

# LEARNING OUTCOMES BASED CURRICULUM

**JOB ROLE: DAIRY WORKER**

(Ref. Id.AGR/Q4102)

**Classes 9 and 10**

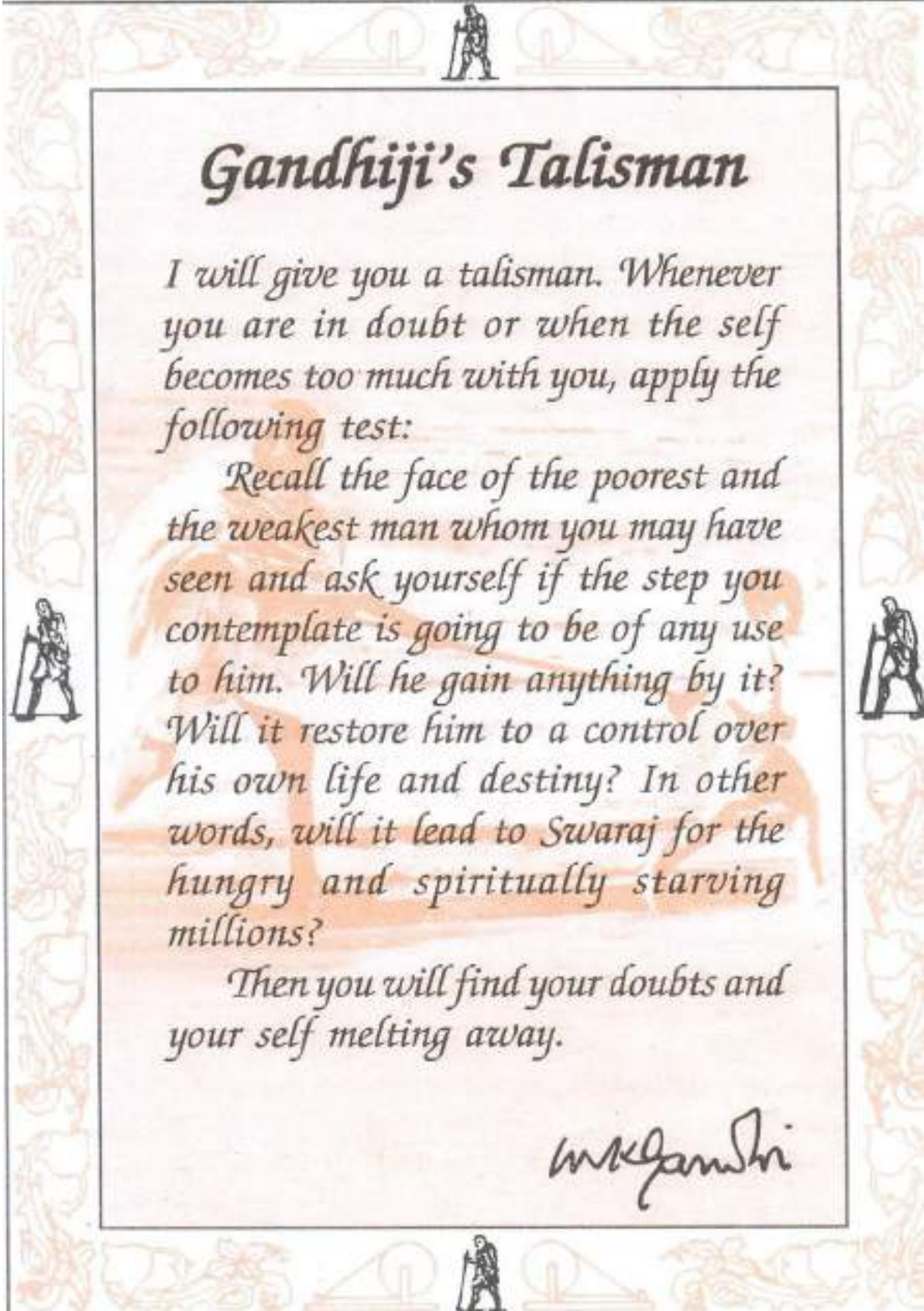


**PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION**

(a constituent unit of NCERT, under MHRD, Government of India)

**Shyamla Hills, Bhopal- 462 013, M.P., India**

<http://www.psscive.ac.in>



## Gandhiji's Talisman

*I will give you a talisman. Whenever you are in doubt or when the self becomes too much with you, apply the following test:*

*Recall the face of the poorest and the weakest man whom you may have seen and ask yourself if the step you contemplate is going to be of any use to him. Will he gain anything by it? Will it restore him to a control over his own life and destiny? In other words, will it lead to Swaraj for the hungry and spiritually starving millions?*

*Then you will find your doubts and your self melting away.*

*M.K. Gandhi*

# LEARNING-OUTCOMES BASED CURRICULUM

**JOB ROLE: DAIRY WORKER**

(QUALIFICATION PACK: Ref. Id. AGR/Q4102)

**Classes 9 & 10**

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NCVET

**PSS CENTRAL INSTITUTE OF VOCATIONAL EDUCATION**

**Shyamla Hills, Bhopal- 462 013, M.P., India**

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**LEARNING OUTCOME BASED CURRICULUM  
DAIRY WORKER  
November, 2020**

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**Published by:**

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# FOREWORD

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The Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE), a constituent unit of National Council of Educational Research and Training (NCERT) is spearheading the efforts of developing learning outcome based vocational curriculum and courseware aimed at integrating both vocational and general qualifications to open pathways of career progression for students. It is a part of Vocationalisation of Education under Samagra Shiksha. The PSS Central Institute of Vocational Education (PSSCIVE) is developing curricula under the project approved by the Project Approval Board (PAB) of Samagra Shiksha of Ministry of Human Resource Development (MHRD), Govt. of India.

The main purpose of the learning outcome based vocational curriculum is to bring about improvement in teaching-learning process and working competencies through learning outcomes embedded in the vocational subject. It is a matter of great pleasure to introduce this learning outcome based vocational curriculum as part of the vocational training package for the job role of Dairy Worker (AGR/Q4102). The curriculum has been developed for the higher secondary students of vocational education and is aligned to the National Occupation Standards (NOSs) of a job role identified and approved under the National Skill Qualification Framework (NSQF). The curriculum aims to provide children with employability and vocational skills to support occupational mobility and lifelong learning. It will help them to acquire specific occupational skills that meet employers' immediate needs. The teaching process is to be performed through the interactive sessions in classrooms, practical activities in laboratories and workshops, projects, field visits, and professional experiences. The curriculum has been developed and reviewed by a group of experts and their contributions are greatly acknowledged. The utility of the curriculum will be adjudged by the qualitative improvement that it brings about in teaching-learning. The feedback and suggestions on the content by the teachers and other stakeholders will be of immense value to us in bringing about further improvement in this document.

Hrushikesh Senapaty  
Director National Council of Education Research and Training

# PREFACE

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India today stands poised at a very exciting juncture in its saga. The potential for achieving inclusive growth are immense and the possibilities are equally exciting. The world is looking at us to deliver sustainable growth and progress. To meet the growing expectations, India will largely depend upon its young workforce. The much-discussed demographic dividend will bring sustaining benefits only if this young workforce is skilled and its potential is channelized in the right direction.

In order to fulfill the growing aspirations of our youth and the demand of skilled human resource, the Ministry of Human Resource Development (MHRD), Government of India introduced the revised Centrally Sponsored Scheme of Vocationalisation of Secondary and Higher Secondary Education that aims to provide for the diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provide an alternative for those pursuing higher education. For spearheading the scheme, the PSS Central Institute of Vocational Education (PSSCIVE) was entrusted the responsibility to develop competency based curricula, student workbooks, teacher handbooks and e-learning materials for the job roles in various sectors, with growth potential for employment.

The PSSCIVE firmly believes that the vocationalisation of education in the nation need to be established on a strong footing of philosophical, cultural and sociological traditions and it should aptly address the needs and aspirations of the students besides meeting the skill demands of the industry. The curriculum, therefore, aims at developing the desired professional, managerial and communication skills to fulfill the needs of the society and the world of work. In order to honour its commitment to the nation, the PSSCIVE has initiated the work on developing learning outcome based curricula with the involvement of faculty members and leading experts in respective fields. It is being done through the concerted efforts of leading academicians, professionals, policy makers, partner institutions, Vocational Education and Training experts, industry representatives, and teachers. The expert group through a series of consultations, working group meetings and use of reference materials develops a National Curriculum. Currently, the Institute is working on developing curricula and courseware for over 50 job roles in various sectors, besides the curricula developed for 100 job roles

We extend our gratitude to all the contributors for selflessly sharing their precious knowledge, acclaimed expertise, and valuable time and positively responding to our request for development of curriculum. We are grateful to MHRD and NCERT for the financial support and cooperation in realising the objective of providing competency based modular curricula and courseware to the States and other stakeholders under the PAB (Project Approval Board) approved project of *Samagra Shiksha* of Ministry of Human Resource Development (MHRD), Government of India.

Finally, for transforming the proposed curriculum design into a vibrant reality, all the institutions involved in the delivery system shall have to come together with a firm commitment and they should secure optimal community support. The success of this curriculum depends upon its effective implementation and it is expected that the managers of vocational education and training system, including subject teachers will make efforts to create better facilities, develop linkages with the world of work and foster a conducive environment as per amendments made in the curriculum document.

The PSSCIVE, Bhopal remains committed in bringing about reforms in the vocational education system through the learner-centric curricula and courseware. We hope that this document will prove useful in turning out more competent Indian workforce for the 21<sup>st</sup> century.

Rajesh P. Khambayat  
*Joint Director*  
*PSS Central Institute of Vocational Education*

Bhopal  
November, 2020

# ACKNOWLEDGEMENTS

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On behalf of the team at the PSS Central Institute of Vocational Education (PSSCIVE) we are grateful to the members of the Project Approval Board (PAB) of *Samagra Shiksha* and the officials of the Ministry of Human Resource Development (MHRD), Government of India for the financial support to the project for development of curricula.

We are grateful to the Director, National Council for Education, Research and Training (NCERT) for his support and guidance. We also acknowledge the contributions of our colleagues at the Technical Support Group of *Samagra Shiksha*, MHRD, National Skill Development Agency (NSDA) and National Skill Development Corporation (NSDC) and Agriculture Skill Council of India (ASCI) for their academic support and cooperation in the development of curricula.

We are grateful to contributors and reviewers for their earnest effort and contributions in the development of this learning outcome based curriculum. Their names are acknowledged in the list of contributors and reviewers.

We are also grateful to Dr. Rajiv Pathak and Dr. Kuldeep Singh Course Coordinators, Department of Agriculture and Animal Husbandry, PSSCIVE, Bhopal for his contributions.

The contributions made by Dr. Vinay Swarup Mehrotra, Professor, Department of Agriculture and Animal Husbandry and Curriculum Development and Evaluation Centre (CDEC), Dr. Vipin Kumar Jain, Associate Professor and Head, Department of Humanities, Science, Education and Research and Dr. Dipak D. Shudhalwar, Associate Professor and Head, Department of Engineering and Technology, PSSCIVE in development of the curriculum for the employability skills are duly acknowledged.

The assistance provided by Dr. Mukur Ganguly, Assistant Professor, (Department of Agriculture and Animal Husbandry, PSSCIVE) Jivan Koli, Computer Operator, PSSCIVE in layout, design and composing of the material is duly acknowledged.

PSSCIVE Team



# CONTENTS

| S.No.           | Title  | Page No. |
|-----------------|--|----------|
|                 | Foreword   | I        |
|                 | Preface  | II       |
|                 | Acknowledgement  | Iv       |
| 1.              | Course Overview  | 1        |
| 2.              | Scheme of Units and Assessment                                     | 2        |
| 3.              | Teaching/Training Activities                                       | 5        |
| 4.              | Certification  | 6        |
| 5.              | Unit Content   |          |
| <b>CLASS 9</b>  |  |          |
|                 | <b>Part A    Employability Skills</b>                              |          |
|                 | Unit 1: Communication Skills – I                                   | 7        |
|                 | Unit 2: Self-management Skills – I                                 | 8        |
|                 | Unit 3: Information and<br>Communication Technology<br>Skills – I  | 9        |
|                 | Unit 4: Entrepreneurial Skills – I                                 | 10       |
|                 | Unit 5: Green Skills - I   | 11       |
|                 | <b>Part B    Vocational Skills</b>                                 |          |
|                 | Unit 1: Overview of Dairy Farming in India                         | 11       |
|                 | Unit 2: Breeds of Dairy Animals                                    | 12       |
|                 | Unit 3: Livestock Housing System-I                                 | 12       |
|                 | Unit 4: Livestock Housing System II                                | 13       |
|                 | Unit 5: Transfer of Livestock to another<br>Location               | 14       |
|                 | Unit 6: Feeding and Watering for Livestock                         | 14       |
| <b>CLASS 10</b> |  |          |
|                 | <b>Part A    Employability Skills</b>                              |          |
|                 | Unit 1: Communication Skills – II                                  | 15       |
|                 | Unit 2: Self-management Skills – II                                | 16       |
|                 | Unit 3: Information and<br>Communication Technology<br>Skills – II | 17       |
|                 | Unit 4: Entrepreneurial Skills – II                                | 17       |
|                 | Unit 5: Green Skills – II  | 18       |
|                 | <b>Part B    Vocational Skills</b>                                 | 18       |
|                 | Unit 1: Maintaining the Healthy<br>Performance of Animals          | 19       |
|                 | Unit 2: Prevention of Diseases                                     | 20       |
|                 | Unit 3: Process of Milk Production                                 | 21       |
|                 | Unit 4: Record Keeping in a Dairy Farm                             | 21       |
|                 | Unit 5: Health and Safety Hazards in a<br>Dairy Farm               | 22       |

|           |   |                                     |           |
|-----------|---|-------------------------------------|-----------|
|           |   | Unit 6 : Animal Welfare Legislation | <b>22</b> |
| <b>6.</b> | Organisation of Field Visits                                |                                     | <b>23</b> |
| <b>7.</b> | List of Equipment and Materials                             |                                     | <b>24</b> |
| <b>8.</b> | Vocational Teacher's/Trainer's Qualification and Guidelines |                                     | <b>25</b> |
| <b>9.</b> | List of Contributors  |                                     | <b>25</b> |

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# 1. COURSE OVERVIEW

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## **COURSE TITLE: DAIRY WORKER**

A Dairy Worker is a person who has to undertake the activities involving caring, feeding and milking of the livestock on the Dairy facility. Their primary responsibility (accounting for 70 to 80 % of daily work time) will be to perform the duties of caring, feeding and milking of the livestock on the dairy facility. The proper care of dairy animals involves keeping the animal areas, lots and barns clean and free from manure and extraneous objects. The job is to be performed in an efficient manner to allow the production of a high quality product and promote animal well-being and comfort.

**COURSE OUTCOMES:** On completion of the course, students should be able to:

- Apply effective oral and written communication skills to interact with people;
- Demonstrate the basic skills of using computer;
- Demonstrate self-management skills;
- Demonstrate the ability to provide a self-analysis of entrepreneurial skills and abilities;
- Provide preventive care to dairy animals as per guideline of veterinarian: Implement preventive care measures e.g. vaccination, deworming, bio-security, etc;
- Demonstrate the knowledge of the importance of green skills in meeting the challenges of sustainable development and environment protection;
- Takes various decisions for the viability and sustainability of the dairy farm;
- Ensures proper care of dairy animals their health and productivity, milking and marketing of the produced milk in an efficient way to allow the production of high quality milk and promote animal well-being and comfort;
- Assist in animal husbandry extension: Promotion of best practices and appropriate technologies related to farming e.g. feeding, housing, management, breeding etc;

**COURSE REQUIREMENTS:** The learner should have the basic knowledge of science.

**COURSE LEVEL:** On completion of this course, a student can take up a higher level course for a job role in dairy management, such as dairy farmer.

**COURSE DURATION: 400 hrs**

Class 9 : 200 hrs

Class10 : 200 hrs

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**Total : 400 hrs**

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## 2. SCHEME OF UNITS AND ASSESSMENT

The unit-wise distribution of hours and marks for Class 9 is as follows:

| <b>CLASS 9</b> |  |   |  |
|----------------|--|---|--|
| <b>Units</b>   |  | <b>No. of Hours for Theory and Practical =200</b> | <b>Max. Marks for Theory and Practical = 100</b> |
| <b>Part A</b>  | <b>Employability Skills</b>                          |   |  |
| 1.             | Communication Skills                                 | 20  | 02   |
| 2.             | Self-management Skills                               | 10  | 02   |
| 3.             | Information and Communication Technology Skills      | 20  | 02   |
| 4.             | Entrepreneurial Skills                               | 15  | 02   |
| 5.             | Green Skills   | 10  | 02   |
|                | <b>Total</b>   | <b>75</b>   | <b>10</b>  |
| <b>Part B</b>  | <b>Vocational Skills</b>                             |   |  |
| 6.             | Overview of Dairy Farming in India                   | 30  | 20   |
| 7.             | Breeds of Dairy Animals                              | 25  |  |
| 8.             | Livestock Housing Systems-                           | 10  |  |
| 9.             | Transfer of Livestock to another Location            | 10  |  |
| 10.            | Feeding and Watering for Livestock                   | 20  |  |
|                |  | <b>95</b>   | <b>20</b>  |
| <b>Part C</b>  | <b>Practical Work</b>                                |   |  |
|                | Practical Examination                                | 06  | 15   |
|                | Written Test   | 01  | 10   |
|                | Viva Voce  | 03  | 10   |
|                |  | <b>10</b>   | <b>35</b>  |
| <b>Part D</b>  | <b>Project Work/Field Visit</b>                      |   |  |
|                | Practical File/Student Portfolio                     | 10  | 10   |
|                | Viva Voce  | 05  | 05   |
|                |  | <b>15</b>   | <b>15</b>  |
| <b>Part E</b>  | <b>Continuous and Comprehensive Evaluation (CCE)</b> |   |  |
|                |  | <b>5</b>  | <b>20</b>  |
|                | <b>Total</b>   | <b>200</b>  | <b>100</b>                                       |

The unit-wise distribution of hours and marks for Class 10 is as follows:

| <b>CLASS 10</b> |  |   |  |
|-----------------|--|---|--|
| <b>Units</b>    |  | <b>No. of Hours for Theory and Practical =200</b> | <b>Max. Marks for Theory and Practical = 100</b> |
| <b>Part A</b>   | <b>Employability Skills</b>                          |   |  |
|                 | Communication Skills                                 | 20  | 02   |
|                 | Self-management Skills                               | 10  | 02   |
|                 | Information and Communication Technology Skills      | 20  | 02   |
|                 | Entrepreneurial Skills                               | 15  | 02   |
|                 | Green Skills   | 10  | 02   |
|                 |  | <b>75</b>   | <b>10</b>  |
| <b>Part B</b>   | <b>Vocational Skills</b>                             |   |  |
|                 | Maintaining the healthy performance of animals       | 25  | 20   |
|                 | Prevention of diseases                               | 20  |  |
|                 | Process of Milk Production                           | 15  |  |
|                 | Record keeping in a Dairy Farm                       | 10  |  |
|                 | Health and Safety Hazards in a Dairy Farm            | 15  |  |
|                 | Animal Welfare Legislation                           | 10  |  |
|                 |  | <b>95</b>   | <b>20</b>  |
| <b>Part C</b>   | <b>Practical Work</b>                                |   |  |
|                 | Practical Examination                                | 06  | 15   |
|                 | Written Test   | 01  | 10   |
|                 | Viva Voce  | 03  | 10   |
|                 |  | <b>10</b>   | <b>35</b>  |
| <b>Part D</b>   | <b>Project Work/Field Visit</b>                      |   |  |
|                 | Practical File/Student Portfolio                     | 10  | 10   |
|                 | Viva Voce  | 05  | 05   |
|                 |  | <b>15</b>   | <b>15</b>  |
| <b>Part E</b>   | <b>Continuous and Comprehensive Evaluation (CCE)</b> |   |  |
|                 |  | <b>5</b>  | <b>20</b>  |
|                 | <b>Total</b>   | <b>200</b>  | <b>100</b>                                       |

**Assessment** will include two components: one comprising of internal assessment and second component is external examination including theory and practical examinations to be conducted by the Board.

#### **WRITTEN TEST:**

It allows candidates to demonstrate that they have the knowledge and understanding of a given topic. Question paper for the vocational subject may be prepared by the subject

experts comprising group of experts of academicians, experts from existing vocational subject experts/teachers, subject experts from university/colleges or industry recommended by the respective Sector Skill Council. The Central/State Examination Board will use the services of the relevant experts for setting up the question papers and conducting the examinations.

The blue print for the question paper may be as follows:

**Duration:3 hrs;**

**Max. Mark: 30**

|    | Typology of Question   | No. of Questions           |                        |                       | Marks                        |
|----|--|----------------------------|------------------------|-----------------------|------------------------------|
|    |  | Very Short Answer (1 mark) | Short Answer (2 Marks) | Long Answer (3 Marks) |                              |
| 1. | Remembering – (Knowledge based simple recall questions, to know specific facts, terms, concepts, principles, or theories; identify, define or recite, information)   | 2                          | 1                      | 2                     | 10                           |
| 2. | Understanding – (Comprehension – to be familiar with meaning and to understand conceptually, interpret, compare, contrast, explain, paraphrase, or interpret information)  | 1                          | 2                      | 2                     | 11                           |
| 3. | Application – (Use abstract information in concrete situation, to apply knowledge to new situations: Use given content to interpret a situation, provide an example, or solve a problem)                                       | 0                          | 1                      | 1                     | 05                           |
| 4. | High Order Thinking Skills – (Analysis & Synthesis – Classify, compare, contrast, or differentiate between different pieces of information; Organize and/ or integrate unique pieces of information from a variety of sources) | 0                          | 1                      | 0                     | 02                           |
| 5. | Evaluation – (Appraise, judge, and/or justify the value or worth of a decision or outcome, or to predict outcomes based on values)   | 0                          | 1                      | 0                     | 02                           |
|    | <b>Total</b>   | <b>3x1=3</b>               | <b>6x2=12</b>          | <b>5x3=15</b>         | <b>30<br/>(14 questions)</b> |

## PRACTICAL EXAMINATION

Practical examination allows candidates to demonstrate that they have the knowledge and understanding of performing a task. This will include **hands-on practical exam and viva voce**.

For practical, there should be a team of two evaluators – the subject teacher and the expert from the relevant industry certified by the Board or concerned Sector Skill Council. The same team of examiners will conduct the viva voce. **Viva voce** allows candidates to demonstrate communication skills and content knowledge.

Audio or video recording can be done at the time of viva voce. The number of external examiners would be decided as per the existing norms of the Board and these norms should be suitably adopted/adapted as per the specific requirements of the vocational subject.

**Project Work** (individual or group projects) are a great way to assess the practical skills on a certain time period or timeline. Project work should be given on the basis of the capability of the individual to perform the tasks or activities involved in the project. Projects should be discussed in the class and the teacher should periodically monitor the progress of the project and provide feedback for improvement and innovation.

Field visits should be organised as part of the project work. Field visits can be followed by a small-group work/project work. When the class returns from the field visit, each group might be asked to use the information that they have gathered to prepare presentations or reports of their observations. Project work should be assessed on the basis of practical file or student portfolio.

**Student Portfolio** is a compilation of documents that supports the candidate's claim of competence. Documents may include reports, articles, photos of products prepared by students in relation to the unit of competency, etc. **Viva voce** should also be conducted to obtain feedback on the student's experiences and learning during the project work/field visits.

### CONTINUOUS AND COMPREHENSIVE EVALUATION

Continuous and Comprehensive Evaluation (CCE) refers to a system of school-based evaluation of students that covers all aspects of student's development. In this scheme, the term 'continuous' is meant to emphasize that evaluation of identified aspects of students 'growth and development' is a continuous process rather than an event, built into the total teaching-learning process and spread over the entire span of academic session. The second term 'comprehensive' means that the scheme attempts to cover both the scholastic and the co-scholastic aspects of students' growth and development. For details, please refer to the CCE manual of Central Board of Secondary Education (CBSE).

## 3. TEACHING/TRAINING ACTIVITIES

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The teaching and training activities have to be conducted in classroom, laboratory/ workshops and field visits. Students should be taken to field visits for interaction with experts and to expose them to the various tools, equipment, materials, procedures and operations in the workplace. Special emphasis should be laid on the occupational safety, health and hygiene during the training and field visits.

### CLASSROOM ACTIVITIES

Classroom activities are an integral part of this course and interactive lecture sessions, followed by discussions should be conducted by trained vocational teachers. Vocational teachers should make effective use of a variety of instructional aids, such as audio-video materials, colour slides, charts, diagrams, models, exhibits, hand-outs, online teaching materials, etc. to transmit knowledge and impart training to the students.

### **PRACTICAL WORK IN LABORATORY/WORKSHOP**

Practical work may include but not limited to hands-on-training, simulated training, role play, case based studies, exercises, etc. Equipment and supplies should be provided to enhance hands-on learning experience of students. Only trained personnel should teach specialized techniques. A training plan that reflects tools, equipment, materials, skills and activities to be performed by the students should be submitted by the vocational teacher to the Head of the Institution.

### **FIELD VISITS/ EDUCATIONAL TOUR**

In field visits, children will go outside the classroom to obtain specific information from experts or to make observations of the activities. A checklist of observations to be made by the students during the field visits should be developed by the Vocational Teachers for systematic collection of information by the students on the various aspects. Principals and Teachers should identify the different opportunities for field visits within a short distance from the school and make necessary arrangements for the visits. At least ten field visits should be conducted in a year

## **4. CERTIFICATION**

**U**pon successful completion of the course by the candidate, the Central/ State Examination Board for Secondary Education and the respective Sector Skill Council will certify the competencies.



## 5. UNIT CONTENTS

### CLASS 9

#### Part A: Employability Skills

| S.No.        | Units   | Duration (Hrs) |
|--------------|---|----------------|
| 1.           | Communication Skills – I                          | 20             |
| 2.           | Self-management Skills – I                        | 10             |
| 3.           | Information and Communication Technology Skills-I | 20             |
| 4.           | Entrepreneurial Skills – I                        | 15             |
| 5.           | Green Skills - I                                  | 10             |
| <b>Total</b> |   | <b>75</b>      |

| <b>Unit 1: Communication Skills – I</b>                             |   |   |                                |
|---|---|---|--------------------------------|
| <b>Learning Outcome</b>   | <b>Theory (08 hrs)</b>  | <b>Practical (12 hrs)</b>   | <b>Total Duration (20 Hrs)</b> |
| 1. Demonstrate knowledge of various methods of communication        | 1. Methods of communication <ul style="list-style-type: none"> <li>- Verbal</li> <li>- Non-verbal</li> <li>- Visual</li> </ul>  | 1. Writing pros and cons of written, verbal and non-verbal communication<br>2. Listing do's and don'ts for avoiding common body language mistakes | <b>05</b>                      |
| 2. Identify elements of communication cycle                         | 1. Meaning of communication<br>2. Importance of communication skills<br>3. Elements of communication cycle–<br>(i) sender,<br>(ii) ideas,<br>(iii) encoding,<br>(iv) communication channel,<br>(v) receiver,<br>(vi) decoding and<br>(vii) feedback | 1. Draw a diagram of communication cycle<br>2. Role plays on communication process related to the sector/job role                                 | <b>05</b>                      |
| 3. Identify the factors affecting our perspectives in communication | 1. Perspectives in communication<br>2. Factors affecting perspectives in communication <ul style="list-style-type: none"> <li>- Visual perception</li> <li>- Language</li> <li>- Past experience</li> </ul>   | 1. Group discussion on factors affecting perspectives in communication<br>2. Sharing of experiences on factors affecting                          | <b>05</b>                      |

|  |  |   |           |
|--|--|---|-----------|
|  | <ul style="list-style-type: none"> <li>- Prejudices</li> <li>- Feelings</li> <li>- Environment</li> </ul>  | <p>perspectives</p> <p>3. Sharing experiences on factors affecting communication at workplace</p>         |           |
| 4. Demonstrate the knowledge of basic writing skills | <p>1. Writing skills related to the following:</p> <ul style="list-style-type: none"> <li>- Phrases</li> <li>- Kinds of sentences</li> <li>- Parts of sentence</li> <li>- Parts of speech</li> <li>- Use of articles</li> <li>- Construction of a paragraph</li> </ul> | <p>1. Demonstration and practice of writing sentences and paragraphs on topics related to the subject</p> | <b>05</b> |
| <b>Total</b>   |  |   | <b>20</b> |

| <b>Unit 2: Self-management – I</b>               |  |  |                                |
|--|--|--|--------------------------------|
| <b>Learning Outcome</b>                          | <b>Theory (05 hrs)</b>   | <b>Practical (05 hrs)</b>  | <b>Total Duration (10 Hrs)</b> |
| 1. Apply stress management techniques            | <p>1. Meaning and importance of stress management</p> <p>2. Stress management techniques – physical exercise, yoga, meditation</p> <p>3. Enjoying, going to vacations and holidays with family and friends</p> <p>4. Taking nature walks</p> | <p>1. Exercises on stress management techniques – yoga, meditation, physical exercises</p> <p>2. Preparing a write-up on an essay on experiences during a holiday trip</p>   | <b>06</b>                      |
| 2. Demonstrate the ability to work independently | <p>1. Importance of the ability to work independently</p> <p>2. Describe the types of self-awareness</p> <p>3. Describe the meaning of self-motivation and self-regulation</p>   | <p>1. Setting goals</p> <p>2. Planning and finishing tasks in a specific period, with no help or directives</p> <p>3. Demonstration on working independently</p> <p>4. Demonstration on the qualities required for working independently</p> | <b>04</b>                      |
| <b>Total</b>                                     |  |  | <b>10</b>                      |

**Unit 3: Information and Communication Technology Skills – I**

| <b>Learning Outcome</b>   | <b>Theory</b>   | <b>Practical</b>   | <b>Duration (20 Hrs)</b> |
|---|---|--|--------------------------|
| 1. Describe the role of Information and Communication Technology (ICT) in day-to-day life and workplace | <ol style="list-style-type: none"> <li>1. Introduction to ICT</li> <li>2. Role and importance of ICT in personal life and at workplace</li> <li>3. ICT in our daily life (examples)</li> <li>4. ICT tools - Mobile, tab, radio, TV, email, etc.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Discussion on the role and importance of ICT in personal life and at workplace.</li> <li>2. Preparing posters / collages for showing the role of ICT at workplace</li> </ol>   | 04                       |
| 2. Identify components of basic computer system and their functions                                     | <ol style="list-style-type: none"> <li>1. Computer system - Central Processing Unit (CPU), memory, motherboard, storage devices</li> <li>2. Hardware and software of a computer system</li> <li>3. Role and functions of Random Access Memory(RAM) and Read Only Memory(ROM)</li> <li>4. Role and functions of Central Processing Unit</li> <li>5. Procedure for starting and shutting down a computer</li> </ol> | <ol style="list-style-type: none"> <li>1. Connecting the cables and peripherals to the Central Processing Unit</li> <li>2. Starting and shutting down a computer</li> <li>3. Group discussion on the various aspects of hardware and software</li> </ol>   | 07                       |
| 3. Demonstrate use of various components and peripherals of computer system                             | <ol style="list-style-type: none"> <li>1. Peripherals devices and their uses – mouse, keyboard, scanner, webcam, etc. of a computer system</li> </ol>   | <ol style="list-style-type: none"> <li>1. Identification of various parts and peripherals of a computer</li> <li>2. Demonstration and practice on the use of mouse</li> <li>3. Demonstration and practice on the use of keyboard</li> <li>4. Demonstration of the uses of printers, webcams, scanner and other peripheral devices</li> <li>5. Drawing diagram of computer system and labelling it</li> </ol> | 05                       |
| 4. Demonstrate basic computer skills  | <ol style="list-style-type: none"> <li>1. Primary operations on a computer system – input, process, storage, output, communication networking, etc.</li> </ol>  | <ol style="list-style-type: none"> <li>1. Identification of the various input and output units and explanation of their purposes</li> </ol>  | 04                       |
| <b>Total</b>  |   |  | <b>20</b>                |

| <b>Unit 4: Entrepreneurial Skills – I</b>  |  |  |  |
|--|--|--|--|
| <b>Learning Outcome</b>  | <b>Theory<br/>(06 hrs)</b>   | <b>Practical<br/>(09 hrs)</b>  | <b>Total<br/>Duration<br/>(15 Hrs)</b> |
| 1. Identify various types of business activities                                   | <ol style="list-style-type: none"> <li>1. Types of businesses – service, manufacturing, hybrid</li> <li>2. Types of businesses found in our community</li> <li>3. Business activities around us</li> </ol>   | <ol style="list-style-type: none"> <li>1. Prepare posters of business activities found in cities/villages, using pictures</li> <li>2. Discuss the various types of activities, generally adopted by small businesses in a local community</li> <li>3. Best out of waste</li> <li>4. Costing of the product made out of waste</li> <li>5. Selling of items made from waste materials</li> <li>6. Prepare list of businesses that provides goods and services in exchange for money</li> </ol> | <b>09</b>                              |
| 2. Demonstrate the knowledge of distinguishing characteristics of entrepreneurship | <ol style="list-style-type: none"> <li>1. Meaning of entrepreneurship development</li> <li>2. Distinguishing characteristics of entrepreneurship</li> <li>4. Role and rewards of entrepreneurship</li> </ol> | <ol style="list-style-type: none"> <li>1. Prepare charts showing advantages of entrepreneurship over wages</li> <li>2. Group discussions on role and features of entrepreneurship</li> <li>3. Lectures/presentations by entrepreneurs on their experiences and success stories</li> <li>6. Identify core skills of successful entrepreneur</li> </ol>  | <b>06</b>                              |
| <b>Total</b>   |  |  | <b>15</b>                              |

**Unit 5: Green Skills – I**

| Learning Outcome   | Theory<br>(07 hrs)  | Practical<br>(03 hrs)  | Total<br>Duration<br>(10 Hrs) |
|--|---|--|-------------------------------|
| 1. Demonstrated the knowledge of the factors influencing natural resource conservation | 1. Introduction to environment,<br>2. Relationship between society and environment, ecosystem and factors causing imbalance<br>3. Natural resource conservation<br>4. Environment protection and conservation | 1. Group discussion on hazards of deteriorating environment<br>2. Prepare posters showing environment conservation<br>3. Discussion on various factors that influence our environment      | <b>05</b>                     |
| 2. Describe the importance of green economy and green skills                           | 1. Definition of green economy<br>2. Importance of green economy  | 1. Discussion on the benefits of green skills and importance of green economy<br>2. Prepare a Poster showing the importance of green economy with the help of newspaper/ magazine cuttings | <b>05</b>                     |
| <b>Total</b>   |   |  | <b>10</b>                     |

**Part B–Vocational Skills**

| S.No. | Units                                       | Duration<br>(Hrs) |
|-------|---|-------------------|
| 1.    | Overview of Dairy Farming in India          | 10                |
| 2.    | Breeds of Dairy Animals                     | 20                |
| 3.    | Livestock Housing System-I                  | 25                |
| 4.    | Livestock Housing System-II                 | 10                |
| 5.    | Transfer of Livestock to another location   | 10                |
| 6.    | Feeding and Water Arrangement for Livestock | 20                |
|       | <b>Total</b>                                | <b>95</b>         |

**Unit 1: Overview of Dairy Farming in India**

| Learning Outcome  | Theory<br>05 Hrs  | Practical<br>08 Hrs   | Duration<br>(15 Hrs) |
|---|---|---|----------------------|
| 1. Explain the scenario of dairy farming sector in India. . | 1. Importance of dairy farming in India<br>2. Milk production in India<br>3. Government | 1. Make a note of the Employment Potential in Dairying in India<br>2. On a map of India | <b>10</b>            |

|              |   |  |           |
|--------------|---|--|-----------|
|              | initiatives and private participation<br>4. Employment potential in dairying<br>5. Employment opportunities in dairy sector | show the major milk producing States with their share of milk production |           |
| <b>Total</b> |   |  | <b>15</b> |

### Unit 2: Important Dairy Breeds in India

| Learning Outcome  | Theory   | Practical   | Duration (30 hrs) |
|---|--|---|-------------------|
| 1. Identify different cow breeds (Indigenous and exotic breeds) | 1. Common indigenous breeds of cow<br>2. Common exotic breeds of cow reared in India<br>3. Indian buffalo breeds | Visit nearby dairy farm and identify the various cow and buffalo breeds | <b>10</b>         |
| 2. Identify different body parts of cow and buffalo             | 1. Body parts of cows and buffalo  | Draw a diagram of a cow and depict its different body parts             | <b>10</b>         |
| <b>Total</b>  |  |   | <b>20</b>         |

### Unit 3: Livestock Housing System - I

| Learning Outcome   | Theory  | Practical   | Duration (30 Hrs) |
|--|---|---|-------------------|
| 1. Explain different types of animal housing                 | 1. Basics amenities needed in animal housing<br>2. Types of livestock housing                     | 1. Visit a nearby dairy farm and examine its housing design                         | <b>10</b>         |
| 2. Identify the equipment and machinery in an animal housing | 1. Equipment and machinery used in a dairy farm<br>2. Essential provisions needed in a dairy farm | 1. Visit a nearby dairy farm and identify and enlist different equipment used there | <b>10</b>         |

|   |   |  |           |
|---|---|--|-----------|
| 3. Demonstrate the routine activities at a dairy farm | <ol style="list-style-type: none"> <li>1. Describe routine activities at a dairy farm</li> <li>2. Describe daily routine schedule of a medium sized dairy farm</li> </ol> | <ol style="list-style-type: none"> <li>1. Visit a nearby dairy farm and enlist the components of housing structures</li> <li>2. Visit a nearby dairy farm and note the dimensions of housing structures constructed there</li> <li>3. Visit a nearby dairy farm and prepare a write-up about the daily routine activities</li> </ol> | <b>05</b> |
| <b>Total</b>  |   |  | <b>25</b> |

#### Unit 4 : Livestock Housing System -II

| Learning Outcome                    | Theory   | Practical   | Duration (30 Hrs) |
|-------------------------------------|--|---|-------------------|
| 1. Explain layout of animal housing | <ol style="list-style-type: none"> <li>1. Layout of animal housing</li> <li>2. Important sections of a large dairy farm</li> </ol> | 1. Visit a nearby large dairy farm and enlist its different sections. | <b>10</b>         |
| <b>Total</b>                        |  |   | <b>10</b>         |

| <b>Unit 5 : Transferring Dairy Animals to Another Location</b> |   |   |                          |
|--|---|---|--------------------------|
| <b>Learning Outcome</b>  | <b>Theory</b>   | <b>Practical</b>                                  | <b>Duration (30 Hrs)</b> |
| 1. Explain the purpose and modes of livestock transfer         | <ol style="list-style-type: none"> <li>1. Purpose of livestock transfer</li> <li>2. Modes of animal transportation</li> <li>3. Difficulties faced by livestock during transfer</li> </ol> | 1. Enlist the different modes of animal transport | <b>10</b>                |
| <b>Total</b>   |   |   | <b>10</b>                |

| <b>Unit 6: Feeding and Water arrangement for Livestock</b>        |  |  |                          |
|---|--|--|--------------------------|
| <b>Learning Outcome</b>   | <b>Theory</b>  | <b>Practical</b>   | <b>Duration (30 Hrs)</b> |
| 1. Describe types, characteristics and composition of animal feed | <ol style="list-style-type: none"> <li>1. Types of animal feed</li> <li>2. Composition of feed and its quality</li> <li>3. Assessing the overall quality of the feed</li> </ol>  | 1. Visit a nearby dairy farm and enlist different types of feeding materials   | <b>05</b>                |
| 2. Explain the feed requirements of dairy animals                 | <ol style="list-style-type: none"> <li>1. Feed requirements of dairy animals</li> <li>2. Major categories of feed ingredients used for preparation of rations</li> </ol>   | 1. Enlist the type of ingredients used in preparation of animal feed.  | <b>05</b>                |
| 3. Explain the method of preparation of animal feed               | <ol style="list-style-type: none"> <li>1. Equipment and machinery used in preparing animal feed</li> <li>2. Maintenance of equipment and machinery</li> <li>3. Preparation of concentrate mixture</li> <li>4. Storage of animal feed</li> <li>5. Structures used for storage of animal feed</li> </ol> | 1. Visit a nearby dairy farm and observe the process of preparation of animal feed   | <b>05</b>                |
| 4. Maintain the feed and water supply in a dairy farm             | <ol style="list-style-type: none"> <li>1. Plan for ensuring regular supply of feed and fodder in a dairy farm</li> <li>2. Water requirement and supply for dairy animals</li> <li>3. Factors affecting water needs of dairy animals</li> </ol>   | <ol style="list-style-type: none"> <li>1. Visit a nearby dairy farm and observe supply of water, feed and fodder for dairy animals</li> <li>2. Enlist the types of feed and fodder being used in dairy farm</li> </ol> | <b>05</b>                |



|              |           |
|--------------|-----------|
| <b>Total</b> | <b>20</b> |
|--------------|-----------|

## CLASS10

### Part A - Employability Skills

| S.No.        | Units  | Duration (Hrs) |
|--------------|--|----------------|
| 1.           | Communication Skills – II                            | 20             |
| 2.           | Self-management Skills – II                          | 10             |
| 3.           | Information and Communication Technology Skills – II | 20             |
| 4.           | Entrepreneurial Skills – II                          | 15             |
| 5.           | Green Skills– II                                     | 10             |
| <b>Total</b> |  | <b>75</b>      |

| <b>Unit 1: Communication Skills – II</b>                     |  |   |                   |
|--|--|---|-------------------|
| Learning Outcome   | Theory (12 Hrs)  | Practical (08 Hrs)  | Duration (20 Hrs) |
| 1. Demonstrate knowledge of various methods of communication | 1. Methods of communication<br>- Verbal<br>- Non-verbal<br>- Visual  | 1. Writing pros and cons of written, verbal and non-verbal communication<br>2. Listing do's and don'ts for avoiding common body language mistakes | 04                |
| 2. Provide descriptive and specific feedback                 | 1. Communication cycle and importance of feedback<br>2. Meaning and importance of feedback<br>3. Descriptive feedback - written comments or conversations<br>4. Specific and non-specific feedback | 1. Constructing sentences for providing descriptive and specific feedback   | 04                |
| 3. Apply measures to overcome barriers in communication      | 1. Barriers to effective communication – types and factors<br>2. Measures to overcome barriers in effective communication  | 1. Enlisting barriers to effective communication<br>2. Applying measures to overcome barriers in communication                                    | 04                |

|                                      |  |   |           |
|--------------------------------------|--|---|-----------|
| 4. Apply principles of communication | <ol style="list-style-type: none"> <li>Principles of effective communication</li> <li>7 Cs of effective communication</li> </ol>   | <ol style="list-style-type: none"> <li>Constructing sentences that convey all facts required by the receiver</li> <li>Expressing in a manner that shows respect to the receiver of the message</li> <li>Exercises and games on applying 7Cs of effective communication</li> </ol> | 04        |
| 5. Demonstrate basic writing skills  | <p>10 Writing skills to the following:</p> <ul style="list-style-type: none"> <li>- Sentence</li> <li>- Phrase</li> <li>- Kinds of Sentences</li> <li>- Parts of Sentence</li> <li>- Parts of Speech</li> <li>- Articles</li> <li>- Construction of a Paragraph</li> </ul> | <ol style="list-style-type: none"> <li>Demonstration and practice of writing sentences and paragraphs on topics related to the subject</li> </ol>   | 04        |
| <b>Total</b>                         |  |   | <b>20</b> |

### Unit 2: Self-management Skills – II

| Learning Outcome                                 | Theory (05 Hrs)   | Practical (05 Hrs)  | Duration (10 Hrs) |
|--|---|---|-------------------|
| 1. Apply stress management techniques            | <ol style="list-style-type: none"> <li>Meaning and importance of stress management</li> <li>Stress management techniques – physical exercise, yoga, meditation</li> <li>Enjoying, going to vacations and holidays with family and friends</li> <li>Taking nature walks</li> </ol> | <ol style="list-style-type: none"> <li>Exercises on stress management techniques – yoga, meditation, physical exercises</li> <li>Preparing a write-up an essay on experiences during a holiday trip</li> </ol>  | 06                |
| 2. Demonstrate the ability to work independently | <ol style="list-style-type: none"> <li>Importance of the ability to work independently</li> <li>Describe the types of self-awareness</li> <li>Describe the meaning of self-motivation and self-regulation</li> </ol>  | <ol style="list-style-type: none"> <li>Demonstration on working independently</li> <li>Goals</li> <li>Planning of an activity</li> <li>Executing tasks in a specific period, with no help or directives</li> <li>Demonstration on the qualities required for working independently</li> </ol> | 04                |
| <b>Total</b>                                     |   |   | <b>10</b>         |

| <b>Unit 3: Information and Communication Technology Skills– II</b> |   |   |                              |
|--|---|---|------------------------------|
| <b>Learning Outcome</b>  | <b>Theory<br/>(08 Hrs)</b>  | <b>Practical<br/>(12 Hrs)</b>   | <b>Duration<br/>(20 Hrs)</b> |
| 1. Distinguish between different operating systems                 | <ol style="list-style-type: none"> <li>1. Classes of operating systems</li> <li>2. Menu, icons and task bar on the desktop</li> <li>3. File concept, file operations, file organization, directory structures, and file- system structures</li> <li>4. Creating and managing files and folders</li> </ol>   | <ol style="list-style-type: none"> <li>1. Identification of task bar, icons, menu, etc.</li> <li>2. Demonstration and practicing of creating, renaming and deleting files and folders, saving files in folders and sub-folders, restoring files and folders from recycle bin</li> </ol> | <b>17</b>                    |
| 2. Apply basic skills for care and maintenance of computer         | <ol style="list-style-type: none"> <li>1. Importance and need of care and maintenance of computer <ul style="list-style-type: none"> <li>- Cleaning computer components</li> <li>- Preparing maintenance schedule</li> <li>- Protecting computer against viruses</li> <li>- Scanning and cleaning viruses and removing SPAM files, temporary files and Folders</li> </ul> </li> </ol> | <ol style="list-style-type: none"> <li>1. Demonstration of the procedures to be followed for cleaning, care and maintenance of hardware and software</li> </ol>   | <b>03</b>                    |
| <b>Total</b>   |   |   | <b>20</b>                    |

| <b>Unit 4: Entrepreneurial Skills – II</b> |                            |                               |                              |
|--|----------------------------|-------------------------------|------------------------------|
| <b>Learning Outcome</b>                    | <b>Theory<br/>(06 Hrs)</b> | <b>Practical<br/>(09 Hrs)</b> | <b>Duration<br/>(15 Hrs)</b> |

|  |   |  |           |
|--|---|--|-----------|
| 1. List the characteristics of successful entrepreneur | <ol style="list-style-type: none"> <li>1. Entrepreneurship and society</li> <li>2. Qualities and functions of an entrepreneur</li> <li>3. Role and importance of an entrepreneur</li> <li>4. Myth about entrepreneurship</li> <li>5. Entrepreneurship as a career option</li> </ol> | <ol style="list-style-type: none"> <li>1. Writing a note on entrepreneurship as career option</li> <li>2. Collecting success stories of first generation and local entrepreneurs</li> <li>3. Listing the entrepreneurial qualities – analysis of strength and weaknesses</li> <li>4. Group discussion of self-qualities that students feel are needed to become successful entrepreneur</li> <li>5. Collect information and related data for a business</li> <li>6. Make a plan in team for setting up a business</li> </ol> | <b>15</b> |
| <b>Total</b>   |   |  | <b>15</b> |

| <b>Unit 5: Green Skills – I</b>  |   |   |                          |
|--|---|---|--------------------------|
| <b>Learning Outcome</b>  | <b>Theory</b>   | <b>Practical</b>  | <b>Duration (10 Hrs)</b> |
| 1. Demonstrated the knowledge of the factors influencing natural resource conservation | <ol style="list-style-type: none"> <li>1. Introduction to environment,</li> <li>2. Relationship between society and environment, ecosystem and factors causing imbalance</li> <li>3. Natural resource conservation</li> <li>4. Environment protection and conservation</li> </ol> | <ol style="list-style-type: none"> <li>1. Group discussion on hazards of deteriorating environment</li> <li>2. Prepare posters showing environment conservation</li> <li>3. Discussion on various factors that influence our environment</li> </ol> | <b>05</b>                |
| 2. Describe the importance of green economy and green skills                           | <ol style="list-style-type: none"> <li>1. Definition of green economy</li> <li>2. Importance of green economy</li> </ol>  | <ol style="list-style-type: none"> <li>1. Discussion on the benefits of green skills and importance of green economy</li> <li>2. Prepare a Poster showing the importance of green economy with the help of newspaper/ magazine cuttings</li> </ol>  | <b>05</b>                |
| <b>Total</b>   | <b>34</b>   | <b>41</b>   | <b>75</b>                |

## Part B–Vocational Skills

| <b>S.No.</b> | <b>Units</b>                                   | <b>Duration (Hrs)</b> |
|--------------|--|-----------------------|
| 1.           | Maintaining the healthy performance of animals | <b>25</b>             |
| 2.           | Prevention of diseases                         | <b>20</b>             |

|    |   |           |
|----|---|-----------|
| 3. | Process of milk production                | <b>15</b> |
| 4. | Record keeping in a dairy farm            | <b>10</b> |
| 5. | Health and safety hazards in a dairy farm | <b>15</b> |
| 6. | Animal Welfare Legislation                | <b>10</b> |
|    | <b>Total</b>                              | <b>95</b> |

### Unit 1: Maintaining the healthy performance of animals

| Learning Outcome  | Theory  | Practical   | Duration (25 Hrs) |
|---|---|---|-------------------|
| 1. Explain different diseases and disorders affecting dairy animals | 1. Diseases and disorders affecting dairy animals<br>2. Common non-infectious diseases and other disorders in dairy animals | 1. Visit a dairy farm in your area and identify healthy and sick animals. Jot down the following information in your notebook. <ul style="list-style-type: none"> <li>• Signs of a healthy animal</li> <li>• Symptoms in a sick animal</li> </ul> | <b>10</b>         |
| 2. Identify parasitic infections in dairy animals                   | 1. Types of parasites<br>2. Prevention and control of parasitic infections  | 1. Visit a dairy farm and discuss about parasitic infection with the dairy farm owner<br>2. Identify and enlist with the help of your teacher/caretaker common parasites you observe in the dairy farm  | <b>10</b>         |
| 3. Identify common infectious diseases in dairy animals             | 1. Define common infectious diseases in dairy animals   | 1. Visit a nearby dairy farm. Talk to the caretaker and find out diseases that have recurred in the farm in past one year.  | <b>05</b>         |
| <b>Total</b>  |   |   | <b>25</b>         |

### Unit 2: Prevention of Diseases

| Learning Outcome | Theory | Practical | Duration (20 Hrs) |
|------------------|--------|-----------|-------------------|
|------------------|--------|-----------|-------------------|

|  |  |  |           |
|--|--|--|-----------|
| 1. Explain different prevention measures for diseases in dairy animals | 1. Measures of prevention of diseases  | 1. Make a note of different measures used to prevent diseases in dairy animals   | <b>05</b> |
| 2. Explain the vaccination process of dairy animals                    | 1. Vaccination schedule in farm animals<br>2. Precautions taken during vaccination<br>3. Different routes of administering vaccines<br>4. Components of vaccination document | 1. Go to a nearby veterinary hospital and observe the different vaccination practices<br><br>2. Observe and note down the precautions taken during vaccination process | <b>10</b> |
| 3. Explain one health approach and its aims                            | 1. Describe "One health" approach<br>2. Zoonosis and its control<br>3. Aims of one health approach   | 1. Explain one health approach with an example in the practical file   | <b>05</b> |
| <b>Total</b>   |  |  | <b>20</b> |

| <b>Unit 3: Process Of Milk Production</b>       |  |  |                          |
|---|--|--|--------------------------|
| <b>Learning Outcome</b>                         | <b>Theory</b>  | <b>Practical</b>   | <b>Duration (15 Hrs)</b> |
| 1. Explain the process of milk production       | 1. Describe pre and post milking activities<br>2. Methods of milking                       | 1. Visit a nearby dairy farm and record the milking methods being followed there   | <b>07</b>                |
| 2. Explain the process of clean milk production | 1. Essential components of clean milk production<br>2. Advantages of clean milk production | 1. Visit a nearby dairy farm and observe the process of milk production being followed there. Point out if clean milk production practices are being followed or not | <b>08</b>                |
| <b>Total</b>                                    |  |  | <b>15</b>                |

| <b>Unit 4: Record Keeping In A Dairy Farm</b>            |   |  |                          |
|--|---|--|--------------------------|
| <b>Learning Outcome</b>                                  | <b>Theory</b>   | <b>Practical</b>   | <b>Duration (10 Hrs)</b> |
| 1. Explain the process of record keeping in a dairy farm | 1. Need for record keeping in dairy farm<br>2. Characteristics of farm records<br>3. Types of farm record<br>4. Ways to maintain farm records | 1. Form groups in class, consisting of three members each, and visit a nearby dairy farm. Record the following <ul style="list-style-type: none"> <li>• Vaccination of the animals</li> <li>• Daily feeding of the animals in a month</li> <li>• Daily milk yield for a month</li> </ul> | <b>10</b>                |
| <b>Total</b>   |   |  | <b>10</b>                |

| <b>Unit 5: Health And Safety Hazards In A Dairy Farm</b> |  |   |                          |
|--|--|---|--------------------------|
| <b>Learning Outcome</b>                                  | <b>Theory</b>  | <b>Practical</b>  | <b>Duration (15 Hrs)</b> |
| 1. Explain the health and safety hazards in a dairy farm | 1. Maintaining hygiene and biosecurity in a dairy farm<br>2. Measures to check risks and hazards<br>3. Personal protective equipment<br>4. Safety measures to be followed in a farm<br>5. Common risks and remedial measures<br>6. Describe biosecurity in a dairy farm      | 1. Visit a nearby dairy farm and observe the measures taken to prevent risks and hazards. | <b>08</b>                |
| 1. Explain the disposal of farm wastes                   | 1. Preparation of manures from animal and farm wastes <ul style="list-style-type: none"> <li>• Farm Yard Manure</li> <li>• Composting</li> <li>• Vermicomposting</li> <li>• Feed stock in biogas plants to produce gas and slurry manure</li> <li>• Organic mulch</li> </ul> | 1. Prepare vermicompost using earthworms and biodegradable waste material.                | <b>07</b>                |
| <b>Total</b>   |  |   | <b>15</b>                |

| <b>Unit 6 : Animal Welfare Legislations</b>  |  |  |                          |
|--|--|--|--------------------------|
| <b>Learning Outcome</b>  | <b>Theory</b>  | <b>Practical</b>   | <b>Duration (10 Hrs)</b> |
| 1. Identify a sick animal in a dairy farm<br><br>2. Explain the different animal legislation | 1. Signs of a healthy animal<br>2. Difference between a healthy and sick animal<br>3. Describe animal Welfare and its legislation<br>4 Prevention of cruelty towards animals | 1. Identify an injured animal in a nearby cow shed. Find out the cause of its injury and write the steps that can be taken to improve its health | <b>10</b>                |
| <b>Total</b>   |  |  | <b>10</b>                |



## 6. ORGANISATION OF FIELD VISITS

In a year, at least 10 visits to a nearby dairy farm/educational tours should be organised for the students to expose them to the various routine activities undertaken at a good dairy farm.

Visits to a nearby dairy farm should facilitate the students to observe for themselves the following:

Location, Site, Isolation room, Quarantine room, calf room, ration room, heifer room, calving box, young animal room, bull shed, travis, sick animal and veterinary dispensary, post-mortem platform, concentrate and fodder go downs, chaffing shed, silo pits, milk house, manure disposal area, During the visit, students observe and obtain the following information from the owner or the supervisor of the dairy:

1. Understand management of animals in heat.
2. Identification of various breeds of cattle and buffalo.
3. Identification of various breeds of cattle and buffalo improved through the technique of selection.
4. Understand the need for livestock housing.
5. Understand the optimization of available resources at the farm and housing needs of animals.
6. Check if equipment, materials and accommodation are suitable for reception of the livestock, prior to their arrival.
7. Dairy farm feed storage structures.
8. Comparison of healthy and unhealthy animals.
9. Various wellbeing and welfare measures being adopted for the animals.
10. Animals infested with external parasites and how they are controlled.
11. Understand management of animals in heat.
12. Understand various aspects of management of pregnant animal such as nutrition, accommodation etc.
13. Observe management of calves such as housing, hygiene, colostrum feeding etc.
14. Observe various pre milking, milking and post milking activities.
15. Various mastitis detection methods.
16. Precautions taken form astitis.
17. Various equipment of a milking machine.
18. Parts of the milking machine and their functions.
19. Different methods of for age conservation.

## 7. LIST OF EQUIPMENT AND MATERIALS

The list given below is suggestive and an exhaustive list should be prepared by the vocational teacher. Only basic tools, equipment and accessories should be procured by the schools so that the routine tasks can be performed by the students regularly for practice and acquiring adequate practical experience.

- |                      |                      |
|----------------------|----------------------|
| 1. Electric dehorner | 5. Branding numbers  |
| 2. Burdizzocastrator | 6. Drenching bottles |
| 3. Tagging set       | 7. Mouth gags        |
| 4. Tattooning set    | 8. Muzzle            |
|                      | 9. Housing models    |

10. Models of different breeds
11. Hoof trimmer
12. Ropes
13. Metal chains
14. Bull nose ring
15. Bull nose punch
16. Bull leader
17. Animal awakener
18. Artificial insemination (AI) cylinder with liquid nitrogen and semen straw
19. AI gun
20. Hosepipe
21. Grooming brush
22. Various feeds and fodders
23. Measuring appliances
24. Milking bucket
25. Post milking teat dip
26. Milk can
27. Milk strainer
28. Broom
29. Disinfectants
30. bull exerciser
31. Medicines
32. Thermometer
33. Trocar and cannula
34. Apron
35. Gloves- 25pair
36. Gumboots- 25pair
37. Masks-100
38. Dangris -25
39. CMT reagent and CMT Paddle for detection of mastitis
40. PHs trip

## 8. VOCATIONAL TEACHER'S/ TRAINER'S QUALIFICATION AND GUIDELINES

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**Q**ualification and other requirements for appointment of vocational teachers/trainers on contractual basis should be decided by the State/UT. The suggestive qualifications and minimum competencies for the vocational teacher should be as follows:

| S.No. | Qualification   | Minimum Competencies  | Age Limit  |
|-------|---|---|--|
| 1.    | Post-graduation in Dairying/ Animal Husbandry from a recognized Institute /University, with at least 1 year work experience | <ul style="list-style-type: none"> <li>• Effective communication skills (oral and written)</li> <li>• Basic computing skills</li> </ul> | 18-37 years (as on Jan. 01 (year))<br>Age relaxation to be provided as per Govt. rules |

## 9. LIST OF CONTRIBUTORS

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