



# **Curriculum for Slaughter House Technician (SHT)**

*[A short term modular curriculum]*

**Council for Technical Education and Vocational Training (CTEVT)**

**Curriculum Development Division**

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## **Introduction**

This curriculum has been developed with a purpose of preparing “Slaughter House Technician” as a lower level technical workforce able to get employment in the country. The technical skills incorporated in this curriculum come from slaughter house technology. Its contents are organized in the form of modules. So it is a tailor made curriculum with a special purpose to be implemented in a modular form.

It is a competency based curriculum. It is also designed to produce lower level technical workforce in the field of slaughter house technology equipped with skills and knowledge related to slaughter house technology in order to meet the demand of such workforce in the country so as to contribute in the national streamline of poverty reduction.

## **Aim**

The main aim of this curricular program is to produce lower level skilled workforce in the field of slaughter house technology by providing training to the potential citizen of the country and link them to employment opportunities in the country.

## **Objectives**

After the completion of this training program, the trainees will be able:

- To be familiar with the concepts and terminologies related to meat science
- To meet basic requirements of an abattoir
- To carry out /assist to carry out basic operations of abattoir
- To be familiar with the operations of a modern abattoir
- To carry out /assist to carry out Anti mortem inspection
- To carry out /assist to carry out Anti mortem care
- To carry out /assist to carry out Methods of stunning
- To carry out /assist to carry out Methods of slaughter
- To carry out /assist to carry out Emergency slaughter
- To carry out /assist to carry out Slaughtering of animals and poultry
- To carry out /assist to carry out dressing operations
- To carry out /assist to carry out dressing methods
- To calculate dressing percentage and meat yield
- To carry out /assist to carry out post mortem inspection
- To manage /assist to manage slaughterhouse
- To keep /assist to keep shop and market hygienic meat

## **Description**

This curriculum provides skills and knowledge necessary for “Slaughter House Technician” as a lower level technical worker. There will be both demonstration by trainers/instructors and opportunity by trainees to carry out the skills/tasks necessary for this level of technical

workforce. Trainees will practice and learn skills by using typical tools, materials and equipment necessary for this curricular program.

On successful completion of this training, the trainees will be able to apply skills and knowledge related to meat science, an abattoir, anti-mortem inspection and care, slaughtering, dressing, post mortem inspection, and slaughter house management & meat marketing in the professional field of slaughter house technology.

### Course structure

Modules/sub modules	Nature	Th.	Pr.	Tot.	Th.	Pr.	Tot.
<b>1. Meat science</b>		<b>32</b>	<b>18</b>	<b>50</b>	<b>5</b>	<b>20</b>	<b>25</b>
<b>2. An abattoir</b>		<b>10</b>	<b>36</b>	<b>46</b>	<b>5</b>	<b>20</b>	<b>25</b>
1. Basic requirements of an abattoir		2	4	6			
2. Basic operations of abattoir		6	24	30			
3. Modern abattoir		2	8	10			
<b>3. Ante-mortem inspection and care</b>		<b>6</b>	<b>26</b>	<b>32</b>	<b>5</b>	<b>20</b>	<b>25</b>
<b>4. Slaughter</b>		<b>16</b>	<b>68</b>	<b>84</b>	<b>20</b>	<b>80</b>	<b>100</b>
1. Methods of stunning and slaughter		2	4	6			
2. Slaughtering		14	64	78			
<b>5. Dressing operations, methods and percentage</b>		<b>4</b>	<b>16</b>	<b>20</b>	<b>5</b>	<b>20</b>	<b>25</b>
<b>6. Post mortem inspection</b>		<b>8</b>	<b>40</b>	<b>48</b>	<b>5</b>	<b>20</b>	<b>25</b>
<b>7. Slaughter house management &amp; meat marketing</b>		<b>15</b>	<b>25</b>	<b>40</b>	<b>5</b>	<b>20</b>	<b>25</b>
1. Slaughterhouse management		2	3	5			
2. Professional dresses		1	3	4			
3. Marking / stamping of meat		2	3	5			
4. Disinfection , sterilization and waste disposal		2	8	10			
5. Application forms and permission letters		2	2	4			
6. Recordings		2	2	4			
7. Meat shop and marketing		4	4	8			
<b>Subtotal:</b>		<b>91</b>	<b>229</b>	<b>320</b>	<b>50</b>	<b>200</b>	<b>250</b>
<b>8. Common module</b>	<b>T + P</b>	<b>14</b>	<b>56</b>	<b>70</b>	<b>10</b>	<b>40</b>	<b>50</b>
1. Applied math	T + P	4	16	20			
2. Occupational health and safety	T + P	2	8	10			
3. First aid	T + P	1	4	5			
4. HIV/AIDS	T + P	1	4	5			
5. Communication	T + P	2	8	10			
6. Small enterprise development	T + P	4	16	20			
<b>Total:</b>		<b>105</b>	<b>285</b>	<b>390</b>	<b>60</b>	<b>240</b>	<b>300</b>

**Duration**

The total duration of this curricular program will be 390 hours [Three months]

**Target group**

The target group for this training will be all the interested individuals of the country with academic qualification of grade ten pass

**Group size**

The group size of this training program will be not more than 20

**Target location**

The target location of this training program will be all over Nepal.

**Medium of Instruction**

The medium of instruction for this training program will be Nepali or English or both.

**Pattern of attendance**

The trainees should have 80% attendance in theory classes and 90% in practical (performance) to be eligible for internal assessment and final examinations.

**Focus of the program**

This is a competency based curriculum. This curriculum emphasizes on competent performance of the task specified in it. Not less than 80% time is allotted to the competencies and not more than 20% to the related technical knowledge. So, the main focus will be on the performance of the specified competencies/tasks /skills included in this curriculum.

**Entry criteria**

Individuals who meet the following criteria will be allowed to enter in this curricular program:

- Ten grade pass
- Physically and mentally fit
- Age : More than 16 years old
- Preference will be given to female, Dalit, Janjati, and Conflict affected people

**Follow up suggestion**

This is not a training program only for training sake. The ultimate success of this program will rest on the proficiency of the graduates of this training program in providing services in the community either by wage employment or by self-employment.

In other to assess the success of this program and collect feedbacks/inputs for the revision of the program, a schedule of follow up is suggested as follows:-

- First follow up: - Six months after the completion of the training program.
- Second follow up: - Six months after the completion of the first follow up.

- Follow up cycle: - In a cycle of one year after the completion of second follow up for five years

### **Certificate requirement**

The related training institute will provide the certificate of “Slaughter House Technician (SHT)” to those individuals who successfully complete all the tasks with their related technical knowledge specified in this curriculum.

### **Student evaluation details**

- Continuous evaluation of the trainees’ performance is to be done by the related instructor/trainer to ensure the proficiency over each competency.
- Related technical knowledge learnt by the trainees will be evaluated through written or oral tests as per the nature of the content
- Trainees must secure minimum marks of 60% in an average of both theory and practical evaluations

### **Trainers’ qualification**

- Intermediate in the related field with training in slaughter house operations
- Good communicative & instructional skills.
- Experience in the related field.

### **Trainer: trainee’s ratio**

- 1:10 for practical classes
- Depends on the nature of subject matter and class room situation for theory classes.

### **Suggestion for instruction**

#### **1. Demonstrate task performance**

- Demonstrate task performance in normal speed
- Demonstrate slowly with verbal description of each and every steps in the sequence of activity flow of the task performance using question and answer techniques
- Repeat the above step for the clarification on trainees demand if necessary.
- Perform fast demonstration of the task performance.

#### **2. Provide trainees the opportunity to practice the task performance demonstrated**

- Provide trainees to have guided practice:- create environment for practicing the demonstrated task performance and guide the trainees in each and every step of task performance
- Provide trainees the opportunity to repeat & re-repeat as per the need to be proficient on the given task performance
- Switch to another task demonstration if and only if the trainees developed proficiency in the given task performance

#### **3. Evaluation performance of the trainees/ student**

- Perform task analysis
- Develop a detail task performance check list
- Perform continuous performance evaluation of the trainees / students by applying the performance check list.

## **List of modules and sub duties**

### **Module: 1: Meat science**

### **Module: 2: An abattoir**

Sub module: 1: Basic requirements of an abattoir

Sub module: 2: Basic operations of abattoir

Sub module: 3: Modern abattoir

### **Module: 3: Anti mortem inspection and care**

### **Module: 4: Slaughter**

Sub module: 1: Methods of stunning and slaughter

Sub module: 2: Slaughtering

### **Module: 5: Dressing operations, methods and percentage**

### **Module: 6: Post mortem inspection**

### **Module: 7: Slaughter house management & meat marketing**

Sub module: 1: Slaughterhouse management

Sub module: 2: Professional dresses

Sub module: 3: Marking / stamping of meat

Sub module: 4: Disinfectation , sterilization and waste disposal

Sub module: 5: Application forms and permission letters

Sub module: 6: Recordings

Sub module: 7: Meat shop and marketing

### **Module: 8: Common module**

Sub module: 1: Applied math

Sub module: 2: Occupational health and safety

Sub module: 3: First aid

Sub module: 4: HIV/AIDS

Sub module: 5: Communication

Sub module: 6: Small enterprise development

### Details of modules and sub modules

<b>Module: 1: Meat science</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to meat science necessary for a slaughterhouse technician.					
<b>Objectives:</b>					
<ul style="list-style-type: none"> <li>• To state concept of meat</li> <li>• To state basic requirements of an abattoir</li> <li>• To state elements of hygiene meat production</li> <li>• To state methods of Identification of meat</li> <li>• To state characteristics of good meat</li> <li>• To be familiar with the methods of preservation of meat</li> <li>• To be familiar with the meat borne diseases</li> <li>• To read/interpret related act, rules and regulations, and directive/guidelines of the government of Nepal</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>32</u> hours of theory and <u>18</u> hours of practical equals <u>50</u> hours in total					Time (hrs.)
SN	Tasks/skills related to	Related technical knowledge	Th.	Pr.	Tot.
1.	Be familiar with the concept of meat	<u>Meat:</u> <ul style="list-style-type: none"> <li>• Definition: Flesh of mammals and birds, edible offals (such as liver, heart and tongue which are not the parts of musculo-skeletal system)</li> <li>• Meat as a valuable part of human diet</li> <li>• Composition of meat of different animals and poultry</li> <li>• Meat vs flesh</li> <li>• Rigor mortis – importance and implication in production of wholesome meat</li> <li>• Importance of meat production in Nepal-its potentiality and position</li> </ul>	2	1	3
2.	Be familiar with the basic requirements of an abattoir	<u>Basic requirements of an abattoir:</u> <ul style="list-style-type: none"> <li>• Definition of abattoir</li> <li>• Basic requirements of an abattoir – Location, Lay out plan-facilities and units (e.g. reception area or resting ground, lairage, slaughter halls, cooling and chilling</li> </ul>	2	1	3

		rooms, ancillary accommodation)			
3.	Be familiar with the elements of hygiene meat production	<u>Elements of hygiene meat production:</u> <ul style="list-style-type: none"> <li>• Ante mortem inspection</li> <li>• Importance of ante mortem examination</li> <li>• Ante mortem care</li> <li>• Method of stunning</li> <li>• Methods of slaughter</li> <li>• Emergency slaughter</li> <li>• Dressing operation and methods of dressing</li> <li>• Post mortem evaluation</li> <li>• Routine post-mortem chemical tests for judging carcass quality</li> <li>• How to produce hygienic meat</li> </ul>	10	6	16
4.	Be familiar with the methods of Identification of meat	<u>Identification of meat:</u> <ul style="list-style-type: none"> <li>• Concept of identification of meat</li> <li>• Concept of methods of detecting species meat-physical, chemical, biological, electrophoretic and isometric focusing methods</li> </ul>	2	2	4
5.	Be familiar with the characteristics of good meat	<u>Characteristics of good meat:</u> <ul style="list-style-type: none"> <li>• Name of the meat of different animals and poultry</li> <li>• characteristics of good meat of different animals and poultry</li> </ul>	1	1	2
6.	Be familiar with the methods of preservation of meat	<u>Preservation of meat:</u> <ul style="list-style-type: none"> <li>• Drying</li> <li>• Curing</li> <li>• Smoking</li> <li>• Storage of meat</li> <li>• Canning</li> </ul>	4	2	6
7.	Be familiar with the common meat borne diseases	<u>Meat borne diseases:</u> <ul style="list-style-type: none"> <li>• Concept</li> <li>• Classification of meat borne diseases</li> <li>• Common meat borne diseases/zoonoses, their signs</li> </ul>	10	4	14

		/symptoms and control			
8.	Read/interpret /follow related act, rules and regulations, and directive/guidelines of the government of Nepal	<u>Related act, rules and regulations, and directive/guidelines of the government of Nepal:</u> <ul style="list-style-type: none"> <li>• Related Act</li> <li>• Related rules and regulations</li> <li>• Related standards</li> <li>• Related directives and guidelines</li> </ul>	1	1	2
			32	18	50
		Sub-total:			
<b>Module: 2: An abattoir</b>					
<b>Description:</b>					
<b>Objectives:</b> To fulfill basic requirements of an abattoir To perform basic operations of abattoir/slaughterhouse					
<b>Sub modules:</b> Basic requirements of an abattoir Basic operations of abattoir Modern abattoir					
<b>Sub module: 1: Basic requirements of an abattoir</b>					
<b>Description:</b>					
<b>Objectives:</b> To fulfill basic requirements of an abattoir					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time: 2</b> hours of theory and <b>4</b> hours of practical equals <b>6</b> hours in total				Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Select location for an abattoir	<u>Selecting location for an abattoir:</u> <ul style="list-style-type: none"> <li>• Identification of an abattoir</li> <li>• Concept, need and importance of an abattoir/selecting location for an abattoir</li> <li>• Criteria for selecting location for an abattoir</li> <li>• Procedures for selecting location for an abattoir</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.3	0.6	0.9
2.	Make layout plan for reception area / resting ground	<u>Layout plan for reception area / resting ground:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of</li> </ul>	0.4	0.6	1.0

		<p>layout plan/ layout plan for reception area / resting ground</p> <ul style="list-style-type: none"> <li>• Identification of reception area / resting ground</li> <li>• Interpretation of the layout plan for reception area / resting ground</li> <li>• Procedures for making layout plan for reception area / resting ground</li> <li>• Free hand drawing of the layout of reception area / resting ground</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
3.	Make layout plan for lairage	<p><u>Layout plan for lairage:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of layout plan for lairage</li> <li>• Identification of lairage</li> <li>• Interpretation of the layout plan for lairage</li> <li>• Procedures for making layout plan for lairage</li> <li>• Free hand drawing of the layout of lairage</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	0.7	1.1
4.	Make layout plan for slaughter halls	<p><u>Layout plan for slaughter halls:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of layout plan for slaughter halls</li> <li>• Identification of slaughter hall</li> <li>• Interpretation of the layout plan for slaughter halls</li> <li>• Procedures for making layout plan for slaughter halls</li> <li>• Free hand drawing of the layout of slaughter halls</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.3	0.7	1.0
5.	Make layout plan for cooling and chilling rooms	<p><u>Layout plan for cooling and chilling rooms:</u></p>	0.3	0.7	1.0

		<ul style="list-style-type: none"> <li>• Concept, need and importance of layout plan for cooling and chilling rooms</li> <li>• Identification of cooling and chilling rooms</li> <li>• Interpretation of the layout plan for cooling and chilling rooms</li> <li>• Procedures for making layout plan for cooling and chilling rooms</li> <li>• Free hand drawing of the layout of cooling and chilling rooms</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
6.	Make layout plan for ancillary accommodation	<u>Layout plan for ancillary accommodation:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of layout plan for ancillary accommodation</li> <li>• Listing of ancillary accommodations</li> <li>• Identification of ancillary accommodations</li> <li>• Interpretation of the layout plan for ancillary accommodation</li> <li>• Procedures for making layout plan for ancillary accommodation</li> <li>• Free hand drawing of the layout of ancillary accommodation</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.3	0.7	1.0
		Sub-total:	2	4	6
<b>Sub module: 2: Basic operations of abattoir</b>					
<b>Description:</b>					
<b>Objectives:</b> To perform basic operations of abattoir/slaughterhouse					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>6</u> hours of theory and <u>24</u> hours of practical equals <u>30</u> hours in total				Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Get entry of livestock	<u>Entry of livestock:</u> <ul style="list-style-type: none"> <li>• Concept of livestock/ getting entry</li> </ul>	0.4	1.6	2

		<p>of livestock</p> <ul style="list-style-type: none"> <li>• Procedures for getting entry of livestock</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
2.	Get first veterinarian inspection	<p><u>First veterinarian inspection:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of first veterinarian inspection</li> <li>• Procedures for first veterinarian inspection</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
3.	Reject/accept the animals	<p><u>Rejecting/accepting the animals:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of rejecting/accepting the animals</li> <li>• Criteria for rejecting/accepting the animals</li> <li>• Procedures for rejecting/accepting the animals</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
4.	Keep animals in resting pen	<p><u>Keeping animals in resting pen:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of resting pen and keeping animals in resting pen</li> <li>• Identification of resting pen</li> <li>• Arrangement of resting pen</li> <li>• Procedures for keeping animals in resting pen</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
5.	Slaughter animals	<p><u>Slaughtering animals:</u></p> <ul style="list-style-type: none"> <li>• Concept of slaughter animals /slaughtering/ slaughtering of animals</li> <li>• Procedures for slaughtering of animals</li> </ul>	0.4	1.6	2

		<ul style="list-style-type: none"> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
6.	Perform bleeding	<u>Bleeding:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of bleeding</li> <li>• Procedures for bleeding</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
7.	Perform skinning/dehairing	<u>Skinning/dehairing:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of Skinning and dehairing</li> <li>• Procedures for Skinning</li> <li>• Procedures for dehairing</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
8.	Dress carcass	<u>Dressing carcass:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of dressing carcass</li> <li>• Methods of dressing carcass</li> <li>• Procedures for dressing carcass</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
9.	Perform meat inspection	<u>Meat inspection:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of meat/ inspection /meat inspection</li> <li>• Procedures for meat inspection</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
10.	Perform carcass washing	<u>Carcass washing:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of carcass washing</li> <li>• Procedures for carcass washing</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
11.	Perform stomach/intestine cleaning	<u>Stomach/intestine cleaning:</u>	0.4	1.6	2

		<ul style="list-style-type: none"> <li>• Concept, need and importance of stomach/intestine cleaning</li> <li>• Procedures for stomach/intestine cleaning</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
12.	Perform red offal collection/ cleaning	<u>Red offal collection/ cleaning:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of red offal, red offal collection and red offal cleaning</li> <li>• Procedures for red offal collection</li> <li>• Procedures for red offal cleaning</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
13.	Perform edible fat cleaning	<u>Edible fat cleaning:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of edible fat/ edible fat cleaning</li> <li>• Edible fat cleaning procedures</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
14.	Perform head collection/ cleaning	<u>Head collection/ cleaning:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of head collection/ cleaning</li> <li>• Procedures for head collection/ cleaning</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
15.	Dispose wastes	<u>Waste disposal:</u> <ul style="list-style-type: none"> <li>• Concept of waste / waste disposal</li> <li>• Need and importance of waste disposal</li> <li>• Waste disposal systems</li> <li>• Procedures for waste disposal</li> <li>• Related safety/precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.4	1.6	2
		Sub-total:	6	24	30

<b>Sub module: 3: Modern abattoir</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to abattoir and its components necessary for a slaughterhouse technician.					
<b>Objectives:</b>					
<ul style="list-style-type: none"> <li>• To identify components of a modern abattoir</li> <li>• To be familiar with/manage components of a modern abattoir</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>2</u> hours of theory and <u>8</u> hours of practical equals <u>10</u> hours in total					Time (hrs.)
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Meet major criteria for scientific design of a slaughterhouse: 1. Practice meat hygiene regulations  2. Prevent cruelty to animals  3. Apply human method of slaughter  4. Perform clean and unclean operations separately  5. Perform different operations conveniently/easily 6. Apply “economy of operations” technique	<u>Major criteria for scientific design of a slaughterhouse:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of hygiene regulations (sanitation, anti-mortem inspection, post-mortem inspection etc.)</li> <li>• Concept and need for preventing cruelty to animals</li> <li>• Concept, need and importance of human method of slaughter</li> <li>• Concept of clean and unclean operations and performing clean and unclean operations separately</li> <li>• How to perform different operations conveniently/easily</li> <li>• Concept, need and application of “economy of operations” technique</li> <li>• Precautions and records keeping</li> </ul>	0.4	1.6	2
2.	Perform layout of a modern slaughterhouse: 1. Identify components of a slaughterhouse 2. Perform layout of livestock receiving and market area with shelter 3. Perform layout of isolation block for sick animals 4. Perform layout of lairage	<u>Layout of a modern slaughterhouse:</u> <ul style="list-style-type: none"> <li>• Components of a slaughterhouse and their functions</li> <li>• Layout of livestock receiving and market area with shelter and its interpretation</li> <li>• Layout of isolation block for sick animals and its interpretation</li> <li>• Layout of lairage and its interpretation</li> <li>• Layout of slaughter hall and its</li> </ul>	0.4	1.6	2

	<p>5. Perform layout of slaughter hall</p> <p>6. Perform layout of chilling facilities</p> <p>7. Perform layout of dispatch</p> <p>8. Perform layout of welfare facilities</p> <p>9. Perform layout of service facilities</p> <p>10. Perform layout of by products plant</p> <p>11. Perform layout of effluent plant</p>	<p>interpretation</p> <ul style="list-style-type: none"> <li>• Layout of chilling facilities and its interpretation</li> <li>• Layout of dispatch and its interpretation</li> <li>• Layout of welfare facilities and its interpretation</li> <li>• Layout of service facilities and its interpretation</li> <li>• Layout of by products plant and its interpretation</li> <li>• Layout of effluent plant and its interpretation</li> <li>• Precautions and records keeping</li> </ul>			
3.	<p>Establish a slaughterhouse:</p> <ol style="list-style-type: none"> <li>1. Interpret the layout of the slaughterhouse</li> <li>2. Select location for an abattoir</li> <li>3. Meet legal requirements</li> <li>4. Plan for resources</li> <li>5. Obtain resources</li> <li>6. Manage to construct the slaughterhouse</li> <li>7. Fix hooding board</li> <li>8. Start up the slaughterhouse activities</li> </ol>	<p><u>Establishing a slaughterhouse:</u></p> <ul style="list-style-type: none"> <li>• Interpretation of the layout of the slaughterhouse</li> <li>• Selection of location for an abattoir</li> <li>• Legal requirements for the establishment of a slaughterhouse</li> <li>• Concept, need and importance of resources /resource plan/ resource planning procedure</li> <li>• How to obtain resources</li> <li>• How to manage to construct the slaughterhouse</li> <li>• Hooding board and its fixation</li> <li>• The slaughterhouse activities</li> <li>• Precautions and records keeping</li> </ul>	0.4	1.6	2
4.	<p>Manage/maintain components of a modern slaughterhouse:</p> <ol style="list-style-type: none"> <li>1. Manage/maintain livestock receiving and market area with shelter</li> <li>2. Manage/maintain isolation block for sick animals</li> <li>3. Manage/maintain lairage</li> <li>4. Manage/maintain slaughter hall</li> </ol>	<p>Components of a modern slaughterhouse:</p> <ul style="list-style-type: none"> <li>• How to manage/maintain livestock receiving and market area with shelter</li> <li>• How to manage /maintain isolation block for sick animals</li> <li>• How to manage /maintain lairage</li> <li>• How to manage /maintain slaughter hall</li> </ul>	0.4	1.6	2

	5. Manage/maintain chilling facilities 6. Manage for dispatch 7. Manage /maintain welfare facilities 8. Manage service facilities 9. Manage /maintain by products plant 10. Manage /maintain effluent plant	<ul style="list-style-type: none"> <li>• How to manage /maintain chilling facilities</li> <li>• How to manage for dispatch</li> <li>• Manage /maintain welfare facilities</li> <li>• How to manage service facilities</li> <li>• How to manage /maintain by products plant</li> <li>• How to manage /maintain effluent plant</li> <li>• Precautions and records keeping</li> </ul>			
5.	Manage/maintain slaughter hall: 1. Manage for stunning 2. Manage for bleeding 3. Manage for dressing line 4. Manage for washing 5. Manage /maintain for hanging rails 6. Manage/maintain skins room 7. Manage/maintain gut and tripery room 8. Manage/maintain Edible offals room 9. Manage/maintain condemned carcass room 10. Manage/maintain Meat inspection room	Manage/maintain slaughter hall: <ul style="list-style-type: none"> <li>• How to manage for stunning</li> <li>• How to manage for bleeding</li> <li>• How to manage for dressing line</li> <li>• How to manage for washing</li> <li>• How to manage /maintain for hanging rails</li> <li>• How to manage /maintain skins room</li> <li>• How to manage /maintain gut and tripery room</li> <li>• How to manage /maintain Edible offals room</li> <li>• How to manage /maintain Condemned carcass room</li> <li>• How to manage /maintain Meat inspection room</li> <li>• Precautions and records keeping</li> </ul>	0.4	1.6	2
		Sub-total:	2	8	10
<b>Module: 3: Ante mortem inspection and care</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to ante mortem inspection and care necessary for a slaughterhouse technician.					
<b>Objectives:</b>					
<ul style="list-style-type: none"> <li>• To perform ante mortem inspection</li> <li>• To perform ante mortem care</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>6</u> hours of theory and <u>26</u> hours of practical equals <u>32</u> hours in total				Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
	<u>Ante mortem inspection</u>	<u>Ante mortem inspection</u>			
1.	House animals for a period of 24	<u>Housing animals for a period of 24</u>	0.3	1.7	2

	hours before slaughter:	<u>hours before slaughter:</u> <ul style="list-style-type: none"> <li>Why to house animals for a period of 24 hours before slaughter :- to facilitate ante mortem inspection and to alleviate transportation stress</li> <li>Precautions and recording keeping</li> </ul>			
2.	Inspect live animals at least 24 hours before slaughter	<u>Inspecting live animals at least 24 hours before slaughter:</u> <ul style="list-style-type: none"> <li>Why to inspect live animals at least 24 hours before slaughter</li> <li>what to inspect live animals at least 24 hours before slaughter</li> <li>How to inspect live animals at least 24 hours before slaughter</li> <li>Precautions and recording keeping</li> </ul>	0.3	1.7	2
3.	Perform inspection in the laire/farm	<u>Inspection in the laire/farm:</u> <ul style="list-style-type: none"> <li>Why to inspect</li> <li>what to inspect</li> <li>How to inspect</li> <li>Precautions and recording keeping</li> </ul>	0.3	1.7	2
4.	Perform primary recordings: <ul style="list-style-type: none"> <li>Record age of the animal</li> <li>Record sex of the animal</li> <li>Record color of the animal</li> <li>Record species of the animal</li> <li>Record breed of the animal</li> <li>Record general appearances of the animal</li> <li>Mark/record sign of identification of the animal</li> </ul>	<u>Perform primary recordings:</u> <ul style="list-style-type: none"> <li>Why and how to record age of the animal</li> <li>Why and how to record sex of the animal</li> <li>Why and how to record color of the animal</li> <li>Why and how to record species of the animal</li> <li>Why and how to record breed of the animal</li> <li>Why and how to record general appearances of the animal</li> <li>Why and how to mark/record sign of identification of the animal</li> </ul>	0.3	1.7	2
5.	Assist to perform second observation of the animal: <ul style="list-style-type: none"> <li>Assist to take/observe/record temperature</li> <li>Assist to take/observe/record</li> </ul>	<u>Second observation of the animal:</u> <ul style="list-style-type: none"> <li>Why and how to take/observe/record temperature</li> <li>Why and how to take/observe/record pulse</li> </ul>	0.4	1.6	2

	<p>pulse</p> <ul style="list-style-type: none"> <li>Assist to take/observe/record respiration</li> </ul>	<ul style="list-style-type: none"> <li>Why and how to take/observe/record respiration</li> </ul>			
6.	<p>Assist to observe abnormal conditions of the animals received :</p> <ul style="list-style-type: none"> <li>Assist to observe manner of walking</li> <li>Assist to observe condition of skin</li> <li>Assist to observe color of the visible mucus membrane</li> <li>Assist to observe pattern of rumination</li> <li>Assist to observe pattern of defecations</li> </ul>	<p><u>Observation of abnormal conditions of the animals received :</u></p> <ul style="list-style-type: none"> <li>Why and how to observe manner of walking</li> <li>Why and how to observe condition of skin</li> <li>Why and how to observe color of the visible mucus membrane</li> <li>Why and how to observe pattern of rumination</li> <li>Why and how to observe pattern of defecations</li> </ul>	0.4	1.6	2
7.	<p>Assist to inspect animals for the detection of the conditions that are very expressive on anti-mortem basis:</p> <ul style="list-style-type: none"> <li>Assist to inspect animals for the detection of the condition of rabies</li> <li>Assist to inspect animals for the detection of the condition of aujeszky's disease</li> <li>Assist to inspect animals for the detection of the condition of ketosis</li> <li>Assist to inspect animals for the detection of the condition of hypocalcaemic tetany</li> <li>Assist to inspect animals for the detection of the condition of clostridial tetany</li> <li>Assist to inspect animals for the detection of the condition of metritis</li> <li>Assist to inspect animals for the detection of the condition of mastitis</li> </ul>	<p><u>Inspection of animals for the detection of the conditions that are very expressive on anti-mortem basis:</u></p> <ul style="list-style-type: none"> <li>Why and how to inspect animals for the detection of the condition of rabies</li> <li>Why and how to inspect animals for the detection of the condition of aujeszky's disease</li> <li>Why and how to inspect animals for the detection of the condition of ketosis</li> <li>Why and how to inspect animals for the detection of the condition of hypocalcaemic tetany</li> <li>Why and how to inspect animals for the detection of the condition of clostridial tetany</li> <li>Why and how to inspect animals for the detection of the condition of metritis</li> <li>Why and how to inspect animals for the detection of the condition of mastitis</li> <li>Why and how to inspect animals for the detection of the condition of</li> </ul>	0.4	1.6	2

	<ul style="list-style-type: none"> <li>Assist to inspect animals for the detection of the condition of tubercular meningitis</li> </ul>	tubercular meningitis			
8.	Assist to categorize the animal into either "Suspects" or "normal" on the basis of ante mortem inspection	<u>Categorizing the animal:</u> <ul style="list-style-type: none"> <li>Why and how to categorize animals into either "Suspects" or "normal" on the basis of ante mortem inspection:</li> <li>Precautions and records to be taken</li> </ul>	0.4	1.6	2
9.	Allow normal animals in the regular line of slaughter	<u>Allowing normal animals in the regular line of slaughter:</u> <ul style="list-style-type: none"> <li>How to allow normal animals in the regular line of slaughter</li> <li>Precautions and records to be taken</li> </ul>	0.4	1.6	2
10.	Restrict to allow animals bearing noted abnormalities in the regular line of slaughter	<u>Restricting to allow animals bearing noted abnormalities in the regular line of slaughter:</u> <ul style="list-style-type: none"> <li>Why to restrict to allow animals bearing noted abnormalities in the regular line of slaughter</li> <li>Precautions and records to be taken</li> </ul>	0.4	1.6	2
11.	Allow animals bearing noted abnormalities for separate slaughter	<u>Allowing animals bearing noted abnormalities for separate slaughter:</u> <ul style="list-style-type: none"> <li>Why to allow animals bearing noted abnormalities for separate slaughter :- for detail post mortem examination</li> <li>Precautions and records to be taken</li> </ul>	0.4	1.6	2
12.	List importance of ante mortem examination:	<u>List importance of ante mortem examination:</u> <ul style="list-style-type: none"> <li>Helps to ensure production of safe and consumable wholesome and hygienic meat as human food</li> <li>Helps to diagnose those diseases which can only be noted on an ante mortem basis</li> <li>Helps to trace back the prevalence of disease to the source of origin so as to enable adoption of suitable control measures at the grass root level</li> <li>Helps to implement legislations or</li> </ul>	0.4	1.6	2

		laws which prevent the slaughter of animals at early ages			
	<u>Ante-mortem care</u>	<u>Ante-mortem care</u>	0	0	0
1.	Define ante-mortem care of slaughter animals/pre slaughter care	<u>Ante-mortem care of slaughter animals/pre slaughter care:</u> <ul style="list-style-type: none"> <li>• Concept and definition of ante-mortem care of slaughter animals/pre slaughter care</li> </ul>	0.4	1.6	2
2.	Be familiar with the need for anti-mortem care	<u>Need for anti-mortem care:</u> Concept of keeping and eating quality of meat <ul style="list-style-type: none"> <li>• Need for anti-mortem care to maintain keeping and eating quality of meat</li> <li>• Precautions and record keeping</li> </ul>	0.4	1.6	2
3.	Keep the animal off fed for 24 hours before slaughter with ad-libidum water	Keep the animal off fed for 24 hours before slaughter with ad-libidum water: <ul style="list-style-type: none"> <li>• Concept of ad-libidum water</li> <li>• Why and how to keep the animal off fed for 24 hours before slaughter with ad-libidum water</li> </ul>	0.4	1.6	2
4.	Monitor the extent of fasting closely with the loss of body weight during fasting	<u>Monitor the extent of fasting closely with the loss of body weight during fasting:</u> <ul style="list-style-type: none"> <li>• Why and how to monitor the extent of fasting closely with the loss of body weight during fasting</li> </ul>	0.4	1.6	2
		Sub-total:	6	26	32
<b>Module: 4: Slaughter</b>					
	<b>Description:</b> It deals with the knowledge, skills and terminologies related to methods/processes of stunning and slaughtering necessary for a slaughterhouse technician.				
	<b>Objectives:</b> <ul style="list-style-type: none"> <li>• To practice methods of stunning</li> <li>• To apply methods of slaughter</li> <li>• To carry out emergency slaughter</li> <li>• To perform slaughtering of animals/poultry</li> </ul>				
	<b>Sub modules:</b> <ol style="list-style-type: none"> <li>1. Methods of stunning and slaughter</li> <li>2. Slaughtering</li> </ol>				
<b>Sub module: 1: Methods of stunning and slaughter</b>					
	<b>Description:</b> It deals with the knowledge, skills and terminologies related to the methods of stunning and slaughter necessary for a slaughterhouse technician.				

	<b>Objectives:</b> <ul style="list-style-type: none"> <li>To practice methods of stunning</li> <li>To apply methods of slaughter</li> <li>To carry out emergency slaughter</li> </ul>				
	<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.				
	<b>Time:</b> <u>2</u> hours of theory and <u>4</u> hours of practical equals <u>6</u> hours in total			Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
	<u>Methods of stunning</u>	<u>Methods of stunning</u>			
1.	Stun animals with captive bolt pistol	<u>Stunning animals with captive bolt pistol:</u> <ul style="list-style-type: none"> <li>Function of captive bolt pistol</li> <li>Identification of captive bolt pistol</li> <li>Handling and care of captive bolt pistol</li> <li>Procedure for stunning animals with captive bolt pistol</li> <li>Safety/precautions and records keeping</li> </ul>	0.2	0.3	0.5
2.	Stun animals with free bullet pistol	<u>Stunning animals with free bullet pistol:</u> <ul style="list-style-type: none"> <li>Function of free bullet pistol</li> <li>Identification of free bullet pistol</li> <li>Handling and care of free bullet pistol</li> <li>Procedure for stunning animals with free bullet pistol</li> <li>Safety/precautions and records keeping</li> </ul>	0.2	0.3	0.5
3.	Be familiar with stunning animals by method of pithing	<u>Stunning animals by method of pithing:</u> <ul style="list-style-type: none"> <li>Concept of pithing</li> <li>Procedure for stunning animals by method of pithing</li> <li>Safety/precautions and records keeping</li> </ul>	0.2	0.3	0.5
4.	Stun animals with carbon dioxide gas-apparatus	<u>Stunning animals with carbon dioxide gas-apparatus:</u> <ul style="list-style-type: none"> <li>Function of carbon dioxide gas-apparatus</li> <li>Identification of carbon dioxide gas-apparatus</li> <li>Handling and care of carbon</li> </ul>	0.2	0.3	0.5

		dioxide gas-apparatus <ul style="list-style-type: none"> <li>• Procedure for stunning animals with carbon dioxide gas-apparatus</li> <li>• Safety/precautions and records keeping</li> </ul>			
5.	Perform electrical stunning of animals	<u>Electrical stunning of animals:</u> <ul style="list-style-type: none"> <li>• Concept of electrical stunning of animals</li> <li>• Procedure for performing electrical stunning of animals</li> <li>• Safety/precautions and records keeping</li> </ul>	0.2	0.4	0.6
6.	Perform stunning of poultry	<u>Stunning of poultry:</u> <ul style="list-style-type: none"> <li>• Procedure for stunning of poultry</li> <li>• Safety/precautions and records keeping</li> </ul>	0.2	0.4	0.6
	<u>Methods of slaughter</u>	<u>Methods of slaughter</u>	0	0	0
1.	Apply Halal method of slaughter	<u>Halal method of slaughter:</u> <ul style="list-style-type: none"> <li>• Concept of Halal method of slaughter</li> <li>• Procedures for Halal method of slaughter</li> <li>• Safety/precautions and records keeping</li> </ul>	0.2	0.4	0.6
2.	Apply Jhatka method of slaughter	<u>Jhatka method of slaughter:</u> <ul style="list-style-type: none"> <li>• Concept of Jhatka method of slaughter</li> <li>• Procedures for Jhatka method of slaughter</li> <li>• Safety/precautions and records keeping</li> </ul>	0.1	0.4	0.5
	<u>Emergency slaughter</u>	<u>Emergency slaughter</u>	0	0	0
1.	Define emergency slaughter	<u>Emergency slaughter:</u> <ul style="list-style-type: none"> <li>• Concept of emergency slaughter</li> </ul>	0.2	0.4	0.6
2.	Identify conditions under which emergency slaughter are made	<u>Conditions under which emergency slaughter are made:</u> <ul style="list-style-type: none"> <li>• Conditions for emergency slaughter</li> </ul>	0.2	0.4	0.6
3.	Carry out emergency slaughter	<u>Carrying out emergency slaughter:</u> <ul style="list-style-type: none"> <li>• Preparation for emergency slaughter</li> </ul>	0.1	0.4	0.5

		<ul style="list-style-type: none"> <li>• Procedures for emergency slaughter</li> <li>• Safety/precautions and records keeping</li> </ul>			
		Sub-total:	2	4	6
<b>Sub module: 2: Slaughtering</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to animal/poultry slaughtering necessary for a slaughterhouse technician.					
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• To perform slaughtering of animals</li> <li>• To perform slaughtering of poultry</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>14</u> hours of theory and <u>64</u> hours of practical equals <u>78</u> hours in total				Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Enlist/define/be familiar with the terminologies related to the slaughtering of buffalo	Terminologies related to the slaughtering of buffalo: <ul style="list-style-type: none"> <li>• Slaughtering</li> <li>• Delivery</li> <li>• Pre slaughter handling</li> <li>• Stunning</li> <li>• Bleeding &amp; hollow knife systems</li> <li>• Transfer</li> <li>• Pre de-hiding, udder removal</li> <li>• De-hiding</li> <li>• Head removal &amp; washing</li> <li>• Evisceration: <ul style="list-style-type: none"> <li>▪ Adding value</li> <li>▪ White organs</li> <li>▪ Red organs</li> <li>▪ Splitting</li> <li>▪ Red &amp; white offals inspection</li> <li>▪ Trimming</li> <li>▪ Weighing &amp; grading</li> </ul> </li> <li>• Chilling &amp; cooling: <ul style="list-style-type: none"> <li>▪ Chilling</li> <li>▪ Cooling or equalization</li> </ul> </li> <li>• Dispatch</li> </ul>	1.4	6.4	7.8
2.	Enlist/define/be familiar with the terminologies related to the slaughtering of poultry	Terminologies related to the slaughtering of poultry: <ul style="list-style-type: none"> <li>• Slaughtering</li> </ul>	1.4	6.4	7.8

		<ul style="list-style-type: none"> <li>• Unloading</li> <li>• Stunning</li> <li>• Bleeding</li> <li>• Scalding</li> <li>• Plucking</li> <li>• Neck slitting &amp; foot removal</li> <li>• Evisceration line: <ul style="list-style-type: none"> <li>▪ Head removal</li> <li>▪ Venting</li> <li>▪ Drawing</li> <li>▪ Removal of offals</li> <li>▪ Neck removal</li> <li>▪ Line washing</li> <li>▪ Polyphosphate injection</li> </ul> </li> <li>• Washing</li> <li>• Chilling</li> <li>• Draining</li> <li>• Freezing</li> </ul>			
3.	Enlist/define/be familiar with the terminologies related to the slaughtering of sheep/goat	Terminologies related to the slaughtering of sheep/goat: <ul style="list-style-type: none"> <li>• Slaughtering</li> <li>• Pre slaughter handling</li> <li>• Stunning</li> <li>• Bleeding &amp; hollow knife systems</li> <li>• Transfer</li> <li>• Pre de-hiding &amp; de-hairing</li> <li>• Evisceration: <ul style="list-style-type: none"> <li>▪ Adding value</li> <li>▪ White organs</li> <li>▪ Red organs</li> <li>▪ Veterinary inspection</li> <li>▪ Weighing &amp; grading</li> </ul> </li> <li>• Chilling &amp; cooling: <ul style="list-style-type: none"> <li>▪ Chilling</li> <li>▪ Cooling or equalization</li> </ul> </li> <li>• Dispatch</li> </ul>	1.4	6.4	7.8
4.	Enlist/define/be familiar with the terminologies related to the slaughtering of pig	Terminologies related to the slaughtering of pig: <ul style="list-style-type: none"> <li>• Slaughtering</li> <li>• Receiving</li> <li>• Stunning</li> </ul>	1.4	6.4	7.8

		<ul style="list-style-type: none"> <li>• Sticking &amp; bleeding</li> <li>• Scalding &amp; de-hairing</li> <li>• Evisceration</li> <li>• Splitting</li> <li>• Washing</li> <li>• Cooling</li> <li>• Cutting</li> </ul>			
5.	<p>Perform animal receiving and marketing:</p> <ul style="list-style-type: none"> <li>• Receive animals brought to slaughter house</li> <li>• Provide shelter to the animals brought to slaughter house</li> <li>• Provide feed to the animals brought to slaughter house</li> <li>• Provide water to the animals brought to slaughter house</li> <li>• Facilitate marketing of animals brought to slaughter house</li> </ul>	<p><u>Animal receiving and marketing:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and procedure for receiving animals brought to slaughter house</li> <li>• Concept, need and procedure for providing shelter to the animals brought to slaughter house</li> <li>• Concept, need and procedure for providing feed to the animals brought to slaughter house</li> <li>• Concept, need and procedure for providing water to the animals brought to slaughter house</li> <li>• Concept, need and procedure for facilitating marketing of animals brought to slaughter house</li> </ul>	1.4	6.4	7.8
6.	<p>Manage lairage and its activities:</p> <ul style="list-style-type: none"> <li>• Arrange lairage 10 meters away from slaughter hall</li> <li>• Maintain space requirement of 2.3 m<sup>2</sup> for buffaloes</li> <li>• Maintain space requirement of 0.56 m<sup>2</sup> for sheep/goats/pigs</li> <li>• Provide rest for 10 to 12 hours before slaughter</li> <li>• Provide water</li> <li>• Perform ante-mortem inspection</li> </ul>	<p><u>Lairage and its activities:</u></p> <ul style="list-style-type: none"> <li>• Need to arrange lairage 10 meters away from slaughter hall</li> <li>• Space requirement for buffaloes is 2.3 m<sup>2</sup> for</li> <li>• Space requirement for sheep/goats/pigs is 0.56 m<sup>2</sup></li> <li>• Why to provide rest for 10 to 12 hours before slaughter</li> <li>• Why to provide water</li> <li>• Concept, need and procedure for ante-mortem inspection</li> </ul>	1.4	6.4	7.8
7.	<p>Perform stunning:</p> <ul style="list-style-type: none"> <li>• Render animals insensible</li> <li>• Apply captive bolt stunners for buffaloes</li> </ul>	<p><u>Stunning:</u></p> <ul style="list-style-type: none"> <li>• Needs to render animals insensible for carrying out humane-method of slaughter</li> <li>• Identification, handling, care and applying captive bolt stunners for</li> </ul>	1.4	6.4	7.8

	<ul style="list-style-type: none"> <li>Apply electrical stunners for sheep</li> <li>Apply electrical stunners for goats</li> <li>Apply electrical/gas stunners for pigs</li> <li>Apply electrical/gas stunners for poultry</li> </ul>	<p>buffaloes safely</p> <ul style="list-style-type: none"> <li>Identification, handling, care and applying electrical stunners for sheep safely</li> <li>Identification, handling, care and applying electrical stunners for goats safely</li> <li>Identification, handling, care and applying electrical/gas stunners for pigs safely</li> <li>Identification, handling, care and applying electrical/gas stunners for poultry safely</li> </ul>			
8.	<p>Perform bleeding:</p> <ul style="list-style-type: none"> <li>Bleed animals as soon as possible after stunning</li> <li>Use bleeding rail</li> <li>Minimize possibility of blood splash</li> <li>Apply halal method</li> <li>Apply Jhatka method</li> <li>Bleed buffaloes</li> <li>Bleed sheep</li> <li>Bleed goats</li> <li>Bleed pigs</li> <li>Bleed poultry</li> <li>Maintain bleeding time of 6 minutes for cattle/ buffaloes</li> <li>Maintain bleeding time of 5-6 minutes for sheep/goats</li> <li>Maintain bleeding time of 6 minutes for pigs</li> <li>Maintain bleeding time of 1-2 minutes for poultry</li> <li>Follow the rule of “No animal shall be slaughtered in view of other livestock”</li> </ul>	<p><u>Bleeding:</u></p> <ul style="list-style-type: none"> <li>Need to bleed animals as soon as possible after stunning</li> <li>Use of bleeding rail</li> <li>How and why to minimize possibility of blood splash</li> <li>Procedural steps of halal method</li> <li>Procedural steps of Jhatka method</li> <li>How to bleed buffaloes</li> <li>How to bleed sheep</li> <li>How to bleed goats</li> <li>How to bleed pigs</li> <li>How to bleed poultry</li> <li>Why to maintain bleeding time of 6 minutes for cattle/ buffaloes</li> <li>Why to maintain bleeding time of 5-6 minutes for sheep/goats</li> <li>Why to maintain bleeding time of 6 minutes for pigs</li> <li>Why to maintain bleeding time of 1-2 minutes for poultry</li> <li>Concept of the rule of “No animal shall be slaughtered in view of other livestock”</li> </ul>	1.4	6.4	7.8
9.	<p>Perform scalding:</p> <ul style="list-style-type: none"> <li>Carry out procedural steps of scalding</li> </ul>	<p>Perform scalding:</p> <ul style="list-style-type: none"> <li>Procedural steps of scalding</li> <li>Concept and procedure for carrying</li> </ul>	1.4	6.4	7.8

	<ul style="list-style-type: none"> <li>Carry out dehairing through manual means</li> <li>Carry out dehairing through mechanical means</li> <li>Scald/dehair buffaloes</li> <li>Scald/dehair sheep</li> <li>Scald/dehair goats</li> <li>Scald/dehair pigs</li> <li>Scald/dehair poultry</li> </ul>	<ul style="list-style-type: none"> <li>out dehairing through manual means</li> <li>Concept and procedure for carrying out dehairing through mechanical means</li> <li>Concept and procedure for scalding and dehairing in buffaloes</li> <li>Concept and procedure for scalding and dehairing in sheep</li> <li>Concept and procedure for scalding and dehairing in goats</li> <li>Concept and procedure for scalding and dehairing in pigs</li> <li>Concept and procedure for scalding and dehairing in poultry</li> </ul>			
10.	Perform evisceration : <ul style="list-style-type: none"> <li>Eviscerate buffaloes</li> <li>Eviscerate sheep</li> <li>Eviscerate goat</li> <li>Eviscerate pig</li> <li>Eviscerate poultry</li> </ul>	Perform evisceration : <ul style="list-style-type: none"> <li>Concept and procedure for eviscerating in buffaloes</li> <li>Concept and procedure for eviscerating in sheep</li> <li>Concept and procedure for eviscerating in goat</li> <li>Concept and procedure for eviscerating in pig</li> <li>Concept and procedure for eviscerating in poultry</li> </ul>	1.4	6.4	7.8
		Sub-total:	14	64	78
<b>Module: 5: Dressing operations, methods and percentage</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to dressing operations, dressing methods and dressing percentage/meat yield necessary for a slaughterhouse technician.					
<b>Objectives:</b> <ul style="list-style-type: none"> <li>To perform dressing operations</li> <li>To apply methods of dressing</li> <li>To calculate dressing percentage and meat yield</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>4</u> hours of theory and <u>16</u> hours of practical equals <u>20</u> hours in total				Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
	<i>Dressing operations</i>	<i>Dressing operations</i>			
1.	Define dressing operations	<u>Concept of dressing operations:</u> <ul style="list-style-type: none"> <li>Definition of dressing operations</li> </ul>	0.3	1.2	1.5

		<ul style="list-style-type: none"> <li>• Need and importance</li> </ul>			
2.	Carry out dressing operation in buffalo	<u>Dressing operation in buffalo:</u> <ul style="list-style-type: none"> <li>• Preparation for dressing operations in buffalo</li> <li>• Procedures for dressing operations in buffalo</li> <li>• Related safety/precautions</li> <li>• Related records keeping</li> </ul>	0.3	1.2	1.5
3.	Carry out dressing operation in sheep	<u>Dressing operation in sheep:</u> <ul style="list-style-type: none"> <li>• Preparation for dressing operations in sheep</li> <li>• Procedures for dressing operations in sheep</li> <li>• Related safety/precautions</li> <li>• Related records keeping</li> </ul>	0.3	1.2	1.5
4.	Carry out dressing operation in goat	<u>Dressing operation in goat:</u> <ul style="list-style-type: none"> <li>• Preparation for dressing operations in goat</li> <li>• Procedures for dressing operation in goat</li> <li>• Related safety/precautions</li> <li>• Related records keeping</li> </ul>	0.3	1.2	1.5
5.	Carry out dressing operation in pig	<u>Dressing operation in pig:</u> <ul style="list-style-type: none"> <li>• Preparation for dressing operations in pig</li> <li>• Procedures for dressing operations in pig</li> <li>• Related safety/precautions</li> <li>• Related records keeping</li> </ul>	0.3	1.2	1.5
6.	Carry out dressing operation in poultry(Chicken/Duck)	<u>Dressing operation in poultry(Chicken/Duck):</u> <ul style="list-style-type: none"> <li>• Preparation for dressing operations in poultry(Chicken/Duck)</li> <li>• Procedures for dressing operation in poultry(Chicken/Duck)</li> <li>• Related safety/precautions</li> <li>• Related records keeping</li> </ul>	0.3	1.2	1.5
	<u>Dressing methods</u>	<u>Dressing methods</u>	0	0	0
1.	Enlist methods/ systems of dressing	<u>Methods/ systems of dressing:</u> <ul style="list-style-type: none"> <li>• Concept of methods/ systems of dressing</li> </ul>	0.2	0.8	1.0

		<ul style="list-style-type: none"> <li>List of methods/ systems of dressing</li> <li>Related records keeping</li> </ul>			
2.	Apply gravity rail system of dressing	<u>Gravity rail system of dressing:</u> <ul style="list-style-type: none"> <li>Concept and application of gravity rail system of dressing</li> <li>Preparation for gravity rail system of dressing</li> <li>Procedures for gravity rail system of dressing</li> <li>Related safety/precautions</li> <li>Related records keeping</li> </ul>	0.2	0.8	1.0
3.	Apply intermittent powered system of dressing	<u>Intermittent powered system of dressing:</u> <ul style="list-style-type: none"> <li>Concept and application of intermittent powered system of dressing</li> <li>Preparation for intermittent powered system of dressing</li> <li>Procedures for intermittent powered system of dressing</li> <li>Related safety/precautions</li> <li>Related records keeping</li> </ul>	0.2	0.8	1.0
4.	Apply Canpak system of dressing	<u>Canpak system of dressing:</u> <ul style="list-style-type: none"> <li>Concept and application of Canpak system of dressing</li> <li>Preparation for Canpak system of dressing</li> <li>Procedures for Canpak system of dressing</li> <li>Related safety/precautions</li> <li>Related records keeping</li> </ul>	0.2	0.8	1.0
	<u>Dressing percentage and meat yield</u>	<u>Dressing percentage and meat yield</u>	0	0	0
1.	Identify factors affecting dressing percentage	<u>Factors affecting dressing percentage:</u> <ul style="list-style-type: none"> <li>Stage of maturity</li> <li>Degree of finish</li> <li>Breed</li> <li>Intestinal content</li> </ul>	0.2	0.8	1.0
2.	Take live weight of slaughter animals	<u>Live weight of slaughter animals:</u> <ul style="list-style-type: none"> <li>Concept and application of live</li> </ul>	0.2	0.8	1.0

		<p>weight/ taking live weight of slaughter animals</p> <ul style="list-style-type: none"> <li>• Procedure for taking live weight of slaughter animals</li> <li>• Related safety/precautions</li> <li>• Related records keeping</li> </ul>			
3.	Take carcass weight	<p><u>Carcass weight:</u></p> <ul style="list-style-type: none"> <li>• Concept and application of carcass / carcass weight</li> <li>• Procedure for taking carcass weight</li> <li>• Related safety/precautions</li> <li>• Related records keeping</li> </ul>	0.2	0.8	1.0
4.	Compare carcass yield in relation to live weight	<p><u>Comparing carcass yield in relation to live weight:</u></p> <ul style="list-style-type: none"> <li>• Comparison of carcass yield in relation to live weight</li> <li>• Related precautions</li> <li>• Related records keeping</li> </ul>	0.2	0.8	1.0
5.	Apply formula of "Carcass weight x 100/live weight"	<p><u>Formula:</u></p> <ul style="list-style-type: none"> <li>• Formula - Carcass weight x 100/live weight</li> <li>• Applying the formula</li> <li>• Related precautions</li> <li>• Related records keeping</li> </ul>	0.2	0.8	1.0
6.	Calculate dressing percentage	<p><u>Dressing percentage :</u></p> <ul style="list-style-type: none"> <li>• Concept and application of dressing percentage</li> <li>• Calculation of dressing percentage</li> <li>• Precautions</li> <li>• Record keeping</li> </ul>	0.2	0.8	1.0
7.	Calculate meat yield	<p><u>Meat yield:</u></p> <ul style="list-style-type: none"> <li>• Concept and application of meat yield</li> <li>• Calculation of meat yield</li> <li>• Precautions</li> <li>• Record keeping</li> </ul>	0.2	0.8	1.0
		Sub-total:	4	16	20
<b>Module: 6: Post mortem inspection</b>					
	<b>Description:</b> It deals with the knowledge, skills and terminologies related to post mortem inspection necessary for a slaughterhouse technician.				
	<b>Objectives:</b>				

	<ul style="list-style-type: none"> <li>• To define post mortem evaluation</li> <li>• To perform post mortem evaluation</li> </ul>				
	<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.				
	<b>Time:</b> <u>8</u> hours of theory and <u>40</u> hours of practical equals <u>48</u> hours in total				Time (hrs.)
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Assist to perform post mortem evaluation of- <ul style="list-style-type: none"> <li>• Head</li> <li>• Abdominal cavity</li> <li>• Thoracic cavity</li> <li>• Heart</li> <li>• Udder</li> <li>• Genital organs</li> <li>• Lymph nodes</li> </ul>	<u>Post mortem evaluation of-</u> <ul style="list-style-type: none"> <li>• Head - concept, what to, how to, precautions/safety and recordings</li> <li>• Abdominal cavity- concept, what to, how to, precautions/safety and recordings</li> <li>• Thoracic cavity- concept, what to, how to, precautions/safety and recordings</li> <li>• Heart- concept, what to, how to, precautions/safety and recordings</li> <li>• Udder- concept, what to, how to, precautions/safety and recordings</li> <li>• Genital organs- concept, what to, how to, precautions/safety and recordings</li> <li>• Lymph nodes- concept, what to, how to, precautions/safety and recordings</li> </ul>	4	20	24
2.	Assist to identify points to be observed at post mortem	<u>Points to be observed at post mortem:</u> <ul style="list-style-type: none"> <li>• Concept and need to identify points to be observed at post mortem</li> <li>• Points to be observed at post mortem</li> <li>• Precautions and recording</li> </ul>	0.5	2.5	3
3.	Assist to perform routine post-mortem chemical tests for judging carcass quality: <ul style="list-style-type: none"> <li>• Quality test(Resazurian test)</li> <li>• Icterus test(NaOH test)</li> <li>• Odor test(Boiling test)</li> </ul>	<u>Routine post-mortem chemical tests for judging carcass quality:</u> <ul style="list-style-type: none"> <li>• Procedures for quality test(Resazurian test)</li> <li>• Procedures for Icterus test(NaOH test)</li> <li>• Procedures for odor test(Boiling test)</li> </ul>	3.5	17.5	21

	<ul style="list-style-type: none"> <li>Odor test(Frying test)</li> <li>pH determination(Nitrate yellow test)</li> <li>Bleeding efficiency(Malachite green test)</li> <li>Microbial load assessment(Bacteriological culture)</li> </ul>	<ul style="list-style-type: none"> <li>Procedures for odor test(Frying test)</li> <li>Procedures for pH determination(Nitrate yellow test)</li> <li>Procedures for bleeding efficiency(Malachite green test)</li> <li>Procedures for microbial load assessment(Bacteriological culture)</li> </ul>					
			Sub-total:	8	40	48	
<b>Module: 7: Slaughter house management &amp; meat marketing</b>							
<b>Description:</b> It deals with the knowledge, skills and terminologies related to slaughter house management & meat marketing necessary for a slaughterhouse technician.							
<b>Objectives:</b> <ul style="list-style-type: none"> <li>To assist to manage slaughterhouse</li> <li>To manage to wear professional dresses</li> <li>To perform marking/ stamping of meat</li> <li>To perform disinfection /sterilization / waste disposal</li> <li>To fill/get application forms / permission letters</li> <li>To keep/maintain records</li> <li>To establish meat shop / market hygienic meat</li> </ul>							
<b>Sub modules:</b> <ol style="list-style-type: none"> <li>Slaughterhouse management</li> <li>Professional dresses</li> <li>Marking / stamping of meat</li> <li>Disinfection , sterilization and waste disposal</li> <li>Application forms and permission letters</li> <li>Recordings</li> <li>Meat shop and marketing</li> </ol>							
<b>Sub module: 1: Slaughterhouse management</b>							
<b>Description:</b> It deals with the knowledge, skills and terminologies related to slaughter house management necessary for a slaughterhouse technician.							
<b>Objectives:</b> <ul style="list-style-type: none"> <li>To identify slaughterhouse management activities</li> <li>To assist to manage slaughterhouse</li> </ul>							
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.							
<b>Time:</b> <u>2</u> hours of theory and <u>3</u> hours of practical equals <u>5</u> hours in total					Time (hrs.)		
SN	Tasks	Related technical knowledge			Th.	Pr.	Tot.
1.	Plan for slaughterhouse activities	<u>Planning for slaughterhouse activities:</u> <ul style="list-style-type: none"> <li>Concept, need and importance of</li> </ul>			0.3	0.6	0.9

		<p>planning for slaughterhouse activities</p> <ul style="list-style-type: none"> <li>• Procedures for planning for slaughterhouse activities</li> <li>• Precautions and recordings</li> </ul>			
2.	Organize slaughterhouse activities	<p><u>Organizing slaughterhouse activities:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of organizing slaughterhouse activities</li> <li>• Procedures for organizing slaughterhouse activities</li> <li>• Precautions and recordings</li> </ul>	0.3	0.4	0.7
3.	Direct slaughterhouse activities	<p><u>Directing slaughterhouse activities:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of directing slaughterhouse activities</li> <li>• Procedures for directing slaughterhouse activities</li> <li>• Precautions and recordings</li> </ul>	0.3	0.4	0.7
4.	Control slaughterhouse activities	<p><u>Controlling slaughterhouse activities:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of controlling slaughterhouse activities</li> <li>• Procedures for controlling slaughterhouse activities</li> <li>• Precautions and recordings</li> </ul>	0.3	0.4	0.7
5.	Coordinate slaughterhouse activities	<p><u>Coordinating slaughterhouse activities:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of coordinating slaughterhouse activities</li> <li>• Procedures for coordinating slaughterhouse activities</li> <li>• Precautions and recordings</li> </ul>	0.3	0.4	0.7
6.	Budget slaughterhouse activities	<p><u>Budgeting slaughterhouse activities:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of budgeting slaughterhouse activities</li> <li>• Procedures for budgeting slaughterhouse activities</li> <li>• Precautions and recordings</li> </ul>	0.3	0.4	0.7
7.	Record slaughterhouse activities	<p><u>Recording slaughterhouse activities:</u></p> <ul style="list-style-type: none"> <li>• Concept, need and importance of recording slaughterhouse activities</li> <li>• Procedures for recording slaughterhouse activities</li> <li>• Precautions</li> </ul>	0.2	0.4	0.6
		Sub-total:	2	3	5

<b>Sub module: 2: Professional dresses</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to wearing professional dresses necessary to be warning in a slaughterhouse.					
<b>Objectives:</b>					
<ul style="list-style-type: none"> <li>• To identify professional dresses necessary to be warning in a slaughterhouse with specified colors</li> <li>• To manage to ware professional dresses</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>1</u> hours of theory and <u>3</u> hours of practical equals <u>4</u> hours in total					Time (hrs.)
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Manage to wear legally prescribed dresses for cleaners	<u>Prescribed dresses for cleaners:</u> <ul style="list-style-type: none"> <li>• Green cap, sky colored shirt/blouse, green apron, green trouser, black gumboot, black glove, and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> <li>• Precautions and recordings</li> </ul>	0.1	0.3	0.4
2.	Manage to wear legally prescribed dresses for individuals engaged in stunning	<u>Prescribed dresses for individuals engaged in stunning:</u> <ul style="list-style-type: none"> <li>• Ash colored cap, gumboot, glove, apron, blue colored shirt/blouse, black trouser and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> <li>• Precautions and recordings</li> </ul>	0.1	0.3	0.4
3.	Manage to wear legally prescribed dresses for individuals engaged in slaughtering	<u>Prescribed dresses for individuals engaged in slaughtering:</u> <ul style="list-style-type: none"> <li>• Red colored cap, gumboot, glove, apron, blue colored shirt/blouse, black trouser and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> <li>• Precautions and recordings</li> </ul>	0.2	0.6	0.8
4.	Manage to wear legally prescribed dresses for other individuals working in the slaughter house	<u>Prescribed dresses for other individuals working in the slaughter house:</u> <ul style="list-style-type: none"> <li>• Liver colored cap, gumboot, glove, apron, blue colored shirt/blouse, black trouser and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> </ul>	0.1	0.3	0.4

		<ul style="list-style-type: none"> <li>• Precautions and recordings</li> </ul>			
5.	Manage to wear legally prescribed dresses for management personnel/guests	<u>Prescribed dresses for management personnel/guests:</u> <ul style="list-style-type: none"> <li>• White colored cap, glove, apron, shirt/blouse, trouser and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> <li>• Precautions and recordings</li> </ul>	0.1	0.3	0.4
6.	Manage to wear legally prescribed dresses for slaughter house technician	<u>Prescribed dresses for slaughter house technician:</u> <ul style="list-style-type: none"> <li>• Light red colored cap, glove, apron, blue shirt/blouse, black trouser and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> <li>• Precautions and recordings</li> </ul>	0.1	0.3	0.4
7.	Manage to wear legally prescribed dresses for meat inspector	<u>Prescribed dresses for meat inspector:</u> <ul style="list-style-type: none"> <li>• Sky colored cap, glove, apron, trouser, white shirt/blouse and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> <li>• Precautions and recordings</li> </ul>	0.1	0.3	0.4
8.	Manage to wear legally prescribed dresses for seller of meat shop	<u>Prescribed dresses for seller of meat shop:</u> <ul style="list-style-type: none"> <li>• Liver colored cap, gumboot, glove, apron, blue shirt/blouse, black trouser and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> <li>• Precautions and recordings</li> </ul>	0.1	0.3	0.4
9.	Manage to wear legally prescribed dresses for meat transporter	<u>Prescribed dresses for meat transporter:</u> <ul style="list-style-type: none"> <li>• Onion colored cap, gumboot, glove, blue shirt/blouse, black trouser and white spectacles that covers the whole face</li> <li>• Wearing and cleaning process</li> <li>• Precautions and recordings</li> </ul>	0.1	0.3	0.4
		Sub-total:	1	3	4

<b>Sub module: 3: Marking / stamping of meat</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to marking / stamping of meat.					
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• To identify signs of marking/stamping meat of animals and poultry</li> <li>• To perform marking/ stamping of meat</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>2</u> hours of theory and <u>3</u> hours of practical equals <u>5</u> hours in total					Time (hrs.)
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Assist to select/use ink for marking/stamping meat	<u>Ink for marking/stamping meat:</u> <ul style="list-style-type: none"> <li>• Undeletable and not resulting adverse effect on public health</li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
2.	Assist to mark/stamp edible meat with “√ ” sign	<u>Marking/stamping for edible meat:</u> <ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Mark/stamp of “√ ” sign</li> <li>• Marking/stamping procedure for edible meat</li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
3.	Assist to mark /stamp condemned meat with “X” sign	<u>Marking/stamping condemned meat with “X” sign:</u> <ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Mark/stamp of “X” sign</li> <li>• Marking/stamping procedure for condemned meat</li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
4.	Assist to mark /stamp meat that to be further examined with “?” sign	<u>Marking/stamping of meat that to be further examined with “?” sign:</u> <ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Mark/stamp of “?” sign</li> <li>• Marking/stamping procedure for meat that to be further examined</li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
5.	Assist to put identification mark for goat meat with “△”	<u>Putting identification mark for goat meat:</u> <ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Procedure for putting identification mark of “ ”sign      △</li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
6.	Assist to put identification mark for sheep meat with “☺”	<u>Putting identification mark for sheep meat:</u>	0.2	0.3	0.5

		<ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Procedure for putting identification mark of “ ”sign </li> <li>• Precautions and recording</li> </ul>			
7.	Assist to put identification mark for pigs’ meat with “  ”	<u>Putting identification mark for pigs’ meat:</u> <ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Procedure for putting identification mark of “ ”sign </li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
8.	Assist to put identification mark for buffalo meat with “  ”	<u>Putting identification mark for buffalo meat:</u> <ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Procedure for putting identification mark of “ ”sign </li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
9.	Assist to put identification mark for poultry meat with “  ”	<u>Putting identification mark for poultry meat:</u> <ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Procedure for putting identification mark of “ ”sign </li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
10.	Assist to put identification mark for buffalo meat with “  ”	<u>Putting identification mark for buffalo meat:</u> <ul style="list-style-type: none"> <li>• Concept and need</li> <li>• Procedure for putting identification mark of “ ”sign </li> <li>• Precautions and recording</li> </ul>	0.2	0.3	0.5
		Sub-total:	2	3	5
<b>Sub module: 4: Disinfection , sterilization and waste disposal</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to disinfection , sterilization and waste disposal.					
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• To identify disinfectants</li> <li>• To perform disinfection /sterilization / waste disposal</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>2</u> hours of theory and <u>8</u> hours of practical equals <u>10</u> hours in total				Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Be familiar with the concept of disinfecting slaughterhouse /	<u>Concept of disinfecting slaughterhouse / sterilization:</u>	0.2	0.6	0.8

	sterilization	<ul style="list-style-type: none"> <li>• Concept, process and application of disinfecting slaughterhouse</li> <li>• Concept, process and application of sterilization</li> <li>• Related precautions to be taken</li> </ul>			
2.	Apply lime (20% solution in water)	<u>Applying lime (20% solution in water):</u> <ul style="list-style-type: none"> <li>• Concept and identification of lime</li> <li>• Preparation of lime (20% solution in water)</li> <li>• Applying the solution</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.6	0.8
3.	Apply sodium carbonate (5-8% solution in water)	<u>Applying sodium carbonate (5-8% solution in water):</u> <ul style="list-style-type: none"> <li>• Concept and identification of sodium carbonate</li> <li>• Preparation of sodium carbonate (5-8% solution in water)</li> <li>• Applying the solution</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.6	0.8
4.	Apply sodium hydrochloride (1-5% solution in water)	<u>Applying sodium hydrochloride (1-5% solution in water):</u> <ul style="list-style-type: none"> <li>• Concept and identification of sodium hydrochloride</li> <li>• Preparation of sodium hydrochloride (1-5% solution in water)</li> <li>• Applying the solution</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.6	0.8
5.	Apply sodium hydrochloride plus lime (1-5% solution in water plus 5% - if needed)	<u>Applying sodium hydrochloride plus lime (1-5% solution in water plus 5% - if needed):</u> <ul style="list-style-type: none"> <li>• Preparation of sodium hydrochloride plus lime (1-5% solution in water plus 5% )</li> <li>• Applying the solution</li> <li>• Related precautions to be taken</li> </ul>	0.2	0.6	0.8

		<ul style="list-style-type: none"> <li>• Related records to be kept</li> </ul>			
6.	Apply phenolic acid (3-5% solution in water)	<u>Applying phenolic acid (3-5% solution in water):</u> <ul style="list-style-type: none"> <li>• Concept and identification of phenolic acid</li> <li>• Preparation of phenolic acid (3-5% solution in water)</li> <li>• Applying the solution</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.5	0.6
7.	Apply mixture solution of phenolic acid and sulphuric acid (50 ml mixture in one liter of water)	<u>Applying mixture solution of phenolic acid and sulphuric acid (50 ml mixture in one liter of water):</u> <ul style="list-style-type: none"> <li>• Concept and identification of sulphuric acid</li> <li>• Preparation of mixture solution of phenolic acid and sulphuric acid (50 ml mixture in one liter of water)</li> <li>• Applying the solution</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.5	0.6
8.	Apply formalin (40% formalin solution in water making 5% solution)	<u>Applying formalin (40% formalin solution in water making 5% solution):</u> <ul style="list-style-type: none"> <li>• Concept and identification of formalin</li> <li>• Preparation of formalin (40% formalin solution in water making 5% solution)</li> <li>• Applying the solution</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.5	0.6
9.	Apply sodium hypo chloride (1-3% solution in water)	<u>Applying sodium hypo chloride (1-3% solution in water):</u> <ul style="list-style-type: none"> <li>• Concept and identification of sodium hypo chloride</li> <li>• Preparation of sodium hypo chloride (1-3% solution in water)</li> <li>• Applying the solution</li> <li>• Related precautions to be taken</li> </ul>	0.1	0.5	0.6

		<ul style="list-style-type: none"> <li>• Related records to be kept</li> </ul>			
10.	Apply ultraviolet light (continuous application at least for 2 hours)	<u>Applying ultraviolet light (continuous application at least for 2 hours):</u> <ul style="list-style-type: none"> <li>• Concept of ultraviolet light</li> <li>• Applying ultraviolet light (continuous application at least for 2 hours)</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.5	0.6
11.	Apply heat (using blow lamp)	<u>Applying heat (using blow lamp):</u> <ul style="list-style-type: none"> <li>• Concept and identification of blow lamp</li> <li>• Handling and care of blow lamp</li> <li>• Process of applying heat using blow lamp</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.5	0.6
12.	Apply “autoclaving” technique	<u>Applying “autoclaving” technique:</u> <ul style="list-style-type: none"> <li>• Concept, purpose and identification of autoclave</li> <li>• Handling and care of autoclave</li> <li>• What to autoclave</li> <li>• Autoclaving procedures</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.5	0.6
13.	Apply “boiling in water” technique	<u>Applying “boiling in water” technique:</u> <ul style="list-style-type: none"> <li>• Concept of “boiling in water” technique</li> <li>• Preparation for “boiling in water” technique</li> <li>• Procedure for applying the technique</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.5	0.6
14.	Establish waste disposal system(s)	<u>Establishing waste disposal system(s):</u> <ul style="list-style-type: none"> <li>• Concept and identification of wastes</li> <li>• Why to dispose wastes</li> <li>• Waste disposal systems</li> <li>• Establishment of a waste disposal systems</li> </ul>	0.1	0.5	0.6

		<ul style="list-style-type: none"> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
15.	Dispose wastes	<u>Waste disposal:</u> <ul style="list-style-type: none"> <li>• Preparation for waste disposal</li> <li>• Procedure for disposing wastes</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.5	0.6
		Sub-total:	2	8	10
<b>Sub module: 5: Application forms and permission letters</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to application forms and permission letters necessary for establishing and running a slaughterhouse and meat shop.					
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• To fill application forms for establishing / running a slaughterhouse / meat shop</li> <li>• Get permission letters for establishing / running a slaughterhouse / meat shop</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>2</u> hours of theory and <u>2</u> hours of practical equals <u>4</u> hours in total				Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Fill up the application form designed for establishing slaughterhouse	<u>Filling up the application form designed for establishing slaughterhouse:</u> <ul style="list-style-type: none"> <li>• Identification</li> <li>• Format</li> <li>• Elements/components</li> <li>• Filling up procedure</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8
2.	Get permission letter for establishing/running a slaughterhouse from the concerned authority	<u>Getting permission letter for establishing/running a slaughterhouse from the concerned authority:</u> <ul style="list-style-type: none"> <li>• Identification</li> <li>• Format</li> <li>• Elements/components</li> <li>• Getting procedure</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8
3.	Fill up the application form designed for running a meat shop	<u>Filling up the application form designed for running a meat shop:</u> <ul style="list-style-type: none"> <li>• Identification</li> <li>• Format</li> <li>• Elements/components</li> <li>• Filling up procedure</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8

4.	Get permission letter for running a meat shop from the concerned authority	<u>Getting permission letter for running a meat shop from the concerned authority:</u> <ul style="list-style-type: none"> <li>• Identification</li> <li>• Format</li> <li>• Elements/components</li> <li>• Getting procedure</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8	
5.	Keep/maintain the records	<u>Keeping /maintaining the records:</u> <ul style="list-style-type: none"> <li>• Types of records to be kept</li> <li>• System of records keeping</li> <li>• Maintaining records</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8	
			Sub-total:	2	2	4
<b>Sub module: 6: Recordings</b>						
<b>Description:</b> It deals with the knowledge, skills and terminologies related various records to be kept in a slaughterhouse.						
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• To identify various related records to be kept</li> <li>• To keep/maintain the related records</li> </ul>						
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.						
<b>Time:</b> <u>2</u> hours of theory and <u>2</u> hours of practical equals <u>4</u> hours in total				Time (hrs.)		
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.	
1.	Keep slaughter house management records	<u>Slaughter house management records:</u> <ul style="list-style-type: none"> <li>• Concept, format and application</li> <li>• Elements/components - date; SN; kind of slaughtered animal; mark, signal or name of the animal; name and address of the owner of the animal brought to slaughter; and remarks etc.</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8	
2.	Keep meat samples records to be sent for lab test/examination	<u>Meat samples records to be sent for lab test/examination:</u> <ul style="list-style-type: none"> <li>• Concept, format and application</li> <li>• Elements/components - SN; kind of sample/number; slaughtered date /mark number; sent for examination(lab/date/medium);r result received(date/description; and remarks</li> </ul>	0.4	0.4	0.8	

		<ul style="list-style-type: none"> <li>• Precautions to be taken</li> </ul>			
3.	Keep records (slaughtered animals) to be kept by meat inspector (form-1)	<u>Records (slaughtered animals) to be kept by meat inspector (form-1):</u> <ul style="list-style-type: none"> <li>• Concept, format and application</li> <li>• Elements/components -date; SN; kind of animal slaughtered; mark(signal or name); organ/destroyed meat parts; suspected disease(s); examined/not examined in the lab and remarks</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8
4.	Keep records (animal health examination) to be kept by meat inspector (form-2)	<u>Records (animal health examination) to be kept by meat inspector (form-2):</u> <ul style="list-style-type: none"> <li>• Concept, format and application</li> <li>• Elements/components - date; SN; kind of animal examined; mark(signal or name); to be slaughtered/not to be slaughtered; suspected disease(s); remarks</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8
5.	Maintain records	<u>Maintaining records:</u> <ul style="list-style-type: none"> <li>• Maintaining slaughter house management records</li> <li>• Maintaining Meat samples records</li> <li>• Maintaining meat inspector's record form-1 &amp; 2</li> <li>• Precautions to be taken</li> </ul>	0.4	0.4	0.8
		Sub-total:	2	2	4
<b>Sub module: 7: Meat shop and marketing</b>					
<b>Description:</b> It deals with the knowledge, skills and terminologies related to establishment of a meat shop and marketing of hygienic meat.					
<b>Objectives:</b> <ul style="list-style-type: none"> <li>• To establish meat shop</li> <li>• To market hygienic meat</li> </ul>					
<b>Tasks:</b> Each task consists of a task statement, its related technical knowledge, and time allocation for both the theory and practical aspects of that very task.					
<b>Time:</b> <u>4</u> hours of theory and <u>4</u> hours of practical equals <u>8</u> hours in total				Time (hrs.)	
SN	Tasks	Related technical knowledge	Th.	Pr.	Tot.
1.	Make plan for a meat shop	<u>Plan for a meat shop:</u>	0.3	0.3	0.6

		<ul style="list-style-type: none"> <li>• Concept, need and importance of plan/planning for a meat shop</li> <li>• Procedure for making plan for a meat shop</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
2.	Select site for a meat shop	<u>Selecting site for a meat shop:</u> <ul style="list-style-type: none"> <li>• Concept, need and importance of selecting site for a meat shop</li> <li>• Criteria for selecting site for a meat shop</li> <li>• Site selection process</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.3	0.3	0.6
3.	Meet legal requirements	<u>Legal requirements:</u> <ul style="list-style-type: none"> <li>• Concept and need for meeting legal requirements</li> <li>• List of legal requirements</li> <li>• Related precautions to be taken</li> </ul>	0.3	0.3	0.6
4.	Establish a meat shop	<u>Establishing a meat shop:</u> <ul style="list-style-type: none"> <li>• Procedure for establishing a meat shop</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.3	0.3	0.6
5.	Run the shop	<u>Running the meat shop:</u> <ul style="list-style-type: none"> <li>• Procedure for running a meat shop</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.3	0.3	0.6
6.	Maintain the shop	<u>Maintaining the meat shop:</u> <ul style="list-style-type: none"> <li>• How to maintain a meat shop</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.3	0.3	0.6
7.	Make plan for hygienic meat marketing	<u>Plan for hygienic meat marketing:</u> <ul style="list-style-type: none"> <li>• Need for planning for hygienic meat marketing</li> <li>• Hygienic meat marketing procedure</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.1	0.3	0.4
8.	Weight meat	<u>Weighting meat:</u>	0.2	0.2	0.4

		<ul style="list-style-type: none"> <li>• Concept and need for weighing meat</li> <li>• Handling and care of a balance</li> <li>• How to wage meat</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
9.	Package the meat	<u>Packaging the meat:</u> <ul style="list-style-type: none"> <li>• Concept and need for packaging the meat</li> <li>• Packaging materials</li> <li>• How to package meat</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.2	0.4
10.	Price the meat	<u>Pricing the meat:</u> <ul style="list-style-type: none"> <li>• Concept of meat pricing</li> <li>• System of meat pricing</li> <li>• Meat pricing procedure</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.2	0.4
11.	Place the meat	<u>Placing the meat:</u> <ul style="list-style-type: none"> <li>• Concept of placing</li> <li>• Marketing channels</li> <li>• Placing procedures</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.2	0.4
12.	Sell meat	<u>Selling meat:</u> <ul style="list-style-type: none"> <li>• Concept of selling</li> <li>• Selling procedures</li> <li>• Billing procedures</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.2	0.4
13.	Promote meat sale	<u>Promoting meat sale:</u> <ul style="list-style-type: none"> <li>• Publicity</li> <li>• Advertisement</li> <li>• Personal selling</li> <li>• Sales promotion techniques</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.2	0.4
14.	Calculate costs	<u>Calculating costs:</u> <ul style="list-style-type: none"> <li>• Concept and types of cost</li> <li>• Calculation of costs</li> </ul>	0.2	0.1	0.3

		<ul style="list-style-type: none"> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>			
15.	Calculate profit/loss	<u>Calculating profit/loss:</u> <ul style="list-style-type: none"> <li>• Concept of profit/loss</li> <li>• Calculation of profit/loss</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.2	0.4
16.	Prepare simple balance sheet	<u>Preparing simple balance sheet:</u> <ul style="list-style-type: none"> <li>• Concept and need of balance sheet</li> <li>• Components/elements of a balance sheet</li> <li>• Balance sheet preparation procedure</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.2	0.2	0.4
17.	Prepare reinvestment plan	<u>Preparing reinvestment plan:</u> <ul style="list-style-type: none"> <li>• Concept and need of reinvestment plan</li> <li>• Components/elements of a reinvestment plan</li> <li>• Reinvestment plan preparation procedure</li> <li>• Related precautions to be taken</li> <li>• Related records to be kept</li> </ul>	0.3	0.2	0.5
		Sub-total:	4	4	8
		<b>Total:</b>	<b>91</b>	<b>229</b>	<b>320</b>

<b>Module : 8 : Common module</b>					
<b>Description:</b> This module consists of skills and knowledge related to applied math, occupational health and safety, HIV/AIDS, first aid, communication, and small business management applicable in the related job performances.					
<b>Objectives:</b> After its completion the trainees will be able: <ul style="list-style-type: none"> <li>• To carry out simple mathematical calculations related to the occupation</li> <li>• To be familiar with hazards related to this occupation</li> <li>• To apply preventive measures for occupational health and safety</li> <li>• To apply first aid measures</li> <li>• To apply preventive measures for HIV/AIDS</li> <li>• To communicate with others</li> <li>• To apply skills of small business management</li> </ul>					
Sub modules: <ol style="list-style-type: none"> <li>1. Applied math</li> <li>2. Occupational health and safety</li> <li>3. First aid</li> <li>4. HIV/AIDS</li> <li>5. Communication</li> <li>6. Small business management</li> </ol>					
<b>Sub module: 1:Applied math</b>					
<b>Description:</b> It consists of skills and knowledge related to mathematical calculations applicable in the related occupational performances.					
<b>Objective:</b> After its completion the trainees will be able: <ul style="list-style-type: none"> <li>• To carry out simple mathematical calculations that must be done for the effective performance in the occupational job.</li> </ul>					
<b>Tasks:</b> To fulfill the objective the trainees are expected to get proficiency on the following tasks/skills/steps together with their related technical knowledge:					
Th.(4 hrs) + Pr.( 16hrs) = Tot.( 20 hrs)				Time( hrs )	
SN	Tasks or skills/ steps	Related technical knowledge	Th.	Pr.	Tot.
1.	Carry out simple addition applicable in job situation	<u>Addition:</u> ❖ Concept ❖ Simple calculations ❖ Application in the occupation	0.2	0.8	1
2.	Carry out simple subtraction applicable in job situation	<u>Subtraction:</u> ❖ Concept ❖ Simple calculations ❖ Application in the occupation	0.2	0.8	1
3.	Carry out simple multiplication applicable in job situation	<u>Multiplication</u> ❖ Concept ❖ Simple calculations ❖ Application in the occupation	0.2	0.8	1
4.	Carry out simple division applicable in job situation	<u>Division:</u> ❖ Concept ❖ Simple calculations	0.2	0.8	1

		❖ Application in the occupation			
5.	Carry out measurements	<u>Measurement:</u> ❖ Concept ❖ Application in the occupation	0.2	0.8	1
6.	Convert units of measurement	<u>Units of measurement:</u> ❖ Concept ❖ Units of measurement ❖ Unit conversion ❖ application	0.2	0.8	1
7.	Convert units of measuring temperature	<u>Units of measuring temperature:</u> ❖ Concept ❖ Units of temperature measurement ❖ Unit conversion ❖ application	0.2	0.8	1
8.	Calculate area	<u>Area:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
9.	Calculate volume	<u>Volume:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
10.	Calculate weight	<u>Weight:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
11.	Calculate percentage	<u>Percentage:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
12.	Calculate ratio and proportions	<u>Ratio and proportions:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
13.	Apply Pythagoras formula	<u>Pythagoras formula:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
14.	Apply unitary method	<u>Unitary method:</u> ❖ Concept	0.2	0.8	1

		❖ Calculation ❖ Application			
15	Calculate simple interest	<u>Simple interest:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
16	Calculate unit cost	<u>Unit cost:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
17	Calculate per unit income	<u>Per unit income:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
18	Calculate profit and loss	<u>Profit and loss:</u> ❖ Concept ❖ Formula ❖ Calculation ❖ Application	0.2	0.8	1
19	Perform billing	<u>Billing:</u> ❖ Concept ❖ Calculation ❖ Bill format ❖ Procedure ❖ Application	0.2	0.8	1
20	Prepare simple balance sheet	<u>Balance sheet:</u> ❖ Concept ❖ Format ❖ Procedure ❖ Application	0.2	0.8	1
	<b>Total:</b>		<b>4</b>	<b>16</b>	<b>20</b>
<b>Sub module: 2: Occupational health and safety</b>					
<b>Description:</b> It consists of skills and knowledge related to occupational health and safety applicable in the related occupational performances					
<b>Objectives:</b> After its completion the trainees will be able: <ul style="list-style-type: none"> <li>• To be familiar with hazards related to this occupation</li> <li>• To apply preventive measures for occupational health and safety</li> </ul>					
<b>Tasks:</b> To fulfill the objective the trainees are expected to get proficiency on the following tasks/skills/steps together with their related technical knowledge:					
Th.(2 hrs) + Pr.( 8hrs) = Tot.( 10 hrs)			Time( hrs )		
SN	Tasks or skills/ steps	Related technical knowledge	Th.	Pr.	Tot.
Be familiar with hazards related to this occupation					

1.	Be familiar with accident hazards	<u>Accident hazards:</u> ❖ Concept ❖ Causes ❖ Procedures for managing this hazard	0.2	0.8	1
2.	Be familiar with physical hazards	<u>Physical hazards:</u> ❖ Concept ❖ Causes ❖ Procedures for managing this hazard	0.2	0.8	1
3.	Be familiar with chemical hazards	<u>Chemical hazards:</u> ❖ Concept ❖ Causes ❖ Procedures for managing this hazard	0.2	0.8	1
4.	Be familiar with biological hazards	<u>Biological hazards:</u> ❖ Concept ❖ Causes ❖ Procedures for managing this hazard	0.2	0.8	1
5.	Be familiar with ergonomic/psychological / organizational factors:	<u>Ergonomic /psychological / organizational factors:</u> ❖ Concept of : <ul style="list-style-type: none"> <li>▪ Ergonomic factors</li> <li>▪ Psychological factors</li> <li>▪ organizational factors</li> </ul> ❖ Procedures for managing hazards caused by these factors	0.2	0.8	1
Subtotal:			<b>1</b>	<b>4</b>	<b>4</b>
Apply preventive measures for occupational health and safety					
1.	Wear safety wares	<u>Safety wares:</u> ❖ Identification ❖ Needs ❖ Wearing procedures	0.2	0.5	0.7
2.	Inspect workplace before working	<u>Workplace inspection:</u> ❖ Concept ❖ Principle and procedures ❖ Records keeping	0.2	0.5	0.7
3.	Inspect tools/materials/equipment before use	<u>Inspection of tools/materials/equipment:</u> ❖ Concept and identification ❖ Principle and procedures ❖ Records keeping	0.1	0.5	0.6

4.	Be prevented from accident hazards	<u>Prevention of accident hazards:</u> ❖ Concept ❖ Being prevented from accident hazards ❖ Records keeping	0.1	0.5	0.6
5.	Be prevented from physical hazards	<u>Prevention of physical hazards:</u> ❖ Concept ❖ Being prevented from physical hazards ❖ Records keeping	0.1	0.5	0.6
6.	Be prevented from chemical hazards	<u>Prevention of chemical hazards:</u> ❖ Concept ❖ Being prevented from chemical hazards ❖ Records keeping	0.1	0.5	0.6
7.	Be prevented from biological hazards	<u>Prevention of biological hazards:</u> ❖ Concept ❖ Being prevented from biological hazards ❖ Records keeping	0.1	0.5	0.6
8.	Be prevented from ergonomic/psychological / organizational factors that create problems/hazards.	Prevention of <u>ergonomic/psychological / organizational factors that create problems/hazards:</u> ❖ Concept ❖ Being prevented from ergonomic/psychological / organizational factors that create problems/hazards ❖ Records keeping	0.1	0.5	0.6
	Subtotal:		<b>1</b>	<b>4</b>	<b>5</b>
	<b>Total:</b>		<b>2</b>	<b>8</b>	<b>10</b>
<b>Sub module: 3: First aid</b>					
<b>Description:</b> It consists of skills and knowledge related to first aid measures applicable in the related occupational performances.					
<b>Objective:</b> After its completion the trainees will be able: <ul style="list-style-type: none"> <li>• To apply first aid measures</li> </ul>					
<b>Tasks:</b> To fulfill the objective the trainees are expected to get proficiency on the following tasks/skills/steps together with their related technical knowledge:					
Th.(1 hrs) + Pr.( 4hrs) = Tot.( 5 hrs)			Time( hrs )		
SN	Tasks or skills/ steps	Related technical knowledge	Th.	Pr.	Tot.
1.	Carryout simple dressings	<u>Carryout simple dressings:</u> ❖ Concept ❖ Needs ❖ Procedures	0.10	0.40	0.5

		<ul style="list-style-type: none"> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>			
2.	Apply simple bandages	<u>Apply simple bandages:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.10	0.40	0.5
3.	Apply first aid for simple wounds	<u>Apply first aid for simple wounds:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.10	0.40	0.5
4.	Apply first aid for heat /chemical burns	<u>Apply first aid for heat /chemical burns:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.10	0.40	0.5
5.	Apply first aid for injuries/cuts	<u>Apply first aid for injuries/cuts:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.10	0.40	0.5
6.	Apply first aid for fracture	<u>Apply first aid for fracture:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.10	0.40	0.5
7.	Apply first aid for simple bleeding	<u>Apply first aid for simple bleeding:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.10	0.40	0.5
8.	Apply first aid for insect bites	<u>Apply first aid for insect bites:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.05	0.20	0.25
9.	Apply first aid for animal bites	<u>Apply first aid for animal bites:</u>	0.05	0.20	0.25

		<ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>			
10	Apply first aid for frost bite	<u>Apply first aid for frost bite :</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.05	0.20	0.25
11	Apply first aid for simple poisoning	<u>Apply first aid for simple poisoning:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.05	0.20	0.25
12	Apply first aid for electrical shock	<u>Apply first aid for electrical shock:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.05	0.20	0.25
13	Apply first aid for choking/ drowning	<u>Apply first aid for choking/ drowning:</u> <ul style="list-style-type: none"> <li>❖ Concept</li> <li>❖ Needs</li> <li>❖ Procedures</li> <li>❖ Precautions</li> <li>❖ Recording</li> </ul>	0.05	0.20	0.25
<b>Total:</b>			<b>1</b>	<b>4</b>	<b>5</b>
<b>Sub module: 4: HIV/AIDS</b>					
<b>Description:</b> It consists of skills and knowledge related to safety measures to be followed for the prevention of HIV/AIDS including its management.					
<b>Objectives:</b> After its completion the trainees will be able: <ul style="list-style-type: none"> <li>• To state the concept of HIV/AIDS</li> <li>• To apply safety measures for prevention of HIV/AIDS</li> </ul>					
<b>Tasks:</b> To fulfill the objective the trainees are expected to get proficiency on the following tasks/skills/steps together with their related technical knowledge:					
Th.(1 hrs) + Pr.( 4hrs) = Tot.( 5 hrs)			Time( hrs )		
SN	Tasks or skills/ steps	Related technical knowledge	Th.	Pr.	Tot.
1.	<b>State the concept of HIV/AIDS</b> 1. Define HIV	<u><b>State the concept of HIV/AIDS:</b></u>	0.5	2	2.5

	<ol style="list-style-type: none"> <li>2. Enlist modes of transmission of HIV</li> <li>3. Enlist signs and symptoms of HIV infected person</li> <li>4. Enlist stages of HIV</li> <li>5. Define AIDS</li> <li>6. Enlist signs and symptoms of AIDS</li> <li>7. Enlist current status of global HIV/AIDS</li> <li>8. Enlist difference between HIV/AIDS</li> </ol>	<p><b><u>HIV:</u></b></p> <ul style="list-style-type: none"> <li>❖ Definition of HIV:</li> <li>❖ Modes of transmission of HIV</li> <li>❖ Signs and symptoms of HIV infected person</li> <li>❖ Stages of HIV</li> </ul> <p><b><u>AIDS:</u></b></p> <ul style="list-style-type: none"> <li>❖ Definition of AIDS</li> <li>❖ Signs and symptoms of AIDS</li> <li>❖ Current status of global HIV/AIDS</li> <li>❖ Difference between HIV and AIDS</li> </ul>			
<b>2.</b>	<p><b>Apply safety measures for prevention of HIV/AIDS:</b></p> <ol style="list-style-type: none"> <li>1. Keep touch with single partner for sexual intercourse</li> <li>2. Ensure safe intercourse</li> <li>3. Use condom carefully and consistently during each act of sexual intercourse incase of other than single sex partner</li> <li>4. Keep away from sharing syringes, needles and other skin piercing instrument with HIV infected people</li> <li>5. Keep away from sharing toothbrushes, blade razors or other instruments that could become contaminated from blood</li> <li>6. Keep away from handling clothes or cloths that are visibly contaminated with blood</li> <li>7. Follow positive health behavior</li> <li>8. Get blood be tested to ensure HIV negative/positive</li> </ol>	<p><b><u>Apply safety measures for prevention of HIV/AIDS:</u></b></p> <ul style="list-style-type: none"> <li>❖ Keeping touch with single partner for sexual intercourse</li> <li>❖ Ensuring safe intercourse</li> <li>❖ Using condom carefully and consistently during each act of sexual intercourse incase of other than single sex partner</li> <li>❖ Keeping away from sharing syringes, needles and other skin piercing instrument with HIV infected people</li> <li>❖ Keeping away from sharing toothbrushes, blade razors or other instruments that could become contaminated from blood</li> <li>❖ Keeping away from handling clothes or cloths that are visibly contaminated with blood</li> <li>❖ Positive health behavior</li> <li>❖ Getting blood be tested to ensure HIV negative/positive</li> </ul>	0.5	2	2.5
	<b>Total:</b>		1	4	5
<b>Sub module: 5 : Communication</b>					
<b>Description:</b> It consists of the skills and knowledge related to communication in the related occupation. Each task consists of its steps, related technical knowledge and hour distribution.					
<b>Objectives:</b> After its completion the trainees will be able:					
	<ul style="list-style-type: none"> <li>• To handle telephone calls</li> <li>• To handle fax</li> </ul>	<ul style="list-style-type: none"> <li>• To communicate with donors To communicate with financial institutes</li> </ul>			

	<ul style="list-style-type: none"> <li>To handle mail</li> <li>To write letters</li> <li>To write memos / tips / notes / notice</li> <li>To perform internal communication</li> <li>To perform external communication</li> <li>To perform oral communication</li> <li>To perform written communication</li> </ul>	<ul style="list-style-type: none"> <li>To link with media</li> <li>To disseminate information</li> <li>Write job application</li> <li>Prepare Resume.</li> <li>Communicate with senior.</li> <li>Communicate with juniors.</li> <li>Deal with customers</li> <li>Request / purchase tool, supplies, materials and equipment.</li> <li>Fill up leave requisition form.</li> </ul>			
<b>Tasks:</b> To fulfill the objective the trainees are expected to get proficiency on the following tasks/skills/steps together with their related technical knowledge:					
Th.(2 hrs) + Pr.( 8hrs) = Tot.( 10 hrs)			Time( hrs )		
SN	Tasks or skills/ steps	Related technical knowledge	Th.	Pr.	Tot.
1.	Handle telephone calls	<u>Handling telephone calls:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Operating principles and procedures</li> <li>❖ Care and maintenance</li> <li>❖ Safety precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
2.	Handle fax	<u>Handling fax:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Operating principles and procedures</li> <li>❖ Care and maintenance</li> <li>❖ Safety precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
3.	Handle mail	<u>Handling mail:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Operating principles and procedures</li> <li>❖ Care and maintenance</li> <li>❖ Safety precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
4.	Write letters	<u>Writing letters:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Types of letter</li> </ul>	0.1	0.4	0.5

		<ul style="list-style-type: none"> <li>❖ Component parts of each type of letter</li> <li>❖ Format of each type of letter</li> <li>❖ Writing letters</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>			
5.	Write memos / tips / notes / notice	<u>Writing memos / tips / notes / notice :</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts of memos / tips / notes / notice</li> <li>❖ Format of memos / tips / notes / notice</li> <li>❖ Writing memos / tips / notes / notice</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
6.	Prepare simple report	<u>Preparing simple report:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts of a report</li> <li>❖ Format of a report</li> <li>❖ Writing a report</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
7.	Prepare simple proposal	<u>Preparing simple proposal:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts of a proposal</li> <li>❖ Format of a proposal</li> <li>❖ Writing a proposal</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
8.	Perform internal/ external communication	<u>Performing internal/ external communication:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Performing internal/ external communication</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
9.	Perform horizontal/vertical communication	<u>Performing horizontal/vertical communication:</u>	0.1	0.4	0.5

		<ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Performing horizontal/vertical communication</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>			
<b>10.</b>	Perform oral/ written communication	<u>Performing oral/ written communication:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Performing oral/ written communication</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
<b>11.</b>	Communicate with financial institutes	<u>Communicating with financial institutes:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Communicating with financial institutes</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
<b>12.</b>	Link with media	<u>Linking with media:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Linking with media</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
<b>13.</b>	Disseminate information	<u>Disseminating information:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Disseminating information</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
<b>14.</b>	Write job application	<u>Writing job application:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and</li> </ul>	0.1	0.4	0.5

		<ul style="list-style-type: none"> <li>importance</li> <li>❖ Component parts of job application</li> <li>❖ Format of job application</li> <li>❖ Writing job applications</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>			
<b>15.</b>	Prepare resume	<u>Preparing resume:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts of a resume</li> <li>❖ Format of a resume</li> <li>❖ Writing resume</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
<b>16.</b>	Communicate with senior.	<u>Communicating with senior:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Communicating with senior</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
<b>17.</b>	Communicate with juniors.	<u>Communicating with juniors:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
<b>18.</b>	Deal with customers/stake holders	<u>Dealing with customers/stake holders:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Communicating with juniors</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
<b>19.</b>	Request / purchase tool, supplies, materials and equipment.	<u>Requesting / purchasing tool, supplies, materials and equipment:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> </ul>	0.1	0.4	0.5

		<ul style="list-style-type: none"> <li>❖ Requesting / purchasing tool, supplies, materials and equipment</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>			
20.	Fill up leave requisition form	<u>Filling up leave requisition form:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles, procedures, and application</li> <li>❖ Filling up leave requisition form</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
		<b>Total:</b>	<b>2</b>	<b>8</b>	<b>10</b>
<b>Sub module: 6 : Small enterprise development</b>					
<b>Description:</b> It consists of the skills and knowledge related to small enterprise development in the related occupation. Each task consists of its steps, related technical knowledge and hour distribution.					
<b>Objectives:</b> After its completion the trainees will be able: <ul style="list-style-type: none"> <li>• To be familiar with entrepreneurship development</li> <li>• To prepare a business plan</li> </ul>					
<b>Tasks:</b> To fulfill the objective the trainees are expected to get proficiency on the following tasks/skills/steps together with their related technical knowledge:					
Th.(4 hrs) + Pr.( 16 hrs) = Tot.( 20 hrs)			Time( hrs )		
SN	Tasks or skills/ steps	Related technical knowledge	Th.	Pr.	Tot.
<b><u>Entrepreneurship development:</u></b>		<b><u>Entrepreneurship development:</u></b>			
1.	Be familiar with business / entrepreneurship	<u>Business / entrepreneurship:</u> <ul style="list-style-type: none"> <li>❖ Concept, definitions, need, and importance</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
2.	Develop qualities of a successful entrepreneur	<u>Qualities of a successful entrepreneur:</u> <ul style="list-style-type: none"> <li>❖ Concept and needs</li> <li>❖ Qualities of a successful entrepreneur</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
3.	Follow professional ethics	<u>Professional ethics:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Professional ethics</li> <li>❖ Interpretation</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping activity records</li> </ul>	0.1	0.4	0.5
4.	Analyze prevailing rules /	<u>Prevailing rules / regulations/</u>	0.1	0.4	0.5

	regulations/ laws /acts related to the profession	<u>laws /acts related to the profession:</u> ❖ Concept, need, and importance ❖ Prevailing rules / regulations/ laws /acts related to the profession ❖ Interpretation ❖ Precautions to be taken ❖ Keeping activity records			
5.	Develop skills of good governance	<u>Good governance:</u> ❖ Concept, need, and importance ❖ Principles and procedures of good governance ❖ Precautions to be taken ❖ Keeping activity re	0.1	0.4	0.5
6.	Be familiar with entrepreneurship development/ factors affecting the growth of entrepreneurship	<u>Entrepreneurship development/ factors affecting the growth of entrepreneurship:</u> ❖ Concept, need, and importance ❖ Entrepreneurship development ❖ Factors affecting the growth of entrepreneurship ❖ Precautions to be taken ❖ Keeping records	0.1	0.4	0.5
7.	Develop an entrepreneurship competency development [ECD] program	<u>Entrepreneurship competency development [ECD] program:</u> ❖ Concept, need, and importance ❖ Entrepreneurship competency development [ECD] ❖ ECD program development ❖ Precautions to be taken ❖ Keeping records	0.1	0.4	0.5
8.	Be familiar with identification / selection/appraising/gaining instructional a support of a project <ul style="list-style-type: none"> <li>• Be familiar with identification of a project</li> <li>• Be familiar with selection of a project</li> <li>• Be familiar with appraising of</li> </ul>	<u>Identification / selection/appraising/gaining instructional a support of a project:</u> ❖ Concept, need, and importance ❖ Identification of a project ❖ Selection of a project ❖ Appraising of a project	0.1	0.4	0.5

	a project • Be familiar with gaining instructional a support of a project	<ul style="list-style-type: none"> <li>❖ Gaining instructional a support of a project</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>			
9.	Be familiar with the preparation of a comprehensive business plan for starting / acquiring /running a business	<u>Be familiar with the preparation of a comprehensive business plan for starting / acquiring /running a business:</u> <ul style="list-style-type: none"> <li>❖ Preparation of a comprehensive business plan for starting a business</li> <li>❖ Preparation of a comprehensive business plan for acquiring a business</li> <li>❖ Preparation of a comprehensive business plan for running a business</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>	0.1	0.4	0.5
10.	Be familiar with marketing of products	<u>Be familiar with marketing of products:</u> <ul style="list-style-type: none"> <li>❖ concept of product, price, place, promotion</li> <li>❖ marketing of products</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>	0.1	0.4	0.5
		Subtotal:	<b>1</b>	<b>4</b>	<b>5</b>
	<b><u>Business plan:</u></b>	<b><u>Business plan:</u></b>			
11.	Collect related information / data	<u>Collecting related information / data:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance of data and information</li> <li>❖ Difference between data and information</li> <li>❖ Principles and procedures for collecting related information / data</li> <li>❖ Collecting related information / data</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>	0.4	1.6	2
12.	Prepare production plan	<u>Preparing production plan:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts</li> <li>❖ Format</li> </ul>	0.4	1.6	2

		<ul style="list-style-type: none"> <li>❖ Principles and procedures</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>			
13.	Prepare cost plan	<u>Preparing cost plan:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts</li> <li>❖ Format</li> <li>❖ Principles and procedures</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>	0.4	1.6	2
14.	Prepare financial plan	<u>Preparing financial plan:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts</li> <li>❖ Format</li> <li>❖ Principles and procedures</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>	0.4	1.6	2
15.	Prepare marketing plan	<u>Preparing marketing plan:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts</li> <li>❖ Format</li> <li>❖ Principles and procedures</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>	0.4	1.6	2
16.	Prepare a business plan	<u>Preparing a business plan:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Component parts</li> <li>❖ Format</li> <li>❖ Principles and procedures</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>	0.6	2.4	3
17.	Appraise business plan	<u>Appraising business plan:</u> <ul style="list-style-type: none"> <li>❖ Concept, need, and importance</li> <li>❖ Principles and procedures</li> <li>❖ Precautions to be taken</li> <li>❖ Keeping records</li> </ul>	0.4	1.6	2
		Subtotal:	3	12	15
		Total:	4	16	20
		Common module total:	14	56	70
		<b>All total:</b>	<b>105</b>	<b>285</b>	<b>390</b>

## Appendices

### Reading materials

- Abattoir Development, option and designs for hygienic basic and medium sized Abattoirs- FAO, 2008.
- Meat processing technology for small to medium scale producers- Gunter Heinz; Peter Hantzinger, FAO, 2007
- Handbook of Animal Husbandry Sciences – Amalendu Chakrabati
- Handbook of Animal Husbandry – Indian Council of Agricultural Research (ICAR)
- Inter-Net search
- Instructor selected related books/references/manuals available in the market
- Instructor written/developed related books/manuals/handouts/notes

### Facilities

- Well-equipped adequate class room(s)
- Well-equipped office/other necessary buildings
- Well-equipped slaughterhouse (available to use)
- Meat shop (available to use)
- Waste disposal facilities
- Well-equipped store room
- Well-equipped laboratory
- Well-equipped library
- Well-equipped audio visual room
- Toilet
- Computer with multimedia
- Audio visual aids
- Related slides/films/videos
- Electricity facility
- Water facility
- Vehicles (available to use)
- Canteen (optional)
- Hostel (optional)
- First aid room

### List of tools, materials and equipment

- Marking ink
- Stamp
- Lime
- Sodium hydrochloride
- Phenolic acid
- Sulphuric acid

- Formalin
- Ultraviolet light
- Blow lamp
- Autoclave
- Boiling pots
- Weighing machine
- Thermometer
- First aid kit /box
- Slaughter house dresses with specified colors
- Captive bolt pistol
- Free bullet pistol
- Carbon dioxide gas-apparatus
- Electrical stunning equipment etc.

## Animal slaughtering

Buffalo		Poultry		Sheep/goat		Pig	
SN	Slaughtering	SN	Slaughtering	SN	Slaughtering	SN	Slaughtering
1.	Delivery /receiving	1.	Unloading /receiving Shackling	1.	Pre slaughter handling	1.	Receiving Shackling
2.	Pre slaughter handling	2.	Stunning	2.	Stunning	2.	Stunning
3.	Stunning	3.	Bleeding	3.	Bleeding & hollow knife systems	3.	Sticking & bleeding
4.	Bleeding & hollow knife systems	4.	Scalding	4.	Transfer	4.	Scalding & de- hairing
5.	Transfer	5.	Plucking	5.	Pre de-hiding & de- hairing	5.	Evisceration
6.	Pre de-hiding, udder removal	6.	Neck slitting & foot removal	6.	Evisceration <ul style="list-style-type: none"> <li>• Adding value</li> <li>• White organs</li> <li>• Red organs</li> <li>• Veterinary inspection</li> <li>• Weighing &amp; grading</li> </ul>	6.	Splitting
7.	De-hiding	7.	Evisceration line <ul style="list-style-type: none"> <li>• Head removal</li> <li>• Venting</li> <li>• Drawing Removal of offals</li> <li>• Neck removal</li> <li>• Line washing Polyphosphate injection</li> </ul>	7.	Chilling & cooling <ul style="list-style-type: none"> <li>• Chilling</li> <li>• Cooling or equalization</li> </ul>	7.	Washing
8.	Head removal & washing	8.	Washing	8.	Dispatch	8.	Cooling
9.	Evisceration <ul style="list-style-type: none"> <li>• Adding value</li> <li>• White organs</li> <li>• Red organs</li> <li>• Splitting</li> <li>• Red &amp; white offals inspection</li> <li>• Trimming</li> <li>• Weighing &amp; grading</li> </ul>	9.	Chilling			9.	Cutting
10.	Chilling & cooling <ul style="list-style-type: none"> <li>• Chilling</li> <li>• Cooling or equalization</li> </ul>	10.	Draining				
11.	Dispatch	12.	Freezing				

### Flow diagram of basic operation of an abattoir



