रकृया                | कक्षा       |             |
|--------|--------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------|-------------|-------------|
|        |                                                                    |                                                                                    |                              | सैद्धान्तिक | प्रयोगात्मक |
| १      | जोखिम तथा जोखिम व्यवस्थापन, बीमा तथा कृषि बीमा बारे जानकारी        | जोखिमको परिचय, प्रकारहरू र व्यवस्थापनका पक्षहरू, परिचय, सिद्धान्त, प्रकार, सर्तहरू | प्रवचन र छलफल                | १           |             |
| २      | कृषि बीमाको वर्तमान अवस्था, समस्या, चुनौती तथा सरोकारवालाको भुमिका | वर्तमान अवस्था, समस्या, चुनौती, सुझाव तथा भुमिका                                   | प्रवचन र छलफल                | १           |             |
| ३      | कृषि बीमा सम्बन्धी कानूनी तथा नीतिगत व्यवस्थाहरू                   | बीमा ऐन र नियमावली, निर्देशन/निर्देशिका, अनुदान कार्यविधि                          | प्रवचन र छलफल                | १           |             |
| ४      | कृषि बीमा गर्ने प्रकृया तथा प्रचलनमा रहेका बीमालेखहरू              | कृषि बीमा गर्ने प्रक्रिया, बीमालेखका प्रकार                                        | प्रवचन र छलफल                | १           |             |
| ५      | उत्पादनमा आधारित तरकारी बाली बीमालेख (अभ्यास सहित)                 |                                                                                    | प्रवचन र छलफल/भुमिका निर्वाह |             | १           |
| ६      | सुन्तला, जुनार र कागती बीमालेख (अभ्यास सहित)                       |                                                                                    | प्रवचन र छलफल/भुमिका निर्वाह |             | १           |
| ७      | च्याउ खेती तथा मौरी बीमालेख (अभ्यास सहित)                          |                                                                                    | “                            |             | १           |
| ८      | पशुधन बीमालेख (अभ्यास सहित)                                        |                                                                                    | “                            |             | १           |
| ९      | पन्छी बीमालेख (अभ्यास सहित)                                        |                                                                                    | “                            |             | १           |
| १०     | चिया तथा कफि बीमालेख (अभ्यास सहित)                                 |                                                                                    | “                            |             | १           |
| ११     | माछा बीमालेख (अभ्यास सहित)                                         |                                                                                    | “                            |             | १           |
| १२     | अलैची तथा मसलाबाली बीमालेख (अभ्यास सहित)                           |                                                                                    | “                            |             | १           |
| १३     | घाँसेबाली बीमालेख (अभ्यास सहित)                                    |                                                                                    | “                            |             | १           |

|    |                                                                    |  |                               |    |
|----|--------------------------------------------------------------------|--|-------------------------------|----|
| १४ | केरा बीमालेख, उखु बीमालेख (अभ्यास सहित)                            |  | “                             | १  |
| १५ | अन्न बाली बिजवृद्धि, चैते धान बीमालेख (अभ्यास सहित)                |  | “                             | १  |
| १६ | मौसम सूचांक बीमालेख                                                |  | “                             | १  |
| १७ | औषत उत्पादन लागत (अभ्यास सहित) तथा गृहकार्य बारे छलफल समूह विभाजन, |  | समुह अभ्यास र प्रतिवेदन तयारी | १  |
| १८ | गृहकार्य प्रस्तुती                                                 |  |                               | १  |
|    | जम्मा                                                              |  |                               | १८ |

तालिमको नाम: मल निरिक्षक तालिम

तालिमको अवधि: ५ दिन

तालिमको उद्देश्य: सहभागिहरूलाई मल निरिक्षक सम्बन्धी ज्ञान प्रदान गरी मल निरिक्षक तयार गर्ने

स्तर: प्राविधिक अधिकृत

प्रति दिन कक्षा संख्या: ३

कक्षा अवधि: १.५ घण्टा

| क्र.स. | विषयवस्तु/शीर्षक                                                                      | उप-शीर्षक                                                                                                                                                                                                          | सिकाई प्रकृया   | कक्षा       |             |
|--------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-------------|
|        |                                                                                       |                                                                                                                                                                                                                    |                 | सैद्धान्तिक | प्रयोगात्मक |
| १      | नेपालको माटोको उर्वराशक्तिको वर्तमान अवस्था                                           | माटोको उर्वराशक्तिको परिचय, हासका कारणहरू, कायम गर्ने उपायहरू                                                                                                                                                      | प्रवचन तथा छलफल | १           |             |
| २      | मल सम्बन्धि नीतिगत तथा कानुनी प्रावधानहरू                                             | राष्ट्रिय मल नीति २०५८, प्राङ्गारिक तथा जैविक मल नियमन कार्यविधि, २०६८ तथा प्राङ्गारिक मलको स्पेशिफिकेशन, रसायनिक मल नियन्त्रण आदेश, २०५५ तथा यसमा अन्तरहित विषयहरू, अनुदानको मल वितरण व्यवस्थापन निर्देशिका, २०७७ | प्रवचन तथा छलफल | ३           |             |
| ३      | प्राङ्गारिक प्रवर्द्धनमा भएका प्रयासहरू तथा प्राङ्गारिक मल उत्पादन, आयात वितरण अवस्था |                                                                                                                                                                                                                    | प्रवचन तथा छलफल | १           |             |
| ४      | मल निरिक्षकको काम कर्तव्य र अधिकार                                                    |                                                                                                                                                                                                                    | प्रवचन तथा छलफल | १           |             |

|    |                                                                                                    |                                                                                                                                                           |                 |    |   |
|----|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----|---|
| ५  | रासायनिक मलमा मिसावट तथा पहिचान विधि                                                               | रसायनिक मलका प्रकारहरू र यिनमा मिसावटका सम्भावित श्रोतहरू, रसायनिक मलमा हुने मिसावटको पहिचान विधिहरू सैद्धान्तिक तथा व्यवहारिक                            | प्रवचन तथा छलफल | १  |   |
| ६  | बाली विरुवामा पोषण व्यवस्थापन                                                                      | बाली विरुवाका आवश्यक तत्वहरू, श्रोत, खाद्यतत्व कमीका प्रमुख लक्षणहरू, एकिकृत खाद्यतत्व व्यवस्थापन                                                         | प्रवचन तथा छलफल | १  |   |
| ७  | रसायनिक मलको उत्पादन सम्भावना तथा आपूर्ती, वितरण व्यवस्थाका प्रमुख समस्याहरू तथा भावी रणनीति       | रसायनिक मलको आयात, अनुदान तथा मूल्य निर्धारण सम्बन्धि व्यवस्था, आपूर्ती, वितरण व्यवस्थाका प्रमुख समस्याहरू तथा भावी रणनीति, रसायनिक मलको उत्पादन सम्भावना | प्रवचन तथा छलफल | १  |   |
| ८  | रासायनिक मल निरिक्षकले मल निरिक्षण, तहकिकात तथा मुद्दा अभियोजन गर्दा अपनाउनुपर्ने कानुनी प्रक्रिया |                                                                                                                                                           | प्रवचन तथा छलफल | १  |   |
| ९  | नेपालमा प्रचलनमा रहेका विभिन्न प्रकारका रसायनिक मलहरूको स्पेसिफिकेशन                               |                                                                                                                                                           | प्रवचन तथा छलफल | १  |   |
| १० | मलको नमूना लिने तरिका र विश्लेषणको लागि पठाउँदा अपनाउनुपर्ने सावधानीहरू                            |                                                                                                                                                           | प्रवचन तथा छलफल | १  |   |
| ११ | रासायनिक तथा प्राङ्गारिक मलको दर्ता प्रक्रिया                                                      |                                                                                                                                                           | प्रवचन तथा छलफल | १  |   |
| १२ | रसायनिक मल भण्डारण अवलोकन                                                                          |                                                                                                                                                           |                 | ०  | १ |
| १३ | रसायनिक मलको नमूना संकलन गर्ने बारे व्यवहारिक कक्षा                                                |                                                                                                                                                           |                 | ०  | १ |
|    | जम्मा                                                                                              |                                                                                                                                                           |                 | १५ |   |

## Officer Level Training on Modern Plant Propagation Technique

Total number of classes: 18 (Theory-8, Practical-10)

| Day | Title                                                                                                                                                                                                                                                                                   | Session |       |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|
|     |                                                                                                                                                                                                                                                                                         | Theo.   | Prac. |
| 1   | 1.1 Introduction to Plant propagation:<br>1.1.1 Sexual methods of propagation-<br>techniques of propagation by seed<br>1.1.2 Asexual methods of propagation-specialised vegetative<br>structure, propagation by cutting, budding, layering and<br>grafting, apomictic seedling          | 1       | 0     |
|     | Propagation techniques of tropical fruits                                                                                                                                                                                                                                               | 1       | 0     |
|     | Current status of plant propagation, plant distribution systems<br>and legal provision in Nepal (Nursury directive, budwood<br>certification system guideline)                                                                                                                          | 1       | 0     |
| 2   | Propagation by tissue culture                                                                                                                                                                                                                                                           | 1       | 0     |
|     | Tissue culture of banana                                                                                                                                                                                                                                                                | 0       | 1     |
|     | Tissue culture of potato                                                                                                                                                                                                                                                                | 0       | 1     |
| 3   | Grafting on citrus fruits                                                                                                                                                                                                                                                               | 0       | 1     |
|     | Nechuki and its importance in non grafted citrus orchard                                                                                                                                                                                                                                | 0       | 1     |
|     | Layering                                                                                                                                                                                                                                                                                | 0       | 1     |
| 4   | Annual working calender for nursury management                                                                                                                                                                                                                                          | 1       | 0     |
|     | Method of startification and scarification of winter fruit seeds<br>:       4.1.1 Scarification: mechanical, chemical, hot water,<br>moist       4.1.2 Startification: Outdoor, refrigerated,<br>leaching of inhibitors, pre-chilling, pre-drying, seed priming,<br>hormonal treatments | 0       | 2     |
|     | Motherblock and Rootstock establishment and its<br>management                                                                                                                                                                                                                           | 1       | 0     |
| 5   | Design of screen house for disease free sapling production.                                                                                                                                                                                                                             | 1       | 0     |
|     | Scion production and protection methods (wax treatment and<br>others)                                                                                                                                                                                                                   | 0       | 1     |
|     | Grafting on temperate fruits (Kiwi/Apple/Peach/Pear/Plum/<br>walnut)                                                                                                                                                                                                                    | 0       | 1     |
| 6   | Budding                                                                                                                                                                                                                                                                                 | 1       | 0     |
|     | Top working and rejuvenation of orchard                                                                                                                                                                                                                                                 | 0       | 1     |
|     | Total                                                                                                                                                                                                                                                                                   | 8       | 10    |

## Officer Level Training on Procurement Management

Total number of classes: 18 (Theory-14, Practical-4)

| Day                | Time        | Title                                                                                                    | Objective                                                                                                                                                                                                                                                                                          | Sub-topics                                                                                                                                                                                                                                                                                 | Methodology         | Session |      |
|--------------------|-------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|------|
|                    |             |                                                                                                          |                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                            |                     | Theo.   | Pra. |
| 2077/11/02, Sunday | 10:30-12:00 | Overview of Public Procurement and Methods of Procurement of Works, Goods, Consulting and other Services | Enable participants to understand the basic concept of public procurement cycle with major functional features, legal provisions and institutional framework in Nepales context. Enable participants to describe the types of procurement methods and prepare procurement proceedings accordingly. | <ul style="list-style-type: none"> <li>• Public procurement: concepts, importance, principle and cycle</li> <li>• Type of procurement category and methods</li> <li>• Conditions for selecting methods of procurement</li> <li>• Functions of procurement division/section/unit</li> </ul> | Lecture, Discussion | 1       | 0    |
|                    | 12:15-1:45  | Procurement Plan: Preparation Practice and Classroom Exercise                                            | Develop conceptual skills to the participant in preparing procurement plan relating it with program and budget of entity                                                                                                                                                                           | <ul style="list-style-type: none"> <li>• Preparation of master and/or annual procurement plan</li> <li>• Case presentation for preparation of procurement plan</li> <li>• Exercise of preparation of procurement plan by participants</li> </ul>                                           | Group exercise      | 0       | 1    |

|             |           |                                                                                                           |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                     |     |
|-------------|-----------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|
|             | 2:30-4:00 | Technical Specification, Slicing, Packaging and Cost Estimation of Goods, works and Other Service (Legal) | Enable participants to develop understanding of the process, contents and factors of considerations in the process of technical specification, estimates, slicing and packaging of goods, works and other services | <ul style="list-style-type: none"> <li>• <b>Technical Specification:</b> Meaning and factors to be considered in preparing technical specification of goods/works</li> <li>• <b>Slicing and Packaging:</b> Meaning, process and basis, importance, relationship with procurement qualification and evaluation; availability and ability of bidders</li> <li>• Cost Estimation of Goods, Works &amp; other Services: Legal provisions, bases and norms, process and cost estimation formats</li> </ul> | Lecture, Discussion | 1 0 |
| 10:30-12:00 |           | Procurement of Works-Bid Document Preparation                                                             | Familiarize the participants about the standard bid document structure of works and preparation of bid document                                                                                                    | <ul style="list-style-type: none"> <li>• Preparation of bid notice for ISIE/IS2E</li> <li>• ITB, bid data sheet, EQC, BoQ, GCC and SCC</li> </ul>                                                                                                                                                                                                                                                                                                                                                     | Lecture, Discussion | 1 0 |
| 12:15-1:45  |           | Bid Opening & Evaluation and Contract Awarding Works                                                      | Enable to understand the aspects of opening and evaluation process and contract awarding                                                                                                                           | <ul style="list-style-type: none"> <li>• Outline the bid opening process</li> <li>• Preparation of bid opening record (Muchulka)</li> <li>• Eligibility examination of bids</li> <li>• Stepwise process of technical, commercial and financial bid examination and evaluation</li> <li>• Special evaluation in works contract</li> <li>• Preparation of bid evaluation report</li> <li>• Award procedures including letter of intent</li> </ul>                                                       | Lecture, Discussion | 1 0 |

2077/11/03, Monday

|                     |             |                                                |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                     |   |   |  |
|---------------------|-------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|---|--|
|                     |             |                                                |                                                                                                                    | <ul style="list-style-type: none"> <li>Complain handling and review process</li> <li>Contract award or rebid-conditions</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          |                     |   |   |  |
|                     | 2:30-4:00   | Bid Document Preparation-Works                 | Enable participants to prepare the bid document for the procurement of works                                       | <ul style="list-style-type: none"> <li>Data sheet, EQC, BoQ/Price schedule, Schedule of requirement and SCC (Group exercise)</li> <li>TOR, ITC, SCC-time based and lump-sum contract</li> </ul>                                                                                                                                                                                                                                                                                                                             | Group exercise      | 0 | 1 |  |
| 2077/11/04, Tuesday | 10:30-12:00 | Procurement of Goods- Bid Document Preparation | Familiarize the participants about the standard of bid document structure of goods and preparation of bid document | <ul style="list-style-type: none"> <li>Preparation of bid notice</li> <li>ITB, bid data sheet, EQC, bidding forms, schedule of requirement, GCC and SCC</li> <li>INCOTERMS in ICB contracts</li> </ul>                                                                                                                                                                                                                                                                                                                      | Lecture, Discussion | 1 | 0 |  |
|                     | 12:15-1:45  | Evaluation and Contract Awarding Goods         | Enable to understand the aspects of opening and evaluation process and contract awarding                           | <ul style="list-style-type: none"> <li>Outline the bid opening process</li> <li>Preparation of bid opening record (Muchulka)</li> <li>Eligibility examination of bids</li> <li>Stepwise process of technical, commercial and financial bid examination and evaluation</li> <li>Special evaluation in works contract</li> <li>Preparation of bid evaluation report</li> <li>Award procedures including letter of intent</li> <li>Complain handling and review process</li> <li>Contract award or rebid-conditions</li> </ul> | Lecture, Discussion | 1 | 0 |  |





|                      |                                                                                |                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |     |
|----------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|
| 2077/11/06, Thursday |                                                                                |                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                          |                     |     |
| 10:30-12:00          | Contract Management: Goods/Works/Consulting Services/Other Services (Continue) | Enable to act as the contract administrator and understand about the stages/ circumstances of contract administration.                                                    | <ul style="list-style-type: none"> <li>• Extension of time</li> <li>• Variation: Process, valuation and conditions</li> <li>• Pre adjustment: conditions and process, types and calculation process</li> <li>• Liquidated damages</li> <li>• Dispute settlement and arbitration</li> <li>• Compensating events</li> <li>• Work acceptance/Completion</li> <li>• Contract closing</li> </ul>                                              | Lecture, Discussion | 1 0 |
| 12:15-1:45           | Bidding Procedures in public Procurement: Goods/Works/other Services           | The participants will be able to describe the bidding procedures and sequencing of bidding activities and enable them to understand the electronic procurement procedures | <ul style="list-style-type: none"> <li>• Steps and preconditions for bidding procedures</li> <li>• Opportunity publication, pre-bid meeting and response, bid opening, evaluation and complain handling, contract management</li> </ul>                                                                                                                                                                                                  | Lecture, Discussion | 1 0 |
| 2:30-4:00            | E-Procurement system and its Process                                           | Familiarize with e-procurement and process as per PPMO guidelines and practice                                                                                            | <ul style="list-style-type: none"> <li>• E-procurement system and its environment</li> <li>• E-procurement threshold</li> <li>• Steps for eprocurement</li> <li>• Document verification and evaluation in eprocurement</li> <li>• Case related with eprocurement</li> <li>• Do's and Don'ts in eprocurement</li> <li>• Points to consider in eprocurement</li> <li>• E-procurement portal demonstrations from website of PPMO</li> </ul> | Lecture, Discussion | 1 0 |

|  |                    |   |                                                            |                                                                                         |                                                                                                                                                                                                                                                                                                |                                 |    |   |
|--|--------------------|---|------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----|---|
|  | 2077/11/07, Friday | 1 | Overview of development partner's Procurement Framework    | Familiarize new procurement framework of major development partner                      | <ul style="list-style-type: none"> <li>procurement framework of WB/ADB</li> <li>Similarities and differences between government and development partner's procurement provisions</li> <li>Technical terms used in donors's procurement systems</li> </ul>                                      | Lecture, Discussion             | 1  | 0 |
|  |                    | 2 | Roles of Oversight Agencies in Public Procurement          | Enable participants to understand the roles of oversight agencies in public procurement | <ul style="list-style-type: none"> <li>Roles of PPMO, CIAA, OAG, PPRC in public procurement</li> <li>Sought advice in public procurement process from PPMO</li> <li>Complain handling through PPRC</li> <li>Investigation process in CIAA and major issues in case handling by CIAA</li> </ul> | Lecture, Discussion             | 1  | 0 |
|  |                    | 3 | Group Discussions and Presentation on Bid Document/EOI/RFP |                                                                                         |                                                                                                                                                                                                                                                                                                | Group discussions, presentation | 0  | 1 |
|  |                    |   |                                                            |                                                                                         | Total                                                                                                                                                                                                                                                                                          |                                 | 14 | 4 |

(Training Materials: White board, Chart paper, Marker, Meta cards, Multimedia)

## Training on Organic Agriculture (Officer Level)

Net Training Days: 6 days

Training Period 1 week

Time per Session : 90 mins.

### Course contents:

1. Background of Organic Farming: Introduction, evolution, concepts (permaculture, Biodynamic agriculture, sustainable agriculture, natural farming, and regenerative agriculture)
2. Principles, Elements and Importance of Organic Farming, Elements of Organic Farming, Organic Farming techniques, importance of Organic Farming, Issue related to Intensive Agriculture, issues related to Sustainable Organic Development, Environmental economic and safe health aspects of organic farming.
3. Status of organic farming in Nepal, National policies in organic farming, institutional arrangement for the promotion of organic farming in Nepal. A case study of Jumla district, role of private cooperative sectors on promotion of organic agriculture in Nepal.
4. Soil and Nutrient Management: Definition of Soil in Organic Farming, Physical, Chemical & Biological characteristics of soil, Soil Solarization.
5. Integrated Plant Nutrients Management: Farm Yard Manure/Compost, Green Manuring, Crop Residue Management, Bokasi, Giti Manure etc, Bio-fertilizers, Vermicompost: Introduction, Importance, Principles & Technology
6. Concept of IPM (Integrated Pest Management) and OPM (Organic Pest Management): Experience of PPD (Plant Protection Directorate).
7. Insects Control through Different Types of Plants
8. Water Quality and Its Management on Organic Farming: Water Quality (Metallic Contamination, Water PH, etc), Critical Stages of Water Requirement on Major Crops, Water Management and Conservation Techniques
9. Seed Management: Seed Act and Regulation, Seed Production and Quality Control Seed Storage and Management, International and National Status of Seed issues of Hybrid, GMOs and LMOs, Genetic Conservation techniques (Gene Bank, Community Seed Bank etc)
10. Organic Certification and Standardization: International Standard (IFOAM,NASA, JAS, Eco-CERT etc), National Standard, Certification (Internal Control System, Participatory Guaranty System), Roles and Responsibilities of Organic Inspector, National and International Certification Institutions
11. Good agricultural practices
12. Marketing of Organic Products: International Status (WTO, SPS, SAFTA. National Status, Market Management and Pricing
13. Climate Change and Organic Farming
14. Issues of Human Food Contamination due to Misuse of Agro-Chemicals (Insecticides, Pesticides, Hormones) in Nepal: Current Status, Implications Preventive Majors.
15. Field Visit

## Curriculum on Training of Trainers on Mushroom Production (Officer Level) -15 Working Days

| Day | Topic                | Coverage                                                                                                                                                                                                                                      | Methodology                         |
|-----|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1   | Program inauguration | <ul style="list-style-type: none"> <li>• Pre test</li> <li>• Group formation • Norms setting</li> </ul>                                                                                                                                       | Participatory Discussion<br>Lecture |
|     | Introductory Course  | <ul style="list-style-type: none"> <li>• Mushroom in plant kingdom</li> <li>• Importance of mushroom • Nutritional and medicinal value</li> <li>• Breeding and life cycle</li> <li>• Wild mushrooms</li> <li>• Poisonous mushrooms</li> </ul> |                                     |
|     | Mushroom in Nepal    | <ul style="list-style-type: none"> <li>• Historical aspect</li> <li>• Commercially grown mushroom • Novel Mushrooms and their scope</li> <li>• Mushroom resource centers</li> <li>• Edible wild mushrooms</li> </ul>                          |                                     |
| 2   | Topic Concept of TOT | <ul style="list-style-type: none"> <li>• Training Need Assessment</li> <li>• Learning Science</li> <li>• Lesson plan</li> </ul>                                                                                                               | Participatory Discussion<br>Lecture |
|     | Topic Concept of TOT | <ul style="list-style-type: none"> <li>• Team building</li> <li>• Facilitation skills</li> </ul>                                                                                                                                              | Participatory Discussion<br>Lecture |

|   |                                                     |                                                                                                                                                                                                                                                                                                                    |                                                             |
|---|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| 3 | Topic Concept of TOT<br>Oyster mushroom Cultivation | <ul style="list-style-type: none"> <li>• Presentation skills</li> <li>• General Introduction</li> <li>• Materials and their Management</li> <li>• Time Of Cultivation</li> <li>• Straw cutting process</li> <li>• Preparation of substrate</li> <li>• Temperature/RH management</li> <li>• Disinfection</li> </ul> | Participatory Discussion<br>Lecture<br>Theory and practical |
| 4 |                                                     | <ul style="list-style-type: none"> <li>• Ball making</li> <li>• Spawning</li> <li>• Incubation</li> <li>• Harvesting</li> <li>• Post Harvest and Storage Disease, Pest management and Sanitation</li> </ul>                                                                                                        | Theory and practical                                        |
| 5 | Button mushroom production                          | <ul style="list-style-type: none"> <li>• General Introduction Material Management</li> <li>• Time of Cultivation</li> <li>• Preparation of substrate Temperature/RH</li> <li>• Disinfection</li> <li>• Compost making Soil preparation</li> </ul>                                                                  | Theory and practical                                        |
| 6 |                                                     | <ul style="list-style-type: none"> <li>• Casing</li> <li>• Spawning</li> <li>• Disease, Pest management and Sanitation</li> <li>• Harvesting, Post-harvest and Storage</li> </ul>                                                                                                                                  | Theory and practical                                        |

|   |                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                       |
|---|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 7 | Shitake mushroom cultivation                                 | <ul style="list-style-type: none"> <li>• General introduction</li> <li>• Materials and their management</li> <li>• Preparation of substrate</li> <li>• Temperature/ Relative Humidity Management</li> <li>• Wooden logs selection and management</li> <li>• Process of drilling</li> <li>• Disinfection Spawning</li> <li>• Waxing</li> <li>• Harvesting, postharvest and storage</li> <li>• Disease, pest management and sanitation</li> </ul>                                                                                                                         | Theory and practical                                                                  |
| 8 | Field trip                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                       |
| 9 | Ganoderma mushroom cultivation<br><br>Post harvest operation | <ul style="list-style-type: none"> <li>• Introduction</li> <li>• Materials and their management</li> <li>• Preparation of substrate (wooden disk and saw dust)</li> <li>• Temperature/ Relative Humidity Management</li> <li>• Spawning, incubation and management</li> <li>• Harvesting, post-harvest and storage</li> <li>• Disease, Pest management and Sanitation</li> <li>• Mushroom harvesting, • Cleaning, sorting, grading, packaging, drying.</li> <li>• storage, dispatching • Powder making • Extracting and capsuling • Making soup • Shelf life</li> </ul> | Theory and practical<br>( wooden disk and saw dust media)<br><br>Theory and practical |

|    |                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |
|----|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 10 | <p>Different Structure in Mushroom Cultivation</p> <p>Seasonal and off seasonal Production Technique</p>                 | <ul style="list-style-type: none"> <li>• Traditional structure</li> <li>• Modern structure</li> <li>• Place, season and variety specific</li> <li>• Pros and cons</li> <li>• Structure preparation</li> </ul> <p>Geographical advantage</p> <ul style="list-style-type: none"> <li>• Varietal and others</li> </ul>                                                                                                                            | Theory and practical     |
| 11 | Milky Mushroom Cultivation                                                                                               | <p>General Introduction • Materials and their management</p> <p>Time for cultivation</p> <ul style="list-style-type: none"> <li>• Preparation of substrate • Temperature/ Relative Humidity management</li> <li>• Straw cutting process</li> <li>• Disinfection and incubation</li> <li>• Spawning</li> <li>• Casing soil preparation</li> <li>• Harvesting, post-harvest and storage</li> </ul> <p>Disease pest management and sanitation</p> | Participatory discussion |
| 12 | <p>Mushroom Resource Centers</p> <p>Government Policies and Program for Mushroom Promotion In Nepal</p> <p>Exercises</p> | <ul style="list-style-type: none"> <li>• Concept of Resource Centers</li> <li>• Minimum requirement</li> <li>• Existing resource centre • their regularization •</li> </ul> <p>Policy necessary • Major components to be included in Policy • Roles and Responsibilities • Supportive programs</p> <p>Test bed observation, presentation, discussion and conclusion</p>                                                                        | Participatory discussion |

|    |                                                  |                                                                                                                                                                                                                                                                                                                                                                     |                          |
|----|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 13 | Mushroom Spawn Production                        | <ul style="list-style-type: none"> <li>• Tissue culture technology</li> <li>• Quality Spawn Techniques of production</li> </ul>                                                                                                                                                                                                                                     | Participatory discussion |
|    | Straw Mushroom Cultivation                       | <ul style="list-style-type: none"> <li>• General Introduction</li> <li>• Materials and their management</li> </ul> Straw cutting and preparation<br>Preparation of bed<br><ul style="list-style-type: none"> <li>• Bed management</li> <li>• Spawning</li> <li>• Harvesting, post-harvest and storage</li> <li>• Disease, pest management and sanitation</li> </ul> |                          |
| 14 | Case studies                                     | Success and failure (due to spawn, substrate, time, management, market etc.) Internal, external                                                                                                                                                                                                                                                                     | Experience sharing       |
|    | Major Constraints, Risks and Opportunities       | Technical, Policy level and other factors                                                                                                                                                                                                                                                                                                                           | Participatory discussion |
| 15 | Taking Data, Processing, Recording and Reporting | Parameters, appropriate formats, record keeping agencies                                                                                                                                                                                                                                                                                                            | Participatory discussion |
|    | Market Oriented Mushroom Cultivation             | Market trend<br>Production trend<br>Technology in hand                                                                                                                                                                                                                                                                                                              | Theory and practical     |
|    | Post test and closing ceremony                   | Test, result and observation<br>Evaluation<br>Drawing conclusion                                                                                                                                                                                                                                                                                                    | Participatory work       |



बाली उत्पादन कृषक पाठाशाला सन्चालन गर्ने सहजकर्ताहरूको लागि पूनर्ताजकी तालिमको  
पाठ्यक्रम

(तालिम अवधि: ८ दिन, सेसन संख्या: ४ वटा , समय: १ घण्टा ४५ मिनेट)

| दिन | सेसन | विषयवस्तु                                                                                                               | सहजीकरण तरीका |             |
|-----|------|-------------------------------------------------------------------------------------------------------------------------|---------------|-------------|
|     |      |                                                                                                                         | सैद्धान्तिक   | प्रयोगात्मक |
| १   | १    | सहभागीहरूको उपस्थिति दर्ता, परिचय, तालिमको उद्देश्य र तालिम उदघाटन                                                      | १             |             |
|     | २    | सहभागीहरूको समूह विभाजन, समूहहरूको नामाकरण र तालिम   अवधिभरको लागि नीतिनियम तथा आचारसंहिता तयार, तालिमपूर्वको परीक्षा   |               | १           |
|     | ३    | पाठशाला सञ्चालन अनुभव आदानप्रदान तथा अपेक्षा सङ्कलन                                                                     |               | १           |
|     | ४    | पाठशाला सञ्चालन अनुभव आदानप्रदान तथा अपेक्षा सङ्कलन                                                                     |               | १           |
| २   | १    | खाद्य तथा पोषण सुरक्षा सुधार आयोजनाबारे जानकारी                                                                         | १             |             |
|     | २    | कृषक पाठशाला सञ्चालनको लागि गर्नुपर्ने पूर्वतयारी बैठक                                                                  | १             |             |
|     | ३    | आधारभूत तथ्याङ्क सङ्कलन, लैङ्गिक विश्लेषण, समावेशी विश्लेषण र स्थानीय स्रोत नक्सा तयारी                                 |               | १           |
|     | ४    | बालीनालीको वृद्धि विकासको पात्रो तयारी (वृद्धि विकासमा देखिने समस्या, कृषकहरूले गर्दै आएका अभ्यास) र मौसमी पात्रो तयार  |               | १           |
| ३   | १    | अध्ययन परीक्षण                                                                                                          | १             |             |
|     | २    | अध्ययन परीक्षण                                                                                                          |               | १           |
|     | ३    | कृषि पर्यावरणीय प्रणाली                                                                                                 | १             |             |
|     | ४    | कृषि पर्यावरणीय प्रणाली                                                                                                 |               | १           |
| ४   | १    | विश्लेषण कृषि पर्यावरणीय प्रणाली विश्लेषण माटो र खाद्यतत्त्व व्यवस्थापन, गोठमल सुधार, कम्पोस्ट मल तयारी पशुमूत्र सङ्कलन |               | १           |
|     | २    | मतपेटिका परीक्षा (आवश्यक सामग्री, तरिका र तयारी)                                                                        |               |             |
|     | ३    | बीउ छनोट तथा परीक्षण                                                                                                    | १             |             |
|     | ४    | मिनुकीरा, परागसेचक र शत्रुकीराको पहिचान तथा कीराहरूले गर्ने अतिका आधारमा वर्गीकरण                                       |               | १           |

|   |   |                                                                                                                                           |    |    |
|---|---|-------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| ५ | १ | बालीनालीका रोगका लक्षणहरू र रोगचक्र                                                                                                       | १  |    |
|   | २ | बाली उत्पादनोपरान्तको व्यवस्थापन तथा भण्डारण                                                                                              | १  |    |
|   | ३ | खाद्य उपलब्धता, खाने आनीवानी विश्लेषण तथा पोषण सुरक्षा                                                                                    | १  |    |
|   | ४ | मलखादको मात्रा, विषादी र पशुमूत्रको मात्रा हिसाब गर्ने तरिका                                                                              |    | १  |
| ६ | १ | बालीनालीमा विषादीको अवशेष, वातावरण तथा मानव स्वास्थ्यमा पर्ने प्रभाव र न्यूनीकरणको प्रयास, जैविक तथा वानस्पतिक विषादीहरू तयारी तथा प्रयोग |    | १  |
|   | २ | कुशल सहजकर्तामा हुनुपर्ने गुणहरू र सहजीकरणका लागि अपनाउनुपर्ने सीपहरू                                                                     | १  |    |
|   | ३ | कृषक पाठशालाको विशेष कक्षा छनोट तथा पाठयोजना                                                                                              | १  |    |
|   | ४ | माटोको चिस्यान व्यवस्थापन र बालीनालीमा सिंचाइ                                                                                             | १  |    |
| ७ | १ | कृषक पाठशालाको अनुगमन चेकलिस्टहरू, असल कृषक पाठशालाका सूचकहरू, कृषक पाठशाला तथा प्रतिवेदनको तयारी र सम्प्रेषण                             |    | १  |
|   | २ | कार्यक्रम कार्यान्वयनको सिलसिलामा वातावरणीय तथा सामाजिक सुरक्षण                                                                           | १  |    |
|   | ३ | जलवायु अनुकूलन तथा वातावरणमैत्री कृषि प्रणाली                                                                                             | १  |    |
|   | ४ | कृषक दिवस                                                                                                                                 | १  |    |
| ८ | १ | नमुना क्षेत्र बाली कटानी र लाभ-लागत विश्लेषण                                                                                              |    | १  |
|   | २ | अर्को सिजन/वर्षको लागि योजना तर्जुमा                                                                                                      |    | १  |
|   | ३ | तालिम पश्चात्को परीक्षा संचालन (अन्तिम परीक्षा) र अन्तिम मूल्याङ्कन                                                                       |    | १  |
|   | ४ | तालिम कार्यक्रमको समापन                                                                                                                   | १  |    |
|   |   | जम्मा                                                                                                                                     | १६ | १६ |

# पशुसेवा तालिम पाठ्यक्रम

## Curriculum of Training Courses on Animal Birth Control in Dog

### TITLE OF TRAINING COURSE: TRAINING ON ANIMAL BIRTH CONTROL in DOG

Level: Officer

Target group: Veterinarian

Duration of the training: three days

General objectives: After the completion of the course, the participants will be able to-

- Explain different methods of animal birth control procedures(dog)
- Describe and prepare for surgical procedure in dog
- Anesthetize dog
- Perform surgical sterilization
- Provide post-operative care

| Day | Session | Session Topic                                | Specific Objectives                                                                          | Sub topics                                                                                                                                                                                  | Learning methodology/Delivery Process | Material required                                 | Theo. | Pra. |
|-----|---------|----------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------|-------|------|
| 1   | 1       | Introduction to ABC, Principle and Structure | The participants will be able to explain ABC management and describe the reproductive system | Introduction and concept of Animal Birth Control for dog population management<br>Anatomy and physiology of male and female reproductive tract , principles and methods of neutering of dog | Interactive Discussion                | White Board, Marker, Computer, Overhead projector | 1     | 0    |



|   |   |   |                                |                                                                |                                                                        |               |                                                                                                                                     |   |   |
|---|---|---|--------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------|---|---|
|   |   | 3 | Practice on castration         | The participants will be able to perform the castration in dog | Hands on practice on castration (practical)                            | Practice      | Animal, Drapes, anesthesia, IV set, IV canula, Sutures ( vicryl, needle, needle handle, Forceps for different sizes, surgical kits, | 0 | 1 |
|   |   | 1 | Spaying in dog (demonstration) | The participants will be able to perform the spaying in dog    | Demonstration of surgical technique of Spaying                         | Demonstration | Animal, Drapes, anesthesia, IV set, IV canula, Sutures ( vicryl, needle, needle handle, Forceps for different sizes, surgical kits, | 0 | 1 |
| 3 |   | 2 | Practice on spaying            | The participants will be able to perform the spaying in dog    | Hands on Practice on spaying dog/ Practice for participants on spaying | Practice      | Animal, Drapes, anesthesia, IV set, IV canula, Sutures ( vicryl, needle, needle handle, Forceps for different sizes, surgical kits, | 0 | 1 |
|   | 3 | 3 | Practice on spaying            | The participants will be able to perform the spaying in dog    | Hands on Practice on spaying dog/ Practice for participants on spaying | Practice      | Animal, Drapes, anesthesia, IV set, IV canula, Sutures ( vicryl, needle, needle handle, Forceps for different sizes, surgical kits, | 0 | 1 |

## Veterinary Laboratory Technique(1 week) (Assistant level)

| Day | Sess. | Subjects                                          | Methodology                              | Session |       |
|-----|-------|---------------------------------------------------|------------------------------------------|---------|-------|
|     |       |                                                   |                                          | Theo.   | Prac. |
| 1   | 1     | Welcoming and registering the participants        | Interactive lecture and group Discussion | 1       |       |
|     | 2     | Good Laboratory Practices (GLPs)                  | Interactive lecture and group Discussion | 1       |       |
|     | 3     | Port mortem examination of mammals and birds      | Interactive lecture and group Discussion | 1       |       |
| 2   | 1     |                                                   |                                          |         | 1     |
|     |       | Post mortem examination of mammals and birds      | Demonstration and Practice               |         |       |
|     | 2     | Good laboratory practice (GLPs)                   | Interactive lecture and group Discussion | 1       |       |
|     | 3     | Histological technique                            | Interactive lecture and group Discussion | 1       |       |
| 3   | 1     | Bio-septic in a laboratory                        | Interactive lecture and group Discussion | 1       |       |
|     | 2     | Histological Procedure                            | Demonstration and Practice               |         | 1     |
|     | 3     | Specimen collection                               | Interactive lecture and group Discussion | 1       |       |
| 4   | 1     | Histological Technique                            | Interactive lecture and group Discussion | 1       |       |
|     | 2     | Histological Procedure                            | Interactive lecture and group Discussion | 1       |       |
|     | 3     | Parasitological                                   | Interactive lecture and group Discussion | 1       |       |
| 5   | 1     | Laboratory Diagnosis of Digestive Tract Parasites | Interactive lecture and group Discussion | 1       |       |
|     | 2     | Epidemiology and statistics                       | Interactive lecture and group Discussion | 1       |       |
|     | 3     | Parasitology                                      | Interactive lecture and group Discussion | 1       |       |
| 6   | 1     | Larva culture/Copra culture                       | Interactive lecture and group Discussion | 1       |       |
|     | 2     | Disease surveillance & investigation of epidemics | Interactive lecture and group Discussion | 1       |       |
|     | 3     | Bio-chemical estimation method                    | Interactive lecture and group Discussion | 1       |       |

|    |   |                                                         |                                          |   |
|----|---|---------------------------------------------------------|------------------------------------------|---|
| 7  | 1 | Estimation of inorganic and organic substances in blood | Demonstration and Practice               | 1 |
|    | 2 | Pattern of disease occurrence                           | Interactive lecture and group Discussion | 1 |
|    | 3 | Urine analysis                                          | Demonstration and Practice               | 1 |
| 8  | 1 | Quality management in a veterinary laboratory -         | Interactive lecture and group Discussion | 1 |
|    | 2 | Micro biology                                           | Interactive lecture and group Discussion | 1 |
|    | 3 | Bacteriological Technique -I                            | Demonstration and Practice               | 1 |
| 9  | 1 | Bacteriological Technique -II                           | Demonstration and Practice               | 1 |
|    | 2 | Serology                                                | Interactive lecture and group Discussion | 1 |
|    | 3 | Serology Technique-I                                    | Demonstration and Practice               | 1 |
| 10 | 1 | Serology Technique-II                                   | Demonstration and Practice               | 1 |
|    | 2 | Diagnosis of Avian Influenza (Bird Flu)                 | Demonstration and Practice               | 1 |
|    | 3 | Tran boundary Animal Disease (TADS) diagnosis           | Demonstration and Practice               | 1 |
| 11 | 1 | Virology                                                | Interactive lecture and group Discussion | 1 |
|    | 2 | Virological technique                                   | Demonstration and Practice               | 1 |
|    | 3 | TADS disease diagnosis (PPR)                            | Demonstration and Practice               | 1 |
| 12 | 1 | Agar gel precipitation test (AGPT)                      | Demonstration and Practice               | 1 |
|    | 2 | Agar gel immuno diffusion (AGID) test                   | Interactive lecture and group Discussion | 1 |
|    | 3 | Transboundary Animal Diseases (TADS)                    | Interactive lecture and group Discussion | 1 |
|    |   | Training Evaluation, Closing, Certification             | Interactive lecture and group Discussion |   |



## Training on Genetic Improvement of Animals (Assistant Level)

| Day | Session | Title                                                                                                                                                | Number of Session |       |
|-----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------|
|     |         |                                                                                                                                                      | Theo.             | Prac. |
| 1   | 1       | Introduction of participants, pre test, setting rule for training, expectation collection and other management issues                                | 1                 |       |
|     | 2       | Concept of Genetic Improvement program                                                                                                               | 1                 |       |
|     | 3       | Concept of Genetic Improvement program                                                                                                               | 1                 |       |
|     | 4       | Introduction to NLSIP                                                                                                                                | 1                 |       |
| 2   | 1       | Genetic Improvement concept and past experiences                                                                                                     | 1                 |       |
|     | 2       | Forms and formats used for data recording                                                                                                            | 1                 |       |
|     | 3       | Access database installation and introduction                                                                                                        |                   | 1     |
|     | 4       | Data Entry Demonstration                                                                                                                             | 1                 |       |
| 3   | 1       | Data Entry Practice                                                                                                                                  |                   | 1     |
|     | 2       | Data Entry Practice                                                                                                                                  |                   | 1     |
|     | 3       | Data Entry Practice                                                                                                                                  |                   | 1     |
|     | 4       | Report Generation from Access Database                                                                                                               | 1                 |       |
| 4   | 1       | Animal Breeding policy and international experience for breed improvement                                                                            | 1                 |       |
|     | 2       | Animal Breeding policy and international experience for breed improvement                                                                            | 1                 |       |
|     | 3       | Breeding strategy                                                                                                                                    | 1                 |       |
|     | 4       | Breeding strategy                                                                                                                                    | 1                 |       |
| 5   | 1       | Statistics for Breeding ( Sub topic- measures of central tendency, measures of dispersion, General linear model, General mixed model, Fitting model) | 1                 |       |
|     | 2       | Statistics for Breeding ( Sub topic- measures of central tendency, measures of dispersion, General linear model, General mixed model, Fitting model) |                   | 1     |
|     | 3       | Breeding value and its estimation (Sub topic- genetic model, sire model, animal model, exercise on the sire model and animal model)                  | 1                 |       |
|     | 4       | Breeding value and its estimation (Sub topic- genetic model, sire model, animal model, exercise on the sire model and animal model)                  |                   | 1     |

|    |   |                                             |    |   |
|----|---|---------------------------------------------|----|---|
| 6  | 1 | Dairy Cattle Improvement Program            |    |   |
|    | 2 | Dairy Cattle Improvement Program            |    |   |
|    | 3 | Pig Breeding Strategy                       |    |   |
|    | 4 | Pig Breeding Strategy                       |    |   |
| 7  | 1 | Leave                                       |    |   |
|    | 2 | Leave                                       |    |   |
|    | 3 | Leave                                       |    |   |
|    | 4 | Leave                                       |    |   |
| 8  | 1 | R Package, Winedit and Mikitex Installation | 1  |   |
|    | 2 | Simple R Practices                          |    | 1 |
|    | 3 | Access database reading into R              |    | 1 |
|    | 4 | Monitoring and checking Access Data in R    | 1  |   |
| 9  | 1 | Monitoring and checking practice in R       |    | 1 |
|    | 2 | Simple Statistical Analysis in R            | 1  |   |
|    | 3 | Simple Statistical analysis in R Practice   |    | 1 |
|    | 4 | Breeding Value Estimation                   | 1  |   |
| 10 | 1 | Breeding Value Estimation using R Practice  |    | 1 |
|    | 2 | Breeding Value Estimation using R Practice  |    | 1 |
|    | 3 | Linking R, and Latex for report generation  | 1  |   |
|    | 4 | Discussion and review                       |    | 1 |
|    |   | Total                                       | 40 |   |

## Pedegree Performance and Recording System (Officer Level)

| Day | Session | Title                                                    | Number of session |       |
|-----|---------|----------------------------------------------------------|-------------------|-------|
|     |         |                                                          | Theo.             | Prac. |
| 1   | 1       | Registration of participants, introduction, Pre test and |                   |       |
|     | 2       | Genetic Improvement Concept                              |                   |       |
|     | 3       | Introduction to PPRS                                     |                   |       |
|     | 4       | Basic to MS Access                                       |                   |       |
| 2   | 1       | More on MS Access                                        |                   |       |
|     | 2       | PPRS Database                                            |                   |       |
|     | 3       | Data Entry Practice                                      |                   |       |
|     | 4       | Data Entry Practice                                      |                   |       |
| 3   | 1       | Common problems in Data Entry                            |                   |       |
|     | 2       | Data Entry Practice                                      |                   |       |
|     | 3       | Data Entry Practice                                      |                   |       |
|     | 4       | Data Entry Practice                                      |                   |       |
| 4   | 1       | Checking Database                                        |                   |       |
|     | 2       | Generating Reports                                       |                   |       |
|     | 3       | R Installation                                           |                   |       |
|     | 4       | Basic of R                                               |                   |       |
| 5   | 1       | More on R                                                |                   |       |
|     | 2       | Monitoring PPRS database in R                            |                   |       |
|     | 3       | Monitoring PPRS database in R                            |                   |       |
|     | 4       | Concept of Estimated Breeding Values                     |                   |       |
| 6   | 1       | Estimating Breeding Values of cattle under PPRS herds    |                   |       |
|     | 2       | Estimating Breeding Values of cattle under PPRS herds    |                   |       |
|     | 3       | Group Discussion                                         |                   |       |
|     | 4       | Evaluation of Participants and post test and closing     |                   |       |

## VETERINARY EPIDEMIOLOGY (ASSISTANT LEVEL)

| Day | Session | Topics                                                                                                                              | Theo.                                                                                                                                                                                                                                                                        | Prac. |
|-----|---------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
|     | 1       | <b>Registration and Opening</b>                                                                                                     | Pre Test, expectation collection                                                                                                                                                                                                                                             | 1     |
|     | 2       | <b>Importance and role of Epidemiology in field level functioning</b>                                                               | Objectives and Importance of this training                                                                                                                                                                                                                                   | 1     |
| 1   | 3       | <b>Basic Concepts of Epidemiology</b>                                                                                               | <ul style="list-style-type: none"> <li>• Definition of Epidemiology</li> <li>• Epidemiological Triad</li> <li>• Iceberg Principle of Disease</li> </ul>                                                                                                                      | 1     |
|     | 4       | <b>Acquaintance with Terminologies frequency Used in Epidemiology</b>                                                               | Agent, Host, Vector, Vehicle, Carrier, Case, Case definition, Rate, Ratio, Pro portion, Morbidity rate, Mortality rate, Case fatality rate, Attack rate. Risk factor, Disease reporting, Flash reporting, Incubation period                                                  | 1     |
|     | 5       | <b>Basics of Cause and Effects (Web of Causation) and patterns of Disease</b>                                                       | (Sporadic, Endemic, Epidemic, Pandemic) Temporal and Spatial Patterns of Disease                                                                                                                                                                                             | 1     |
| 2   | 6       | <b>Measure of disease in population including Morbidity, mortality, case fatality, Prevalence, incidence etc. with Calculations</b> |                                                                                                                                                                                                                                                                              | 1     |
|     | 7       | <b>Types of Epidemiological Studies</b>                                                                                             | <ul style="list-style-type: none"> <li>• Types</li> </ul>                                                                                                                                                                                                                    | 1     |
|     |         |                                                                                                                                     | <ul style="list-style-type: none"> <li>• Describe the Descriptive epidemiology</li> </ul>                                                                                                                                                                                    |       |
|     |         |                                                                                                                                     | <ul style="list-style-type: none"> <li>• Case report, case series, descriptive epidemiology</li> </ul>                                                                                                                                                                       |       |
|     | 8       | <b>Types of Epidemiological Studies</b>                                                                                             | <ul style="list-style-type: none"> <li>• Descriptive epidemiology with relative examples</li> </ul>                                                                                                                                                                          | 1     |
| 3   | 9       | <b>Surveillance of Livestock Disease</b>                                                                                            | <ul style="list-style-type: none"> <li>• Definition of Census, Surveys, Monitoring and surveillance</li> <li>• Why do conduct Surveillance?</li> <li>• Types of Surveillance</li> <li>a. Active, Passive</li> <li>b. Clinical, Sero-surveillance, laboratory etc.</li> </ul> | 1     |

|       |                                                                                                             |                                                    |   |   |
|-------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---|---|
| 10    | <b>Risk Based Surveillance</b>                                                                              |                                                    | 1 |   |
|       | <b>Surveillance in case of AI and FMD outbreak with example</b>                                             |                                                    | 1 |   |
| 12    | <b>Exercise on filling surveillance forms</b>                                                               |                                                    |   | 1 |
| 13    | <b>Surveillance formats, points to be included in flash disease reporting</b>                               |                                                    | 1 | 1 |
| 14    | <b>Sampling</b>                                                                                             | · What is sampling?                                | 1 |   |
|       |                                                                                                             | · Population, Target population, Sample population |   |   |
|       |                                                                                                             | · Types of Sampling                                |   |   |
| 15    | <b>Livestock value chain assessment for disease control</b>                                                 |                                                    | 1 |   |
| 16    | <b>Biological Sample collection labelling and dispatch</b>                                                  |                                                    | 1 |   |
| 17-20 | <b>Biological sample collection and dispatch with filled format</b>                                         |                                                    |   | 4 |
| 21    | <b>National and International Epidemiological Reporting System</b>                                          |                                                    | 1 |   |
| 22    | <b>Filling monthly epidemiological formats,</b>                                                             |                                                    | 1 |   |
| 23    | <b>Basics on AMR</b>                                                                                        |                                                    | 1 |   |
| 24    | <b>AMR and AMU surveillance</b>                                                                             |                                                    | 1 |   |
| 25    | <b>Importance and use of Laboratory in routine disease diagnose surveillance and outbreak investigation</b> |                                                    | 1 |   |
| 26    | <b>Outbreak Investigation</b>                                                                               | · Definition of Outbreak                           | 1 |   |
|       |                                                                                                             | · Why to conduct it?                               |   |   |
|       |                                                                                                             | · Steps in Outbreak Investigation                  |   |   |
| 27-28 | <b>Table top exercise on Outbreak Investigation</b>                                                         |                                                    |   | 2 |

|    |       |                                                                                      |                                                                                                                                                                                             |   |   |
|----|-------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| 8  | 29    | <b>One health Strategy</b>                                                           |                                                                                                                                                                                             | 1 |   |
|    | 30    | Emerging and re-emerging diseases                                                    |                                                                                                                                                                                             | 1 |   |
|    | 31    | National Animal Disease Control Program                                              |                                                                                                                                                                                             | 1 |   |
|    | 32    | Disease prevention and control in human animal and wildlife interface                |                                                                                                                                                                                             | 1 |   |
| 9  | 33    | Risk Communication                                                                   |                                                                                                                                                                                             | 1 |   |
|    | 34    | Good Veterinary Practices                                                            |                                                                                                                                                                                             | 1 |   |
|    | 35    | Exercise on Data Collection, Entry and Management                                    |                                                                                                                                                                                             | 1 |   |
|    | 36    | Exercise on Data analysis using simple descriptive tools like Bar, Pie, Line diagram |                                                                                                                                                                                             | 1 |   |
| 10 | 37    | Questionnaire                                                                        | · What is Questionnaire?                                                                                                                                                                    | 1 |   |
|    |       |                                                                                      | · Types of Questionnaire                                                                                                                                                                    |   |   |
|    |       |                                                                                      | · Designing questionnaire                                                                                                                                                                   |   |   |
|    |       |                                                                                      | · Filling Questionnaire                                                                                                                                                                     |   |   |
| 11 | 38    | Session to address participants' expectations                                        |                                                                                                                                                                                             | 1 |   |
|    | 39-40 | Questionnaire preparation and pretesting for field work                              |                                                                                                                                                                                             |   | 2 |
|    | 41-44 | Field Work                                                                           | Divide into 2 groups<br>· Outbreak investigation / Cross sectional study to find out the prevalence/ risk factors and filling forms in the field<br>· Preparation of the group presentation | 4 |   |
| 12 | 45-46 | Presentation of the field work                                                       |                                                                                                                                                                                             |   | 2 |
|    | 47    | Post test                                                                            |                                                                                                                                                                                             | 1 |   |
|    | 48    | Future role of the trainee in the field closing and certificate Distribution         |                                                                                                                                                                                             | 1 |   |

## Good Veterinary Practice (GVP) (Assistant Level)

| Level: Assistant level |                                                                                     |                                                                                                                                                                           |       |       |
|------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| DAY                    | Session title                                                                       | Sub topics                                                                                                                                                                | Theo. | Prac. |
| 1                      | Nepal GAP Guidelines and related legislative framework                              | Introduction to the Good Practices in animal production, Introduction and major provisions                                                                                | 1     |       |
|                        | Good practices for primary production                                               | Concept, components and principles and Herd health management, Animal identification and farm registration: importance and use, methods, Traceability and its use         |       |       |
|                        | Animal welfare                                                                      | Introduction, global guidelines and nepali standards Management of livestock market and requirement for animal transport                                                  | 1     |       |
|                        | Bio security (Cleaning and sanitation)                                              | Environment, human and animal, environmental infection control, veterinary medical waste management                                                                       | 1     |       |
| 2                      | Prudent use of veterinary drugs and biologicals                                     | Use of drugs, hormones, feed additives, vaccines and medicines, Major hazards as residue and their side effects, Importance, MRL, country specific standards, AMR and AMU | 2     |       |
|                        | Introduction to animal health risk, its assessment and management                   |                                                                                                                                                                           | 2     |       |
|                        | Provisions in Codex, OIE and IPPC for GVP. DLS standards, code of practices for GVP | Standards approved by DLS in animal production and veterinary services                                                                                                    | 1     |       |
|                        | Emerging and reemerging diseases and reporting                                      | Definition and status of emerging and reemerging diseases, epidemiology, national and international reporting and networking, WAHIS.                                      | 1     |       |

|   |                                                                    |                                                                                                                                                                                         |   |  |
|---|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|
| 3 | Record keeping                                                     | Concept and importance, farm records, hospital records                                                                                                                                  | 1 |  |
|   | Milk directives                                                    | Nepal's milk directives and its provisions                                                                                                                                              | 1 |  |
|   | Code of Practice for Veterinary Service Providers and Institutions | in focus public institutions and private clinics and agrovets, feed millers, transporters, occupational and health safety                                                               | 1 |  |
|   | One health                                                         | Concept and importance, components, regional and global initiatives and national perspectives                                                                                           | 4 |  |
| 4 | NVC functions, ethics and conduct                                  | Major provisions in NVC act for GVP, practitioner ethics and their implementation status                                                                                                | 1 |  |
|   | Food safety and public health (farm to fork, HACCP)                |                                                                                                                                                                                         | 1 |  |
|   | Code of good practice in slaughter houses                          | AM and PM examination, cold chain, slaughter house and meat inspection technical directives 2064                                                                                        | 1 |  |
|   | Value chain Approach to manage disease risk                        | how VC study fit with wider context of disease surveillance and control strategy, interlinkage of disease control, risk assessment, value chain, practical framework for VC risk survey |   |  |



तालिमको नाम: पशु उत्पादन तथा फार्म व्यवस्थापन (सहायक स्तर) तालिमअवधि: १ हप्ते (६ कार्यदिन)  
लक्षित सहभागी: सरकारी सेवामाकार्यरत कर्मचारी सहभागी संख्या: १० देखि २० जना  
कूल कक्षा संख्या: २४ कक्षा अवधि: ९० मिनेट

| क्र.स. | दिन     | शिर्षक शैद्धान्तिक                                                                               | प्रकृति     |           | कै. |
|--------|---------|--------------------------------------------------------------------------------------------------|-------------|-----------|-----|
|        |         |                                                                                                  | सैद्धान्तिक | व्यवहारिक |     |
| १.     | महिना   | सहभागीहरूको नाम दर्ता, उदघाटन, हाजिरी, तालिमको औचित्य तथा महत्व                                  | सैद्धान्तिक | व्यवहारिक |     |
| २.     |         | सहभागीहरूको पूर्व परीक्षा(Pre-test) तथा अपेक्षा संकलन                                            |             | व्यवहारिक |     |
| ३.     |         | प्रजननको लागि भाले तथा पोथी पशुपन्छीहरूको छनौटको आधार तथा पालन व्यवस्थापन                        | सैद्धान्तिक |           |     |
| ४.     |         | उद्देश्य अनुसार पशुपन्छीहरूको छनौट गर्ने तरिका र आधारहरू                                         | सैद्धान्तिक |           |     |
| ५.     | फाल्गुन | उत्पादनशील, गर्भवती तथा ३ महिनासम्मका नवजात पशुहरूको हेरचाह                                      | सैद्धान्तिक |           |     |
| ६.     |         | प्रजननका तरिकाहरू र तिनीहरूको महत्व, उद्देश्य अनुसार उपयुक्त प्रजनन विधि                         | सैद्धान्तिक |           |     |
| ७.     |         | पशुहरूको शारीरिक तौल निकाल्ने, सिङ काट्ने, सिङ आउन नदिने, सिङ हटाउने र खुर काट्ने तरिका प्रदर्शन | सैद्धान्तिक | व्यवहारिक |     |
| ८.     |         | पशुहरूको शारीरिक तौल निकाल्ने, सिङ काट्ने, सिङ आउन नदिने, सिङ हटाउने र खुर काट्ने तरिका प्रदर्शन | सैद्धान्तिक | व्यवहारिक |     |
| ९.     |         | पशुपन्छीहरूमा खोपको महत्व, खोप तालिका र खोप लगाउने तरिका                                         | सैद्धान्तिक | व्यवहारिक |     |
| १०.    | मंसिर   | पशुहरूमा बाँभोपनाका कारण र समाधानका उपायहरू                                                      | सैद्धान्तिक | व्यवहारिक |     |
| ११.    |         | पशुपन्छीहरूको खोर/गोठ                                                                            | सैद्धान्तिक |           |     |
| १२.    |         | फार्ममा जैविक सुरक्षाको महत्व र तरिकाहरू                                                         | सैद्धान्तिक |           |     |

|     |        |                                                                                                                                                                                                    |             |           |  |
|-----|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|--|
| १३. | शुद्धि | जुनोटिक रोगहरु, पशु स्वास्थ्य/सेवा प्राविधिकहरुमा जुनोटिक रोगको जोखिम, व्यक्तिगत सुरक्षा(Personal Safety) को महत्व र विधि,                                                                         | सैद्धान्तिक |           |  |
| १४. |        | वर्ड फ्लु, स्वाइन फ्लु तथा स्वाइनफिवर रोग                                                                                                                                                          | सैद्धान्तिक |           |  |
| १५. |        | सीमा विहिन पशुपन्छी रोगहरु (TAD's) को परिचय, नेपालमा महत्वपूर्ण सीमाविहिन रोगहरु र नियन्त्रणको लागि तयारी योजना सम्बन्धी व्यवस्था र प्राविधिकहरुको भूमिका                                          | सैद्धान्तिक |           |  |
| १६. |        | पशुपन्छीको आहार वर्गिकरण र आहार सन्तुलित रूपमा पुर्ति गर्ने व्यवहारिक तरिका                                                                                                                        | सैद्धान्तिक | व्यवहारिक |  |
| १७. | शुद्धि | पशु आहारमा शुष्क पदार्थको महत्व, विभिन्न आहार मा निहित औषत शुष्कपदार्थ र विभिन्न पशुहरुलाई आवश्यक पर्ने शुष्क पदार्थको परिमाण, शुष्क पदार्थका आधारमा सन्तुलित आहारको परिमाण निकाल्ने व्यवहारिक सीप | सैद्धान्तिक | व्यवहारिक |  |
| १८. |        | विभिन्न पशुपन्छीको दानाको न्युनतम गुणस्तर सम्बन्धी बैधानिक मापदण्ड, पशुपन्छीहरुको लागि सन्तुलित दाना तयार पार्ने सरल तरिका                                                                         | सैद्धान्तिक | व्यवहारिक |  |
| १९. |        | कोशे घाँस खेतीमा Inoculation को महत्व तथा विधि                                                                                                                                                     | सैद्धान्तिक | व्यवहारिक |  |
| २०. |        | पशुपन्छीपालनको लागि व्यवसायीक परियोजना लेखन                                                                                                                                                        | सैद्धान्तिक | व्यवहारिक |  |
| २१. | शुद्धि | पशुपन्छीपालनको लागि व्यवसायीक परियोजना लेखन                                                                                                                                                        | सैद्धान्तिक | व्यवहारिक |  |
| २२. |        | फार्म अभिलेख तथा लाभ लागत विश्लेषण                                                                                                                                                                 | सैद्धान्तिक | व्यवहारिक |  |
| २३. |        | पशुपन्छीपालनमा मूल्यश्रृंखला(Value chain) को महत्व, पशुपन्छीजन्य उत्पादनहरुको मूल्य अभिवृद्धि गर्ने तरिका                                                                                          | सैद्धान्तिक |           |  |
| २४. |        | तालिमको समापन तथा प्रमाणपत्र वितरण                                                                                                                                                                 |             | व्यवहारिक |  |

## TRAINING ON LABORATORY DIAGNOSIS OF RABIES

Target group: Veterinarian

Duration of the training: Three days

general objectives: To build the capacity of veterinarians on rabies diagnosis

Specific objectives:

After the completion of the training, the participants will be able to-

Explain about rabies, its clinical and pathological conditions

Collect and dispatch samples to the laboratory

Conduct diagnostic tests of rabies

Apply biosecurity measures

| Day | Class No | Topics                                                                                                                                    | Sub-topics                                                                                                                                                                 | Methodology                           | Theo. | Prac. |
|-----|----------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------|-------|
| 1   | 1        | Registration, Introduction, objectives, current situation and importance of the laboratory diagnosis training Rabies and its pathogenesis | Registration, Introduction, Objectives, Introduction, causative agent, incubation period, transmission and disease process, clinical signs and handling of suspected cases | Lecture, Discussion                   | 1     | 0     |
|     | 2        | Biosafety Measures                                                                                                                        |                                                                                                                                                                            | Lecture, Discussion and Demonstration | 1     | 0     |

|   | 3           | Sample collection, preservation, dispatch and diagnostic tools,                        | Brain tissue collection method, packaging, marking/labeling, storage, documentation, transportation | Lecture , Discussion and Demonstration | 1 | 0 |
|---|-------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------|---|---|
| 2 | 1           | Hands-on practice on sample collection, packaging, labeling, storage and documentation |                                                                                                     |                                        | 0 | 1 |
|   | 2           | Hands-on training on histopathological test (negri bodies)                             |                                                                                                     |                                        | 0 | 1 |
|   | 3           | Hands-on training on histopathological test (negri bodies)                             |                                                                                                     |                                        | 0 | 1 |
| 3 | 1           | Hands-on practice on fluorescence antibody test                                        |                                                                                                     |                                        | 0 | 1 |
|   | 2           | Hands-on practice on biological test                                                   |                                                                                                     |                                        | 0 | 1 |
|   | 3           | Hands-on practice on biological test, Closing and certificate distribution             |                                                                                                     |                                        | 0 | 1 |
|   | Total Class |                                                                                        |                                                                                                     |                                        | 3 | 6 |

Note:

Depending on the demand of the trainee 10% topics of this curriculum may be changed to meet the expectations of participants

In the first session, the first 30 minutes will be taken for opening and the final 30 minutes of the final session of the day third will be taken for closing the training

| <b>Veterinary Officer's Level: Laboratory Training on Serology (5 Working Days)</b> |                 |                                                                                                               |                                                                                                                                                                                                                                      |                                       |                                              |                    |
|-------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------|--------------------|
| <b>Day</b>                                                                          | <b>Class No</b> | <b>Topics</b>                                                                                                 | <b>Sub-topics</b>                                                                                                                                                                                                                    | <b>Methodology</b>                    | <b>Training materials</b>                    | <b>Theo. Prac.</b> |
| <b>1</b>                                                                            | 1               | Registration, Introduction, Objectives, current situation and importance of the laboratory diagnosis training | Registration, Introduction, Objectives, current situation and importance of the laboratory, Rules to be followed during training, Pretest                                                                                            | Lecture, Discussion                   | White board, Chart paper, Marker, Multimedia | 1 0                |
|                                                                                     | 2               | Introduction to Laboratory equipments, Handling, Management and Biosafety                                     | Rules and Regulations to be followed in the laboratory Personal behavior, personal protective clothing, mask etc. Hazards and First aid, Working practice rules, handling of pathological samples, Disposal of contaminated material | Lecture, Discussion and Demonstration | White board, Chart paper, Marker, Multimedia | 1 0                |
|                                                                                     | 3               | Plate Agglutination Test (PAT)                                                                                | Principle of PAT test and its procedure                                                                                                                                                                                              | Demonstration, Hands-on               | Reagents, Samples                            | 0 1                |
| <b>2</b>                                                                            | 1,2 & 3         | HA/HI Test                                                                                                    | Principle of HA/HI test. HA test Back titration, HI test                                                                                                                                                                             | Discussion, Demonstration, Hands-on   | Reagents, Samples                            | 1 2                |
|                                                                                     | 1,2 & 3         | HA/HI Test                                                                                                    | Hands on practice                                                                                                                                                                                                                    | Discussion, Demonstration, Hands-on   | Reagents, Samples                            | 0 3                |

|   |                    |                                                          |                                                                                                                                                |                         |                                      |          |           |
|---|--------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------|----------|-----------|
| 4 | 1,2 & 3            | Antibiotic Residue in Milk / Meat Sample by ELISA method | Sample collection, recording, Practical on drug residue estimation by Enzyme Linked Immuno Sorbent Assays (ELISA) method                       | Demonstration, Hands-on | Reagents, Samples, Kit, ELISA Reader | 1        | 2         |
|   | 1&2                | Detection of disease by Antibody /Antigen ELISA Method   | Collect serum sample, Introduction to Antibody ELISA, Practical on detection of antibody by Enzyme Linked Immuno Sorbent Assays (ELISA) method | Demonstration, Hands-on | Reagents, Samples, Kit, ELISA Reader | 0        | 2         |
| 5 | 3                  | Training evaluation, feedback, Certification and closing |                                                                                                                                                |                         | Multimedia                           | 1        | 0         |
|   | <b>Total Class</b> |                                                          |                                                                                                                                                |                         |                                      | <b>5</b> | <b>10</b> |

**Note:** Depending on the demand of the trainee 10% topics of this curriculum may be changed to meet the expectations of participants  
Instructors shall be requested to prepare lecture notes in WORD ( not in power point) suitable to the level of participants

| <b>Veterinary Officer's Level: Laboratory Training on Microbiology (5 Working Days)</b> |                 |                                                                                                               |                                                                                                                                                                                                                                       |                                       |                                                                                    |                      |
|-----------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------|----------------------|
| <b>Day</b>                                                                              | <b>Class No</b> | <b>Topics</b>                                                                                                 | <b>Sub-topics</b>                                                                                                                                                                                                                     | <b>Methodology</b>                    | <b>Training materials</b>                                                          | <b>Theo. Prac.</b>   |
| <b>1</b>                                                                                | <b>1</b>        | Registration, Introduction, objectives, current situation and importance of the laboratory diagnosis training | Registration, Introduction, Objectives, current situation and importance of the laboratory, Rules to be followed during training, Pretest                                                                                             | Lecture, Discussion                   | White board, Chart paper, Marker, Multimedia                                       | <b>1</b><br><b>0</b> |
|                                                                                         | <b>2</b>        | Introduction to handling of common equipment, reagents, samples and its management                            | Rules and Regulations to be followed in the laboratory<br>Personal behavior, PPE, mask etc. Handling of equipment, Hazards and First aid, Working practice rules, handling of Reagents and samples, Disposal of contaminated material | Lecture, Discussion and Demonstration | White board, Chart paper, Marker, Multimedia and laboratory equipment and reagents | <b>0</b><br><b>1</b> |
|                                                                                         | <b>3</b>        | Glasswares Cleaning and Sterilisation                                                                         | Practical knowledge on cleaning of glassware and its sterilization also the concept of autoclaving, Sterilization of steelware, Glassware and also samples before culture                                                             | Demonstration, Handson and discussion | Cleaning materials, glasswares and sterilization materials                         | <b>0</b><br><b>1</b> |

|   |   |                                                    |                                                                                                 |                        |                                                                       |   |   |
|---|---|----------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------------------------------|---|---|
| 2 | 1 | Basic media preparation                            | Media preparation (MacConkey agar, Nutrient agar, Nutrient Broth etc.)                          | Demonstration, Handson | Media, Laboratory equipment and glasswares                            | 0 | 1 |
|   | 2 | Biochemical and special media preparation          | Preparation of urea slants, SIM, blood agar plate.                                              | Demonstration, Handson | Media, Laboratory equipment and glasswares                            | 0 | 1 |
|   | 3 | Bacterial Culture                                  | Different methods for bacterial culture like Streak plate culture, Stab culture, liquid culture | Demonstration, Handson | Culture plate and other laboratory equipments                         | 0 | 1 |
| 3 | 1 | Macroscopic/Microscopic Identification of Bacteria | Identification of bacterial colony Gram's staining,                                             | Demonstration, Handson | Bacterial culture plate, glass slides, microscope and gram's staining | 0 | 1 |
|   | 2 | Biochemical test and Culture                       | biochemical tube culture, Basic biochemical tests such as catalase /oxidase test.               | Demonstration, Handson | Bacterial culture plate, Biochemical sets                             | 0 | 1 |
|   | 3 | Drug Sensitivity Test                              | Inoculum preparation, introduction about different antibiotics                                  | Demonstration, Handson | Pure culture, Different antibiotic disc, and other equipments         | 0 | 1 |



|   |                    |                                                          |                                                                                   |                                        |                                                          |          |           |
|---|--------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------|----------|-----------|
| 4 | 1                  | Interpretation of biochemical tests and DST              | Identification of bacteria and sensitivity of Antibiotics                         | Demonstration, Discussion              | biochemical Culture plate, AST plate                     | 0        | 1         |
|   | 2 & 3              | Advanced technique to identification of bacteria         | Introduction of new technique to bacteria identification and AST through machines | Demonstration, Discussion              | Molkitoff, Virtex Machine and Bacterial isolates         | 0        | 2         |
| 5 | 1                  | Virus Isolation                                          | Virus isolation through egg inoculation                                           | Demonstration, Discussion and hands on | Samples. Embryonated eggs and other laboratory equipment | 0        | 1         |
|   | 2                  | Record Keeping                                           | Definition, importance of record keeping in laboratory                            | Demonstration, Discussion              | White board, Marker, Multimedia                          | 1        | 0         |
|   | 3                  | Training evaluation, feedback, Certification and closing |                                                                                   |                                        |                                                          | 1        | 0         |
|   | <b>Total Class</b> |                                                          |                                                                                   |                                        |                                                          | <b>3</b> | <b>12</b> |

**Note:** Depending on the demand of the trainee 10% topics of this curriculum may be changed to meet the expectations of participants

Instructors shall be requested to prepare lecture notes in WORD (not in power point) suitable to the level of participants

| <b>Veterinary Officer's Level: Laboratory Training on Molecular Diagnosis (5 Working Days)</b> |                 |                                                                                                               |                                                                                                                                                                                                                                    |                                       |                                                                        |                      |
|------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------|----------------------|
| <b>Day</b>                                                                                     | <b>Class No</b> | <b>Topics</b>                                                                                                 | <b>Sub-topics</b>                                                                                                                                                                                                                  | <b>Methodology</b>                    | <b>Training materials</b>                                              | <b>Theo. Prac.</b>   |
| <b>1</b>                                                                                       | <b>1</b>        | Registration, Introduction, objectives, current situation and importance of the laboratory diagnosis training | Registration, Introduction, Objectives, current situation and importance of the laboratory, Rules to be followed during training, Pretest                                                                                          | Lecture, Discussion                   | White board, Chart paper, Marker, Multi-media                          | <b>1</b><br><b>0</b> |
|                                                                                                | <b>2</b>        | Introduction to Laboratory equipments, Handling, Management and Biosafety                                     | Rules and Regulations to be followed in the laboratory Personal behavior, PPE, mask etc. Handling of equipment, Hazards and First aid, Working practice rules, handling of Reagents and samples, Disposal of contaminated material | Lecture, Discussion and Demonstration | White board, Chart paper, Marker, Multi-media and laboratory equipment | <b>0</b><br><b>1</b> |
|                                                                                                | <b>3</b>        | Polymerase Chain Reaction: Introduction, principle and types                                                  | Introduction of PCR, types of PCR, Principles of rRT-PCR and RT-PCR                                                                                                                                                                | Lecture, Discussion                   | White board, Chart paper, Marker, Multi-media                          | <b>0</b><br><b>1</b> |

|          |      |                                             |                                                                                          |                                |                                                                           |   |   |
|----------|------|---------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------|---|---|
| <b>2</b> | 1&2  | Sample Processing and Extraction of RNA/DNA | Types of sample, Processing method, Different extraction method                          | Demonstration, Hands-on        | Sample, Laboratory equipment and Ex-traction Kits                         | 0 | 2 |
|          | 2    | Mastermix Preparation                       | Dilution of Primers and probes, Preparation of working dilution of Primers and probes    | Demonstration                  | Primers and probes Laboratory equipment and other accessories             | 0 | 1 |
| <b>3</b> | 1 &2 | Mastermix Preparation                       | Preparation of Mastermix for both rRT (qPCR) and RT-PCR                                  | Demonstration, Hands-on        | Mastermix Kit, Laboratory equipment and other accessories                 | 0 | 2 |
|          | 3    | Template Adding and PCR Run                 | Handling of PCR machine, PCR setup and programming on both PCR machines                  | Demonstration, Hands-on        | PCR Machine, RNA/DNA Template, Laboratory equipment and other accessories | 0 | 1 |
| <b>4</b> | 1    | Interpretation and trouble shooting rRT-PCR |                                                                                          | Lecture , Discussion, Hands-on | White board, Chart paper, Marker, Multimedia                              | 0 | 1 |
|          | 2 &3 | Gel electrophoresis                         | Method of gel process , Loading of PCR product on gel, handle of electrophoresis machine | Demonstration, Hands-on        | Agarose, Electrophoresis machine, Transilluminator                        | 0 | 2 |

|                                                                                                                                                                                                                                                                                    |                    |                                                          |                                                        |                               |                                              |          |           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------|--------------------------------------------------------|-------------------------------|----------------------------------------------|----------|-----------|
| 5                                                                                                                                                                                                                                                                                  | 1                  | Interpretation and trouble shooting RT-PCR               |                                                        | Lecture, Discussion, Hands-on | White board, Chart paper, Marker, Multimedia | 0        | 1         |
|                                                                                                                                                                                                                                                                                    | 2                  | Management of data in Lab                                | Definition, importance of record keeping in laboratory | Lecture and Discussion        | White board, Marker, Multimedia              | 1        | 0         |
|                                                                                                                                                                                                                                                                                    | 3                  | Training evaluation, feedback, Certification and closing |                                                        |                               |                                              | 1        | 0         |
|                                                                                                                                                                                                                                                                                    | <b>Total Class</b> |                                                          |                                                        |                               |                                              | <b>3</b> | <b>12</b> |
| <p><b>Note:</b> Depending on the demand of the trainee 10% topics of this curriculum may be changed to meet the expectations of participants</p> <p>Instructors shall be requested to prepare lecture notes in WORD (not in power point) suitable to the level of participants</p> |                    |                                                          |                                                        |                               |                                              |          |           |

| <b>Veterinary Officer's Level: Laboratory Training on Haematology &amp; Biochemistry (5 Working Days)</b> |          |                                                                                                               |                                                                                                                     |                     |                                              |       |       |
|-----------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------|-------|-------|
| Day                                                                                                       | Class No | Topics                                                                                                        | Sub-topics                                                                                                          | Methodology         | Training materials                           | Theo. | Prac. |
| 1                                                                                                         | 1        | Registration, Introduction, objectives, current situation and importance of the laboratory diagnosis training | Registration, Introduction, Objectives, importance of the laboratory, Rules to be followed during training, Pretest | Lecture, Discussion | White board, Chart paper, Marker, Multimedia | 1     | 0     |

|   |       |                                                                            |                                                                                                                                                                                                                                    |                                        |                                                                       |   |   |
|---|-------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------|---|---|
|   | 2     | Introduction to Laboratory equipments , Handling, Management and Biosafety | Rules and Regulations to be followed in the laboratory Personal behavior, PPE, mask etc. Handling of equipment, Hazards and First aid, Working practice rules, handling of Reagents and samples, Disposal of contaminated material | Lecture , Discussion and Demonstration | White board, Chart paper, Marker, Multimedia and laboratory equipment | 0 | 1 |
|   | 3     | Concept and importance of Haematology / Biochemistry and Record keeping    | Definition, Its importance, Terms, Introduction to different formats for record keeping                                                                                                                                            | Lecture , Discussion                   | White board, Chart paper, Marker, Multimedia                          | 0 | 1 |
| 2 | 1&2   | Examination of Blood protozoan                                             | Preparation of blood smear, Practice on examination of different blood protozoa.                                                                                                                                                   | Demonstration, Hands-on                | Blood, reagents and equipments                                        | 0 | 2 |
|   | 2     | Hemoglobin and PCV Estimation                                              | Definition, Test procedure of different methods like Sahli's, Microhaematocrite method                                                                                                                                             | Demonstration, hands on                | Blood, reagents and equipments                                        | 0 | 1 |
| 3 | 1 & 2 | Differential Leucocyte count                                               | Preparation of thin blood smear, Giemsa staining, examination of different leucocytes                                                                                                                                              | Demonstration, Hands-on                | Blood, reagents and equipments                                        | 0 | 2 |
|   | 3     | Urine Analysis                                                             | Microscopically examination, Multistick method, Interpretation                                                                                                                                                                     | Demonstration, Hands-on                | Urine, reagents, Kit and equipments                                   | 0 | 1 |
| 4 | 1     | Total RBC/ WBC count                                                       | Prepare RBC/WBC dilutions, Perform Test                                                                                                                                                                                            | Discussion, Hands-on                   | Blood, reagents and equipments                                        | 0 | 1 |

|          |                                                                                                                                           |                                                           |                                            |                      |                                           |          |           |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------|----------------------|-------------------------------------------|----------|-----------|
|          | 2                                                                                                                                         | Total RBC count                                           | Perform RBC Test, Calculation of results   | Discussion, Hands-on | Blood, reagents and equipments            | 0        | 1         |
|          | 3                                                                                                                                         | Total WBC Count                                           | Perform WBC Test, Calculation of results   | Discussion, Hands-on | Blood, reagents and equipments            | 0        | 1         |
| <b>5</b> | 1                                                                                                                                         | Estimation of Calcium                                     | Introduction, procedure and interpretation | Discussion, Hands-on | Blood/Serum, reagents, Kit and equipments | 0        | 1         |
|          | 2                                                                                                                                         | Estimation of total protein                               | Introduction, procedure and interpretation | Discussion, Hands-on | Blood/Serum, reagents, Kit and equipments | 0        | 1         |
|          | 3                                                                                                                                         | Training evaluation, feed back, Certification and closing |                                            |                      |                                           | 1        | 0         |
|          | <b>Total Class</b>                                                                                                                        |                                                           |                                            |                      |                                           | <b>2</b> | <b>13</b> |
|          | <b>Note:</b> Depending on the demand of the trainee 10% topics of this curriculum may be changed to meet the expectations of participants |                                                           |                                            |                      |                                           |          |           |
|          | Instructors shall be requested to prepare lecture notes in WORD (not in power point) suitable to the level of participants                |                                                           |                                            |                      |                                           |          |           |

| <b>Officer Level Animal Health Risk Analysis Training ( 1 week)</b> |                                                                                          |                                                                                                       |           |                                                                                                                 |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------|
| Day/Time                                                            | Session I                                                                                | Session II                                                                                            | 1.30-2.00 | Session III                                                                                                     |
| Day I                                                               | Registration. Pre test and Objective of the training<br>Facilitator: Surya Prasad Paudel | Introduction to Risk analysis<br>Facilitator: Dr. Samjhana Kafle                                      |           | Import Risk analysis , Assessment - concept framework working guidelines Pr<br>Facilitator:Dr D Sedhai          |
| Day II                                                              | IRA- Release and Exposure Assessment<br>Facilitator:Dr D Sedhai                          | IRA- Release and Exposure Assessment<br>Facilitator:Dr D Sedhai                                       |           | Risk estimate technique: basic concept and framework<br>Facilitator:Dr D Sedhai                                 |
| Day III                                                             | Quality risk estimation<br>Facilitator:Dr D Sedhai                                       | Qualit risk estimation exercise<br>Facilitator: Dr D Sedhai                                           |           | Risk estimate<br>Facilitator: Dr D Sedhai                                                                       |
| Day IV                                                              | Food safety and inspection Import procedure<br>Facilitator: Jivan Prabha Lama            | Hazard identification and control points in the primary production<br>Facilitator:Dr Salina Manandhar |           | General Characteristics and principles requirement of risk release assessment<br>Facilitator:Dr Mukul Upadhyaya |
| Day V                                                               | Introduction framework and implementation of risk management<br>Facilitator: Dr D Sedhai | Case of risk management<br>Facilitator: Dr D Sedhai                                                   |           | Introduction concept framework and implementation of Risk Communication<br>Facilitator: Dr D Sedhai             |
| Day VI                                                              | Assessing risk of entry X disease into Nepal<br>Facilitator: Dr Suroj Subedi             | Risk assessment of X disease exercise<br>Facilitator: Dr Suraj Subedi                                 |           | Closing                                                                                                         |

Training Title: Clinical Recognition, Sampling and Reporting of African Swine Fever and Lumpy Skin Disease

Target Group: Veterinary Technicians (Mid-level)

Training Duration: Two days

Objectives of the Training: After the completion of this training, participants will be able to

- Understand the global, regional and local significance of African Swine Fever (ASF) and Lumpy Skin Disease (LSD)
- Recognize the clinical signs and symptoms of ASF and LSD
- Conduct a basic outbreak investigation of suspect ASF and LSD, and report appropriately
- Collect and dispatch appropriate samples for laboratory diagnosis of ASF and LSD
- Describe the prevention and control measures that would be implemented in case of an ASF and LSD outbreak

| Day | Session topic                            | Objective                                                                        | Sub-content                                                                                                                                                                                                 | Delivery process                                          | Session |      |
|-----|------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------|------|
|     |                                          |                                                                                  |                                                                                                                                                                                                             |                                                           | Theo.   | Pra. |
| 1   | Introduction to Lumpy Skin Disease (LSD) | To be able to understand and recognize LSD<br>To explain the epidemiology of LSD | Introduction of LSD<br>Causative agent and its characteristics<br>Epidemiology at national and international level<br>Modes of disease transmission<br>General signs and symptoms<br>Differential Diagnosis | Interactive<br>Lecture and<br>Participatory<br>Discussion | 1       |      |
|     |                                          |                                                                                  |                                                                                                                                                                                                             |                                                           |         |      |



|   |                                                                              |                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                        |                                                  |   |   |
|---|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---|---|
| 2 | Clinical Investigation, Sample Collection and Dispatch, and Reporting of LSD | <ul style="list-style-type: none"> <li>To describe the procedures of investigation of LSD and its reporting</li> <li>To explain the sample collection procedures, its preservation and dispatch to the concerned laboratory</li> </ul> | <ul style="list-style-type: none"> <li>Disease Recognition procedures</li> <li>Common laboratory tests for diagnosis</li> <li>Sample collection, preservation and dispatch</li> <li>Major epidemiological information to be collected during the outbreak</li> <li>National Disease Information system</li> <li>Reporting mechanism in case of LSD outbreak</li> </ul> | Interactive Lecture and Participatory Discussion | 1 |   |
| 3 | Prevention and control of LSD                                                | <ul style="list-style-type: none"> <li>To describe the possible ways to prevent the spread of LSD</li> <li>To explain the control methods for LSD</li> </ul>                                                                           | <p>Common ways to control LSD</p> <p>Biosecurity for LSD (Personal and farm level)</p> <p>Role of different stakeholders to prevent the spread of the disease</p>                                                                                                                                                                                                      | Interactive Lecture and Participatory Discussion | 1 |   |
| 4 | Practical for investigation; sample                                          | To perform clinical investigation and learn appropriate reporting procedures                                                                                                                                                           | <p>Exercise for clinical investigation</p> <p>Exercise to collect appropriate sample for LSD</p>                                                                                                                                                                                                                                                                       | Exercise                                         | 0 | 1 |

|   |                                                                              |                                                                                                                                                                                |                                                                                                                                                                                                                                                                                        |                                                  |   |  |
|---|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---|--|
|   |                                                                              |                                                                                                                                                                                |                                                                                                                                                                                                                                                                                        |                                                  |   |  |
| 5 | collection and dispatch; and reporting of LSD during outbreak                | To perform sample collection for LSD diagnosis and dispatch it to the lab                                                                                                      | diagnosis and its dispatch to the lab<br>Exercise for disease reporting/notification                                                                                                                                                                                                   |                                                  |   |  |
|   | Introduction to African Swine Fever (ASF)                                    | To be able to recognize ASF<br>To explain the epidemiology of ASF                                                                                                              | Introduction of ASF<br>Causative agent and its characteristics<br>Epidemiology at national and Participatory international level<br>Modes of disease transmission<br>General signs and symptoms<br>Differential diagnosis                                                              | Interactive Lecture and Participatory Discussion | 1 |  |
| 6 | Clinical Investigation, Sample Collection and Dispatch, and Reporting of ASF | To describe the procedures of investigation of ASF and its reporting<br>To explain the sample collection procedures, its preservation and dispatch to the concerned laboratory | Disease Recognition procedures<br>Common laboratory tests for diagnosis<br>Sample collection, preservation and dispatch<br>Major epidemiological information to be collected during the outbreak<br>National Disease Information system<br>Reporting mechanism in case of ASF outbreak | Interactive Lecture and Participatory Discussion | 1 |  |

|   |                                                                                                       |                                                                                                                                                                  |                                                                                                                                                                            |                                                  |   |  |
|---|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---|--|
| 7 | Prevention and control of ASF                                                                         | To describe the possible ways to prevent the spread of ASF<br>To explain the control methods for ASF                                                             | Common ways to control ASF<br>Bio-security for ASF<br>Role of different stakeholders to prevent the spread of the disease                                                  | Interactive Lecture and Participatory Discussion | 1 |  |
| 8 | Practical for the investigation, sample collection and dispatch, and reporting of ASF during outbreak | To perform clinical investigation and learn appropriate notification procedures<br>To perform the sample collection for ASF diagnosis and dispatch it to the lab | Exercise for clinical investigation<br>Exercise to collect appropriate sample for ASF diagnosis and its dispatch to the lab<br>Exercise for disease reporting/notification | exercise                                         | 1 |  |

## Curriculum of Dairy Farmers' Field School Training For Master Trainer and School Facilitator

| Day | Session | Title                                                                                   | Theo. | Prac. |
|-----|---------|-----------------------------------------------------------------------------------------|-------|-------|
| 1   | 1       | Registration, Introduction of participants and Opening of the training                  | 1     |       |
|     | 2       | Group formation and Norms setting                                                       |       | 1     |
|     | 3       | Pre test                                                                                | 1     |       |
|     | 4       | Concept of Farmers Field School                                                         | 1     |       |
| 2   | 1       | Steps of FFS                                                                            | 1     |       |
|     | 2       | FFS-Preparatory meeting                                                                 |       | 1     |
|     | 3       | FFS-Preparatory meeting                                                                 |       |       |
|     | 4       | Growth and development of calendar of dairy animal, problems and their management       | 1     |       |
| 3   | 1       | Growth and development of calendar of dairy animal, problems and their management       |       | 1     |
|     | 2       | Growth and development of calendar of dairy animal, problems and their management       |       | 1     |
|     | 3       | Ballot box test (Pre and post)                                                          | 1     |       |
|     | 4       | Ballot box test (Pre and post)                                                          |       | 1     |
| 4   | 1       | Field work for the preparation of Growth and Development Calendar                       |       | 1     |
|     | 2       | Field work for the preparation of Growth and Development Calendar                       |       | 1     |
|     | 3       | Preparation of presentation of the group work                                           |       | 1     |
|     | 4       | Presenation of group work                                                               |       | 1     |
| 5   | 1       | Dairy management problem assessment                                                     |       | 1     |
|     | 2       | Principles of experimental design and selection of FFS experiments for dairy management | 1     |       |
|     | 3       | Principles of experimental design and selection of FFS experiments for dairy management |       | 1     |
|     | 4       | Principles of experimental design and selection of FFS experiments for dairy management |       | 1     |
| 6   | 1       | Designing Special Sessions                                                              |       | 1     |
|     | 2       | Concept of ecosystem, livestock ecosystem and food chain                                | 1     |       |

| Day | Session | Title                                                                                                                             | Theo. | Prac. |
|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------|-------|-------|
|     | 3       | Concept of ecosystem, livestock ecosystem and food chain                                                                          |       | 1     |
|     | 4       | Agro-ecosystem analysis and design of parameters for AESA data collection technique, processing, presentation and decision making | 1     |       |
| 7   | 1       | Agro-ecosystem analysis and design of parameters for AESA data collection technique, processing, presentation and decision making |       | 1     |
|     | 2       | Supporting experiments sample selection, format design for observation, and record keeping                                        |       | 1     |
|     | 3       | AESA (Agro-ecosystem analysis) Observation / data collection and processing                                                       | 1     |       |
|     | 4       | AESA (Agro-ecosystem analysis) Observation / data collection and processing and presentation / decision making and finalization   |       | 1     |
| 8   | 1       | Field work for AESA (Dairy) Exercise                                                                                              |       | 1     |
|     | 2       | Field work for AESA (Dairy) Exercise                                                                                              |       | 1     |
|     | 3       | Preparation of presentation of the group work                                                                                     |       | 1     |
|     | 4       | Presenattion of group work                                                                                                        |       | 1     |
| 9   | 1       | Dairy animal feeding management (special topic)                                                                                   | 1     |       |
|     | 2       | Body condition score                                                                                                              |       | 1     |
|     | 3       | Facilitation skills                                                                                                               | 1     |       |
|     | 4       | Facilitation skills                                                                                                               | 1     |       |
| 10  | 1       | Selection of cow at farm level with participatory method                                                                          |       | 1     |
|     | 2       | Preparation of the UMMB                                                                                                           |       | 1     |
|     | 3       | Mastitis                                                                                                                          | 1     |       |
|     | 4       | Forage production and conservation                                                                                                | 1     |       |
| 11  | 1       | FFS Monitoring and Quality Indicators                                                                                             | 1     |       |
|     | 2       | FFS Monitoring and Quality Indicators                                                                                             |       | 1     |
|     | 3       | Compounding ruminant ration                                                                                                       | 1     |       |
|     | 4       | Compounding ruminant ration                                                                                                       |       | 1     |
| 12  | 1       | FFS Reporting                                                                                                                     | 1     |       |
|     | 2       | FFS Reporting                                                                                                                     |       | 1     |
|     | 3       | Farmer Field Day                                                                                                                  | 1     |       |
|     | 4       | Biosecurity and vaccination                                                                                                       |       |       |
| 13  | 1       | Infertility Management                                                                                                            | 1     |       |

| Day | Session | Title                                                  | Theo. | Prac. |
|-----|---------|--------------------------------------------------------|-------|-------|
|     | 2       | Care and management of different categories of animals | 1     |       |
|     | 3       | Post test and evaluation                               | 1     |       |
|     | 4       | Closing training                                       | 1     |       |
|     |         | Total                                                  |       | 52    |

### **Curriculum of Goat Farmers' Field School Training For Master Trainer and School Facilitator**

| Day | Session | Title                                                                     | Theory | Practical |
|-----|---------|---------------------------------------------------------------------------|--------|-----------|
| 1   | 1       | Registration, Introduction of participants and Opening of the training    | 1      |           |
|     | 2       | Group formation and Norms setting                                         |        | 1         |
|     | 3       | Pre test                                                                  | 1      |           |
|     | 4       | Concept of Farmers Field School                                           | 1      |           |
| 2   | 1       | Steps of FFS                                                              | 1      |           |
|     | 2       | FFS-Preparatory meeting                                                   |        | 1         |
|     | 3       | FFS-Preparatory meeting                                                   |        |           |
|     | 4       | Growth and development of calendar of goat, problems and their management | 1      |           |
| 3   | 1       | Growth and development of calendar of goat, problems and their management |        | 1         |
|     | 2       | Growth and development of calendar of goat, problems and their management |        | 1         |
|     | 3       | Ballot box test (Pre and post)                                            | 1      |           |
|     | 4       | Ballot box test (Pre and post)                                            |        | 1         |
| 4   | 1       | Field work for the preparation of Growth and Development Calendar         |        | 1         |
|     | 2       | Field work for the preparation of Growth and Development Calendar         |        | 1         |
|     | 3       | Preparation of presentation of the group work                             |        | 1         |
|     | 4       | Presentations of group work                                               |        | 1         |

| Day | Session | Title                                                                                                                             | Theory | Practical |
|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------|--------|-----------|
| 5   | 1       | Problem assessment for Goat production and management                                                                             |        | 1         |
|     | 2       | Principles of experimental design and selection of FFS experiments for Goat production                                            | 1      |           |
|     | 3       | Principles of experimental design and selection of FFS experiments for Goat production                                            |        | 1         |
|     | 4       | Principles of experimental design and selection of FFS experiments for Goat production                                            |        | 1         |
| 6   | 1       | Designing Special Sessions for Goat FFS                                                                                           |        | 1         |
|     | 2       | Concept of ecosystem, livestock ecosystem and food chain                                                                          | 1      |           |
|     | 3       | Concept of ecosystem, livestock ecosystem and food chain                                                                          |        | 1         |
|     | 4       | Agro-ecosystem analysis and design of parameters for AESA data collection technique, processing, presentation and decision making | 1      |           |
| 7   | 1       | Agro-ecosystem analysis and design of parameters for AESA data collection technique, processing, presentation and decision making |        | 1         |
|     | 2       | Supporting experiments sample selection, format design for observation, and record keeping                                        |        | 1         |
|     | 3       | AESA (Agro-ecosystem analysis) Observation / data collection and processing                                                       | 1      |           |
|     | 4       | AESA (Agro-ecosystem analysis) Observation / data collection and processing and presentation / decision making and finalization   |        | 1         |
| 8   | 1       | Field work for AESA (Goat production) Exercise                                                                                    |        | 1         |
|     | 2       | Field work for AESA (Goat production) Exercise                                                                                    |        | 1         |
|     | 3       | Preparation of presentation of the group work                                                                                     |        | 1         |
|     | 4       | Presentattion of group work                                                                                                       |        | 1         |
| 9   | 1       | Goat feeding management (special topic)                                                                                           | 1      |           |
|     | 2       | Housing for Goat                                                                                                                  |        | 1         |
|     | 3       | Facilitation skills                                                                                                               | 1      |           |
|     | 4       | Facilitation skills                                                                                                               | 1      |           |

| Day | Session | Title                                                           | Theory | Practical |
|-----|---------|-----------------------------------------------------------------|--------|-----------|
| 10  | 1       | Selection of adult does at farm level with participatory method |        | 1         |
|     | 2       | Preparation of the UMMB                                         |        | 1         |
|     | 3       | External parasites of goat and their control                    | 1      |           |
|     | 4       | Forage production and conservation                              | 1      |           |
| 11  | 1       | FFS Monitoring and Quality Indicators                           | 1      |           |
|     | 2       | FFS Monitoring and Quality Indicators                           |        | 1         |
|     | 3       | Compounding ruminant ration                                     | 1      |           |
|     | 4       | Compounding ruminant ration                                     |        | 1         |
| 12  | 1       | FFS Reporting                                                   | 1      |           |
|     | 2       | FFS Reporting                                                   |        | 1         |
|     | 3       | Farmer Field Day                                                | 1      |           |
|     | 4       | Biosecurity and vaccination                                     |        |           |
| 13  | 1       | Important diseases of goat and their control                    | 1      |           |
|     | 2       | Care and management of different categories of animals          | 1      |           |
|     | 3       | Post test and evaluation                                        | 1      |           |
|     | 4       | Closing training                                                | 1      |           |
|     |         | Total                                                           |        | 52        |



| <b>Curriculum of Hands On Polymerase Chain Reaction (PCR) Training ( Officer Level) two weeks</b> |                |                                                                                       |                |              |
|---------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------|----------------|--------------|
| <b>Day</b>                                                                                        | <b>Session</b> | <b>Title of Session</b>                                                               | <b>Session</b> |              |
|                                                                                                   |                |                                                                                       | <b>Theo.</b>   | <b>Prac.</b> |
| 1                                                                                                 | 1              | Inauguration of Training and objective and scope of training Other Admin formalities  | 1              |              |
| 1                                                                                                 | 2              | Pre-test and expectation collection about the content                                 | 1              |              |
| 1                                                                                                 | 3              | Biosafety and biosecurity                                                             | 1              |              |
| 1                                                                                                 | 4              | Biosafety and biosecurity                                                             |                | 1            |
| 2                                                                                                 | 1              | Handling of bio-hazardous or infectious material                                      |                | 1            |
| 2                                                                                                 | 2              | Good Laboratory Practice                                                              | 1              |              |
| 2                                                                                                 | 3              | Principles of PCR and RT –PCR                                                         | 1              |              |
| 2                                                                                                 | 4              | Types of PCR and Setting up Lab for Molecular diagnosis                               | 1              |              |
| 3                                                                                                 | 1              | Types of PCR and Setting up Lab for Molecular diagnosis                               |                | 1            |
| 3                                                                                                 | 2              | Sample Collection, preservation, Packaging and transportation for molecular diagnosis | 1              |              |
| 3                                                                                                 | 3              | Sample Collection, preservation, Packaging and transportation for molecular diagnosis |                | 1            |
| 3                                                                                                 | 4              | Preparation of samples for PCR test                                                   |                | 1            |
| 4                                                                                                 | 1              | Introduction of Reagents and Equipments of PCR test                                   | 1              |              |
| 4                                                                                                 | 2              | Introduction of Reagents and Equipments of PCR test                                   |                | 1            |
| 4                                                                                                 | 3              | Introduction of Different RNA Extraction Methods                                      | 1              |              |
| 4                                                                                                 | 4              | RNA Extraction Methods by using Qiagene kit                                           |                | 1            |
| 5                                                                                                 | 1              | RNA Extraction Methods by using Qiagene kit                                           |                | 1            |
| 5                                                                                                 | 2              | RNA Extraction Methods by using Invitrogen kit                                        |                | 1            |
| 5                                                                                                 | 3              | RNA Extraction Methods by using Invitrogen kit                                        |                | 1            |
| 5                                                                                                 | 4              | DNA Extraction Methods                                                                | 1              |              |
| 6                                                                                                 | 1              | DNA Extraction Methods                                                                |                | 1            |
| 6                                                                                                 | 2              | DNA Extraction Methods                                                                |                | 1            |
| 6                                                                                                 | 3              | DNA Extraction Methods                                                                |                | 1            |
| 6                                                                                                 | 4              | Primer dilution, Master mix preparation, PCR setup and programming                    | 1              |              |
| 7                                                                                                 | 1              | Master mix preparation for Conventional PCR by using Qiagene kit                      |                | 1            |

|    |   |                                                                  |           |           |
|----|---|------------------------------------------------------------------|-----------|-----------|
| 7  | 2 | Master mix preparation for Conventional PCR by using Qiagene kit |           | 1         |
| 7  | 3 | Master mix preparation for Conventional PCR by using Invitrogene |           | 1         |
| 7  | 4 | Template Adding and PCR setup and programming                    |           | 1         |
| 8  | 1 | Gel Electrophoresis, and Gel documentation                       | 1         |           |
| 8  | 2 | Gel Electrophoresis, and Gel documentation                       |           | 1         |
| 8  | 3 | Gel Electrophoresis, and Gel documentation                       |           | 1         |
| 8  | 4 | Gel Electrophoresis, and Gel documentation                       |           | 1         |
| 9  | 1 | Interpretation of Conventional PCR result                        |           | 1         |
| 9  | 2 | Trouble shooting in Conventional PCR and Discussion              | 1         |           |
| 9  | 3 | Introduction and Principle of Real Time PCR                      | 1         |           |
| 9  | 4 | Mastermix preparation for Real Time PCR                          | 1         |           |
| 10 | 1 | Mastermix preparation for Real Time PCR by using Qiagene kit     |           | 1         |
| 10 | 2 | Mastermix preparation for Real Time PCR by using Qiagene kit     |           | 1         |
| 10 | 3 | Mastermix preparation for Real Time PCR by using Superscript kit |           | 1         |
| 10 | 4 | Template Adding and PCR setup and programming for Real time PCR  | 1         |           |
| 11 | 1 | Template Adding and PCR setup and programming for Real time PCR  |           | 1         |
| 11 | 2 | Template Adding and PCR setup and programming for Real time PCR  |           | 1         |
| 11 | 3 | Interpretation of Real Time PCR result                           |           | 1         |
| 11 | 4 | Trouble shooting in Real Time PCR and Discussion                 | 1         |           |
| 12 | 1 | Management of data in the Lab Th.                                | 1         |           |
| 12 | 2 | Management of data in the Lab                                    |           | 1         |
| 12 | 3 | Post test                                                        |           | 1         |
| 12 | 4 | Evaluation of training and closing                               | 1         |           |
|    |   | <b>Total</b>                                                     | <b>18</b> | <b>29</b> |
|    |   |                                                                  |           | <b>47</b> |

# मत्स्यपालन तालिम पाठ्यक्रम

Commercial Carp Fish Farming Training (One week)(Officer level)

| Days  | Thematic area                                                   | Class | Subject Detail                                                                                    | Theo. | Prac. |
|-------|-----------------------------------------------------------------|-------|---------------------------------------------------------------------------------------------------|-------|-------|
| Day 1 | Status and Development of different Aquaculture system in Nepal | 1     | Importance and Prospects of adopted different Aquaculture techniques in Nepal                     |       |       |
|       |                                                                 |       | Features of commercially important fish species and their Culture Methods and techniques in Nepal |       |       |
|       |                                                                 |       | Basics of monoculture and polyculture in reference with commercial fish Farmings                  |       |       |
|       |                                                                 |       | General study of Fish morphology, physiology                                                      |       |       |
|       |                                                                 |       | Concepts of Intensive aquaculture                                                                 |       |       |
| Day 2 | Concept of Commercial Carp Fish Farming                         | 2     | Limitations of Intensification                                                                    |       |       |
|       |                                                                 |       | Soil test, pond seepage and control                                                               |       |       |
|       |                                                                 |       | Characteristics and Features Commercial aquaculture ponds                                         |       |       |
|       |                                                                 |       | Fundamentals of pond preparations and construction                                                |       |       |
|       |                                                                 |       | Ponds construction estimation                                                                     |       |       |
| Day 2 | Water quality management                                        | 4     | Physical Chemicals and biochemical parameters of water for aquaculture                            |       |       |
|       |                                                                 |       | Bottom soil management and pond ecology                                                           |       |       |
|       |                                                                 |       | Pond aeration and its impact on intensive fish farmings                                           |       |       |
|       |                                                                 |       | Different types of aerators and its uses                                                          |       |       |
|       |                                                                 |       | Liming on aquaculture ponds and liming requirements calculation                                   |       |       |
| Day 2 | Pond Dynamics and management                                    | 5     | Pre and post pond management practices, Aquatic weed control                                      |       |       |

| Days     | Thematic area                                             | Class | Subject Detail                                                                                                                                |
|----------|-----------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Day<br>3 | Fertilization and manuring in aquaculture ponds           | 6     | Effluent management in aquaculture ponds                                                                                                      |
|          |                                                           |       | Effectiveness and uses of fertilizer and manure in commercial fish farming                                                                    |
|          |                                                           |       | Feed and water quality management with use of fertilizer in commercial aquaculture                                                            |
|          | Fish Feed and Nutrition                                   | 7     | Feed requirements of fish at different stages                                                                                                 |
|          |                                                           |       | Concept and Uses of Prebiotics and probiotics and its effect on fish production                                                               |
|          |                                                           |       | Different types of raw materials for feed preparations                                                                                        |
|          | Feed formulation, feeding methods and management          | 8     | Feed fomulation and application of softwere for feed formulation                                                                              |
|          |                                                           |       | Different types of feeding methods and impact of feeding methods on commercial fish production                                                |
|          |                                                           |       | Quality feed maintainance and storage                                                                                                         |
|          | Management issues in commercial aquaculture and solutions | 9     | Common managemental problem (water sources, feeding methods, fertilization and manuring, predators, aquatic birds) and their control measures |
|          |                                                           |       | Nutrient enrichment and altaration of water quality parameter                                                                                 |
|          |                                                           |       | Old pond management, disease outbreak and mass mortality                                                                                      |

| Days  | Thematic area                                                                 | Class | Subject Detail                                                                                             |
|-------|-------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------|
| Day 4 | Fish Disease and fish health management                                       | 10    | Common Fish Diseases/parasite (Fresh water related OIE listed disease of Nepal) and their control measures |
|       |                                                                               |       | Prophylactic and curative measures for fish health management                                              |
| Day 5 | Innovation and advanced technology in commercial fish farming                 | 11    | Introduction to OIE, surveillance & aquatic disease reporting                                              |
|       |                                                                               |       | Concept and PoP (Package of Practice) of chaddi fish production technology                                 |
|       |                                                                               |       | Concept, technology and sustainability of Biofloc fish farming in Nepal                                    |
|       |                                                                               |       | Concept and PoP of pangasius fish production technology                                                    |
| Day 6 | Economics of Commercial Fish Farming                                          | 12    | Bussiness Plan of commercial fish farming                                                                  |
|       |                                                                               |       | Fish products and marketing management                                                                     |
|       |                                                                               |       | Benefit cost analysis of commercial fish farming                                                           |
|       |                                                                               |       | Importance of record keeping                                                                               |
|       |                                                                               |       | Routine examination of fish, sample collection                                                             |
|       |                                                                               |       | Interviewing, problem assessment and solving                                                               |
| Day 7 | Record keeping                                                                | 13    | Importance of record keeping                                                                               |
|       |                                                                               |       | Routine examination of fish, sample collection                                                             |
| Day 8 | Case Study and Field Visit                                                    | 14    | Field visits and Discussion                                                                                |
|       |                                                                               |       | 15                                                                                                         |
| Day 9 | Concept and status of Fish propagation in Nepal (Techniques of fish breeding) | 16    | Concept & importance of reproduction in fish farming, Status of fish reproduction in Nepal                 |
|       |                                                                               |       | Natural breeding                                                                                           |
|       |                                                                               |       | Genetic management, Pre-stocking management, Post-stocking management                                      |
|       |                                                                               |       | Semi-natural breeding/ Artificial breeding                                                                 |

| Days | Thematic area                                                     | Class | Subject Detail                                                                                               |
|------|-------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------|
|      | Risk management in carp farming                                   |       | Fish insurance mechanism                                                                                     |
|      |                                                                   |       | Finance                                                                                                      |
|      |                                                                   |       | Biosecurity in fish farming                                                                                  |
|      |                                                                   |       | Disasters preventive measures                                                                                |
|      | Nursery and rearing management                                    | 18    | Characteristics of Nursery and rearing ponds                                                                 |
|      |                                                                   |       | Hatchling stocking procedures                                                                                |
|      |                                                                   |       | Preparation of Nursery and rearing ponds for seed production                                                 |
|      |                                                                   |       | Post stocking management of Nursery and rearing ponds (Feeding, water, Predators & fertilization management) |
|      |                                                                   |       | Transportation and packing of Fish seed                                                                      |
|      | Note:20 percent of course can be changed as per need and scenerio |       |                                                                                                              |

| Commercial Trout Fish Farming Training (Officer level) (Session period-1.5 hours) |                                                                                        |       |                                                                                                                                                                                                                                                                |       |       |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| Day                                                                               | Thematic area                                                                          | Class | Subject detail                                                                                                                                                                                                                                                 | Theo. | Prac. |
| 1                                                                                 | What next in Cold Water Aquaculture                                                    | 1     | Trout aquaculture development trend analysis, Success story, Key learnings, Socioeconomic impact of Trout farming in Mid and high hills of Nepal linking trout to Aqua tourism and National actional Plan urgently needed to upscale it to next success story. |       |       |
|                                                                                   | PMAMP on Commercial Trout farming                                                      | 2     | Priorities, Plans and Program of PMAMP on Rainbow trout farming in Nepal                                                                                                                                                                                       |       |       |
|                                                                                   | Good aquaculture practices in Trout aquaculture, Dam-effflows and aquatic biodiversity | 3     | Do and don't of good aquaculture practices and sustainability of trout farming. Dam, E-flows, aquatic biodiversity management, enhanced fisheries, cage culture, fish ladder, fish lift, inclusive aquaculture development                                     |       |       |
| 2                                                                                 | Feed management for fry, fingerlings, tablefish and brood fish                         | 1     | Nutrient demand according to growth stage and temperature; and its management                                                                                                                                                                                  |       |       |



|   |                                                                |   |                                                                                                                                                                                                                                   |  |
|---|----------------------------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|   | Feed preparation and buffalo liver cake preparation            | 2 | Collection of buff liver, processing and cake preparation                                                                                                                                                                         |  |
|   | Brood management, breeding management and inbreeding issues    | 3 | Stocking rates for production pools, effective population size and selective breeding in trouts, Checking fish, spawning trout, stripping technique, fertilization of ova, and from hatch to free fry swimming stage              |  |
| 3 | Trout grading, cage culture and cage nursing                   | 1 | Typical meaning of grading in aquaculture, use and its significance in trout, Fry nursing and Nursing swimup trout fry in cage                                                                                                    |  |
|   | Transportation technique (eyed egg, Fry, brood and table fish) | 2 | Eyed egg right stage selection, egg tempering, PVP iodine treatment and transportation, Fry conditioning, choice of transportation unit as per stocking density, size and distance of travel, use of sedatives and transportation |  |
|   | Trout aquaculture automation                                   | 3 | Trout aquaculture automation                                                                                                                                                                                                      |  |
| 4 | Risk assessment of trout farming                               | 1 | Fish insurance, financial management, climate induced hazards and other cross cutting issues                                                                                                                                      |  |
|   | Field Visit, case study                                        | 2 | Commercial trout farm visit, Focal group discussion with trout entrepreneur and trainee on risk assessment and possibilities of automation as New Solution .                                                                      |  |
|   | Post harvest and value addition of trout production            | 3 | Product diversification (fish balls, fish sausages, fish fillets, fish dishes), nutrition value of trout vs other riverine fishes                                                                                                 |  |

|   |                                                                                                             |    |                                                                                                                                                                                                                                                           |    |   |
|---|-------------------------------------------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|
| 5 | Non Infectious diseases of trout and their management                                                       | 1  | Nutritional deficiency diseases, environmental diseases in trout and its management                                                                                                                                                                       |    |   |
|   | Parasitic diseases including Bacterial and Fungal diseases of trout and their management                    | 2  | Common and important reoccurring bacterial and fungal and parasitic disease of trouts in Nepal and its management                                                                                                                                         |    |   |
|   | Water quality Management, calculation of aquaculture drugs and chemicals                                    | 3  | Physical and chemical water parameters and its significance in trout farming                                                                                                                                                                              |    |   |
| 6 | Site selection and trout fish farm design, raceway engineering                                              | 1  | Selection criteria, land type, slope, raceway design, water resource, scale of operation (water budgeting), ecological consideration, electricity, transportation, market demand and access, other resources (manpower, knowledge, support services, etc) |    |   |
|   | Economics of trout table fish production and its market                                                     | 2  | Cost headings (operational and physical, B:C ratio, optimal harvest point)                                                                                                                                                                                |    |   |
|   | Feasibilities of trout table fish production in floating cages : New integration possibilities to knock out | 3  | Rainbow trout culture in floating cages in lakes and hydrodam, key learning and troubleshooting                                                                                                                                                           |    |   |
|   | Total                                                                                                       | 18 |                                                                                                                                                                                                                                                           | 11 | 7 |