Chapter V

MODULE FOR TRANSACTING SECONDARY LEVEL BIOLOGY CURRICULUM TO DEVELOP VALUES

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MODULE OF TRANSACTING SECONDARY LEVEL BIOLOGY CURRICULUM TO DEVELOP VALUES

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LET US BEGIN HERE

This is a self-learning material for Biology teachers to transact Biology curriculum for developing Moral Values in secondary school students. You may know that, values are decaying day by day. Inculcation of values through value education is the need of the hour. Generally teachers are not trained to teach for developing values in students. That means, there exists a gap between the teacher training and the value-oriented education. This training material aims to bridge that gap and to provide you a training to develop values in your students. This training material is known as the training module because it is meant for training you by itself. Any of you can learn this material without any external assistance, if you proceed according to the instructions given in this.

This training module consists of two sections. Each section is further divided into introduction/chapters/lessons.

Section 1 of this module is concerned with the training procedure for content analysis of Biology text book of standard IX. This gives training to analyse the content to find out values inherent in the content. For this you should keep Biology text book of standard IX with you when you are going through section I of this module.

There are nine subsections in this section. The first subsection gives you an introduction to the content analysis. The other eight subsections deal
with each of the eight chapters of standard IX. This section gives training to analyse content of each chapter to identify values inherent in the chapters. The first subsection gives a general introduction which acts as a link between the existing knowledge and the procedure of this new content analysis. This is followed by the actual training procedure in detail. The training procedure demands your activity at selected points under the caption 'Learning Activity'. Space is provided to mark your response for these activities. You have to write down the answers of the activities before proceeding to the detailed information following them.

Section 2 of this module is giving training to follow a particular instructional strategy which is coming under Models of Teaching known as Jurisprudential Inquiry Model (JIM). This section includes an orientation of JIM, its detailed steps and eight prepared lesson plans based on eight selected values. The description of the model demands your activity at selected points. You have to answer these activities so as to proceed with the further information following the activity.

Besides, self-check exercises under the caption Check Your Progress have been provided at selected places, and model answers to the questions set in these exercises are given at the end of the subsection. These exercises are not meant to be submitted for correction and evaluation. The exercises are to
function as study tools to help you keep on the right track as you read the subsection.

With the help of the training received from this module you can prepare such lesson plans by yourself and apply this model of teaching in your classrooms for developing values in students.

I hope that you will be benefitted by this module. Wish you all the best.
SECTION 1: IDENTIFICATION OF VALUES FROM STANDARD IX BIOLOGY TEXT BOOK THROUGH CONTENT ANALYSIS

OBJECTIVE: At the end of this section you will be able to identify values from standard IX Biology text book through content analysis.

This section provides you an introduction first as subsection 1 which is followed by the procedure of content analysis of chapter 1 of standard IX as subsection 2. In subsection 2 content of the chapter 1 is analysed with its all details and it ends up with Let Us Sum Up which summarises the content analysed for finding out the major value of the chapter.

Following this, chapters of two, three and four are analysed by using the same procedure but not in as detail as chapter 1 and these are presented as subsections 3, 4 and 5 respectively. Still it is hoped that you will attempt the analysis of the omitted details also by applying the same techniques used for the analysis of chapter 1. Like wise subsections 6, 7, 8 and 9 give you a very brief picture of analysis of the content of chapters 5, 6, 7 and 8. This is given in brief only, because I hope by the first four chapters you will be trained to analyse the content of any other chapter. So you may follow the procedure of analysis of the first chapter to all the succeeding seven chapters.
SUBSECTION 1. INTRODUCTION

You are doing the job of teaching. Please answer the following questions.

1. For how many years have you been teaching?

2. While you teach Biology in secondary level what were the objectives you generally keep in your mind?

3. Was there any objective to teach values?

Perhaps the answer might be that 'Values are caught rather than taught'; So there is no need of setting up such an objective at all. Perhaps you might have thought that, 'Is there any provision of values in Biology so that I can directly teach them? Or you would have said that there are some values in Biology also, but I do not know how they are to be transferred. Still all of us yearn for a value based life for our children. So, what will you do?
Here, I would like to collect your opinion by four questions. Space is provided for your answer. The answers should be in the form of Yes/No. Also you can support your answer with evidence in one or two sentences.

1. Is there any need of special concern for value development in children? Yes/No.

2. Can the Biology content help in developing values in students? Yes/No.

3. Are you aware that the Biology content of standard IX contain values? Yes/No.

4. Are you able to identify all the values inherent in the standard IX Biology text book? Yes/No.
If your answer is 'Yes' to the first three questions and 'No' to the fourth one, you can directly enter into this training procedure. If your answer is 'No' for all the questions you can also go through this procedure without any prejudice and after doing this, decide whether this training is useful to change your attitude. I am quite sure you also will be interested in knowing this method. If the answer is 'Yes' for all the questions, you deserve congratulations. Still you may go through this to experience this procedure I place before you. So let us start content analysis from here on. Please take your Biology text book of standard IX and start reading this.
SUBSECTION 2. CHAPTER 1. AGRICULTURE

(For those who are interested a copy of Chapter 1 in the text book is provided here. First you read the chapter and then experience the content analysis procedure of Chapter 1 to list out values)

2.1. Chapter 1 of Standard IX Biology Text Book

AGRICULTURE

What we have learnt . . ,

- Food production does not increase proportional to population growth.
- Saplings of high quality plants can be produced through artificial vegetative propagation.
- High quality plants and animals with high yielding potential, high immunity to diseases, and long life, can be produced by means of hybridization.
- Genetic engineering, tissue culture, and cloning are related areas of research and field application that sparked off revolutionary changes in the field of agriculture.
- The hybrid variety of paddy, wheat, pepper, coconut, sugarcane, tapioca, rubber etc. are of higher quality compared with their corresponding common/rural varieties.
• The natural constitution and fertility of the soil are lost due to excessive use of chemical fertilizers. But the use of organic fertilizers helps in maintaining these qualities of the soil.

• The chemical pesticides which are not biodegradable are transferred from one organism to another in the food chain and cause biomagnification.

• Agricultural yield can be improved by controlling the use of chemical pesticides and by using mechanical and organic ways of pest control.

"India is an agrarian country. In order to ensure a steady development of our country, it is inevitable that there is systematic progress in the field of agriculture. But has the field of agriculture achieved such an expected pace of development? In fact, is it not a reality to reckon with, that agriculture as a profession is becoming alien to the new generation?".

The above passage is an extract from a speech at the inaugural function of Young Farmers' club of a school.

It is essential to ensure that the development of a country is stable. What is meant by a stable, steady development? Don't you think that if the country is facing hurdles intermittently, thus resulting in a very unsteady development, the common man's life would be affected adversely? As India is an agrarian nation, let us examine the case of agriculture itself. Can we achieve the goal of development if we get good produce in some seasons, and
face production crisis in a few other seasons? Is it not necessary that we improve agricultural production by controlling the population growth? You have already learned how unfavourable factors like dearth of agricultural workers, high production cost etc affect production. It is necessary that scientific and technical devices are effectively implemented to resolve crisis due to such unfavourable conditions. Along with these technical aspects, is it not necessary that we, living in a land of agriculture, develop an aptitude and regard for agriculture as a profession? For this, what is required is an awareness regarding the possibilities and techniques of agriculture relevant to our locality.

You have already learned that, in Kerala, like in many other states of India, agricultural production does not increase in tune with population growth. Many reasons have been put forward for this situation.

Analyse the changes in the production of the main agricultural produce of your locality from information collected from Local Self Government Institutions and Krishibhavan. Arrive at conclusions regarding issues faced in the case of main crops from the above analysis.

There will be regional variations in the reasons and issues. Therefore, it is impractical to give common solutions for our state or country. It is only on the basis of an evaluation of regional agricultural development and the factors
influencing this development that we can achieve the goal of comprehensive agricultural production.

**Mixed Cropping**

You must have observed that tapioca, banana, etc are grown in coconut farms. Similarly, betel, vanilla, underground stems and root tubers etc as short term crops and pepper, pineapple, etc. as long term crops are also grown. Such a practice of growing varied crops in a mixed fashion is termed mixed cropping. The following are the advantages of mixed cropping:-

- Maximum utilization of agricultural land.
- Exploitation of the high and low availability of sunlight.
- The maximum utilization of fertilizers.

*Collect information on crops suited for mixed cropping, and the techniques for their farming, and record in your science diary.*

**Group Farming**

Do you know about the strategy adopted in a region to improve the production of paddy farms by bringing together a group of farmers working in unity, and using modern farming techniques? The unity and cooperation of farmers can be observed at all stages of cropping. Is it not desirable, that this endeavour of group farming which has been started for paddy cultivation be spread to all other crops?
What are the advantages of group farming? Think together. Record your inferences in your science diary.

**Rotation of Crops**

Have you observed that in our fields, after paddy cultivation there is gingelly cultivation, followed by leguminous plants (pulses)? Likewise cultivation of different crops one after the other in the same field during different seasons of a year is called rotation of crops. Find out more examples for rotation of crops. Does this process help in maintaining the fertility of the soil? Plants utilize only those organic and mineral nutrients constituted in the soil for their growth. Can't these compounds, not much required by one crop, be utilized by another crop? Have you observed the swellings on the roots of pulses? Rhizobium which is the nitrogen fixing bacteria living in these swellings, convert atmospheric nitrogen into nitrates, and mix them in the soil, for easy absorption by plants. It is not necessary that pests affecting a particular crop should also affect another. Similarly, some pests living in a crop are prone to be food for those living in another. Therefore rotation of crops helps to some extent in controlling pests also.

So far, we have considered certain techniques adopted for improving agricultural production. The use of these techniques alone does not necessarily ensure improved production. Processes like irrigation, pest
control, use of fertilizers etc also need to be scientifically planned and implemented. You have already learned about all these.

*Give solutions to issues faced by farmers in your region. As a part of this, organise a class seminar and let a frame work for a farming approach having local relevance, evolve from the seminar.*

You have understood many aspects related to farming of different crops. Many of these crops are important as staple food crops. Along with these, vegetables are the main sources of vitamins and minerals necessary for our physical growth and metabolic functions. But are we able to produce the vegetables necessary for us in our own courtyard?

Daily diet of an adult should include about 250 gm of vegetables. The amount required is more in case of vegetarians. See the table 1 a given below.

**TABLE: 1 a**

**The Amount of Vitamins Present in Different Kinds of Vegetables**

<table>
<thead>
<tr>
<th>Vegetable</th>
<th>Carotene Mg</th>
<th>Vit B₁ Thiamine (mg)</th>
<th>Vit B₂ Riboflavin (mg)</th>
<th>Vit B₆ Pyridoxine (mg)</th>
<th>Vit B₃ Folic Acid (Mg)</th>
<th>Vit C Ascorbic Acid (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moringa leaves</td>
<td>6780</td>
<td>0.06</td>
<td>0.05</td>
<td>0.08</td>
<td>---</td>
<td>220</td>
</tr>
<tr>
<td>Amaranthus</td>
<td>5520</td>
<td>0.03</td>
<td>0.30</td>
<td>1.2</td>
<td>0.149</td>
<td>99</td>
</tr>
<tr>
<td>Ladies finger</td>
<td>0.52</td>
<td>0.07</td>
<td>0.10</td>
<td>0.6</td>
<td>105.1</td>
<td>13</td>
</tr>
<tr>
<td>Pulses</td>
<td>564</td>
<td>0.07</td>
<td>0.09</td>
<td>0.9</td>
<td>---</td>
<td>14</td>
</tr>
</tbody>
</table>
Find answers to the following questions

- Which are the vegetables that can be grown at home?
- Which are the vegetables that we buy?
- Compare the vitamin content of moringa leaves and bittergourd, with that of beet root and cauliflower.

Do you think that those vegetables that are not grown in our land but are purchased from outside are of a higher quality? Don't you think that it will be more economic if we can grow vegetables for our daily consumption, in our own kitchen garden?
A Vegetable Garden at Home

Why do you think that it is important to have different vegetables in our daily diet? What if we make our own vegetable garden at home? Naturally, this garden should have varieties of vegetables. Let us see what are the different aspects to be considered while organising a vegetable garden at home.

Issue of Space Problem

You are aware of the different farming methods. Most households face the problem of availability of space and this has to be tackled while organising a vegetable garden at home. Following are the ways to counter the problems of space.

- Terrace farming
- Sack farming
- Optimum utilisation of available land

What are the points to be borne in mind while choosing the seed varieties? It is necessary to assure that the seeds selected are suited to the climate and the soil, and should be from high yielding varieties of plants.
Scientific Use of Fertilizers

It is not necessary that quality of the seeds alone will ensure quality of crops. Proper use of fertilizers is an important factor to ensure good quality crops. You have learned about the different ways of using fertilizers in your previous class.

Organise interviews with farmers and find out which are the appropriate fertilizers for specific vegetables and the ways and means of using these fertilizers. Record your activities and observations in your science diary.

What if there is a problem of pests after taking care of all the aspects discussed above?

Pest Control

You have learned about the adverse effects of chemical pesticides on the environment and the health of living beings. You also know about the quality of organic pesticides. Read the pest control strategies presented in table 1 - b below.

You have understood the aspects to be borne in mind while organising a vegetable garden at home. Can't we see this exercise as a profitable business apart from aiding in becoming self sufficient with regard to our daily food requirements?
There are many pesticides that pose a challenge to physical and mental growth. DDT and Endosulphan are only a few among them. The consequences tend to be more severe when the use of these pesticides is unscientific and mindless. A few incidents of the recent past point towards this disaster.
Organise a vegetable garden in your school. The entire land space should be divided into plots according to the number of classes. Recording of activities and observations should be done at all stages right from preparing the soil up to harvesting. Make a comparative study of the yield obtained by different classes and arrive at conclusions.

What about growing flowers in the school and at home, like growing vegetables? Don't you think that this too can increase the possibility for a vocation?

**Profit from Flowers**

Think about the role played by flowers in maintaining the balance in nature and also in adding to nature's beauty. You might have been observing many varieties of flowers in your locality since your childhood. Do you still get to see all of them? If no, collect information on such flowers that have disappeared and make a list. Have you observed the different varieties of flowers available in the market? Which are these?

- Rose
- Jasmine
- Orchid
- Anthurium
- Marigold
There is a scientific branch termed floriculture to cover all aspects related to growing of flowering plants. You are aware that flowers are used in the preparation of perfumes. Think about the possibilities of export of flowers and the subsequent employment opportunities that can influence the economic aspects of floriculture.

The economic prospects will definitely be enriched by way of developing new varieties of flowers through floriculture. Along with this, the conservation of common local flowers is essential to maintain the delicate balance of nature. What all can we do for this?

*Organise a flower garden in your school to protect the common flowering plants of your locality.*

**Plant Diseases**

There are many plant diseases that fatally affect agricultural production. It is necessary to find effective solution for controlling such diseases and to develop resistance against diseases along with developing new crops and farming methods. See the below given table I-C (next page), for different plant diseases. Find out answers to the following questions.

- Which are the common micro organisms responsible for causing plant diseases?
- Which are the diseases spread through seeds?
Which one of the diseases is spread by air?

Which are the diseases spread by insects?

What are the methods adopted to protect plants from diseases?

- Use of disease resistant seeds.
- The effective use of pesticides
- Rotation of crops
- Destruction of plants attacked by viruses.

Prepare a project to list the important crops in your locality and examine whether their yield gets reduced due to plant diseases. Present this report in the class.

**TABLE: 1 c. Common Diseases that Affect Crops**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Diseases</th>
<th>Crop</th>
<th>Cause</th>
<th>Mode of Spreading</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Red rot</td>
<td>Sugarcane</td>
<td>Fungus</td>
<td>Through seeds</td>
<td>Stem shrinks, dries up and splits. Red secretion from the splits. Leaves dry up.</td>
</tr>
<tr>
<td>3.</td>
<td>Blight</td>
<td>Paddy</td>
<td>Bacteria</td>
<td>Through seeds</td>
<td>Marks of different colours near the margins of leaves. Leaves dry up at the tips</td>
</tr>
<tr>
<td>4.</td>
<td>Stem rot</td>
<td>Rubber</td>
<td>Fungus</td>
<td>Through air</td>
<td>The bark of rubber breaks. Latex flows out. Stem dries up.</td>
</tr>
<tr>
<td>5.</td>
<td>Mahali</td>
<td>Arecanut</td>
<td>Fungus</td>
<td>Through air</td>
<td>Tender nuts dry up and fall off.</td>
</tr>
</tbody>
</table>
Modern Techniques to Control Diseases

It is a practice to produce disease resistant seed varieties, using biotechnological knowledge. Seeds resistant to virus have been developed from tobacco, tomato, potato etc.

Farming as a Vocation

Humans started farming and animal husbandry for food production. But today farming is growing to be a field offering great possibilities of employment. So it is necessary to aim at maximum yield from farming. Many new branches are coming up in the field of agriculture and animal husbandry. Therefore naturally there are many issues to be addressed in these areas. The following boxes present notes prepared by a student regarding issues the area of animal husbandry.
India has 25% of the cattle strength of the world, where as milk production is below 10%.

Average egg production of Indian fowl is 60-70, where as that of foreign breeds is 200-300.

Daily requirement of cattle feed for cow is 15.20 kg of grass, 4.5 kg of cattle feed, 32 litres of water.

<table>
<thead>
<tr>
<th>Diseases</th>
<th>Causative factor</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foot &amp; Mouth diseases</td>
<td>Virus</td>
<td>Severe fever. Boils in the mouth and between claws, which burst open, Loss of appetite</td>
</tr>
<tr>
<td>Swelling of udder</td>
<td>Bacteria</td>
<td>Swelling of udder, low yield of milk, infection in the udder, inflammation of nipples.</td>
</tr>
<tr>
<td>Anthrax</td>
<td>Bacteria</td>
<td>Oozing of blood from nose and mouth, foam and froth from mouth, sudden occurrence of fever.</td>
</tr>
<tr>
<td>Cattle Diseases</td>
<td>Bacteria</td>
<td>Loose and white coloured excreta. Drowsiness. Block in breathing (Stressful breathing)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Milk Yield of Cows in different Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Netherlands</td>
</tr>
<tr>
<td>America</td>
</tr>
<tr>
<td>Denmark</td>
</tr>
<tr>
<td>England</td>
</tr>
<tr>
<td>Pakistan</td>
</tr>
<tr>
<td>India</td>
</tr>
</tbody>
</table>

Opinion of a Milk Farmer

A Cow that yields 12 litres of milk requires feed worth Rs.50. Apart from this, expenditure is incurred for curing diseases and for other protective measures. What is the use of getting better yield when the expenditure goes on increasing in this manner? Considering the fat content of milk, the price of milk is very low.
On analyzing these notes, don't you think that ways and means of making the field of animal husbandry more profitable are becoming more clear? See the following points.

- Keep expenditure low
- Enhance the yielding potential
- Develop high quality cattle
- Use scientific methods to expand the field of animal husbandry.

### Anthrax: From Cattle to Man

Anthrax is a cattle disease spread to humans. The causative microbe is a bacterium called *Bacillus anthracis*. These microbes spread in the soil from the animals that die of anthrax. The anthrax bacteria remain alive in the soil for long and reach humans. Another route of these bacteria is through the flesh of animals infected with Anthrax, cooked and eaten by humans.

If animal husbandry has to develop as a profession, the cattle selected for rearing should possess certain special qualities. You have learned that hybrid varieties of cattle are grown to improve the quality of cattle wealth. Let's see how hybrid varieties of cattle are produced.
Artificial Insemination

Hybridization is the process by which desirable qualities of different animals of the same genus are brought together in their offspring. You have understood about the different types of animals developed by means of hybridization. The widely adopted means of hybridization among cattle is artificial insemination. Sperms from high quality animals are collected, cooled and preserved in liquid nitrogen. These sperms are injected into females to yield high quality offsprings. Let's see the other developing areas that are equally significant as animal husbandry.

Pisciculture

Pisciculture is one of the branches of farming which involves rearing fish and prawn on a commercial basis by adopting scientific and technical means. Pisciculture developed in India as a part of the Blue Revolution. Pisciculture encompasses the following areas.

- Pisciculture-Edible fish
- Prawn rearing
- Pisciculture-Ornamental fish

Have you heard of group of co-operative pisciculture? Developmental agencies like Matsyafed are helping in popularising this system of farming.
Collect information on the above point and examine if there is possibility of pisciculture in your locality.

Only if Your have Water . . .

Only if there is water, you can grow fish. By controlling water pollution, and by adopting scientific measures in the use of water and its protection, we can maintain the water wealth of the country.

Sericulture

Sericulture is an agricultural vocation which brings in a steady income with a limited capital investment. As it does not demand high technical expertise, all family members can participate in this business. Do you know how to go about sericulture?

Sericulture: A Profitable profession

It has been proved beyond doubt that if proper planning is adhered to and scientific farming techniques are adopted, sericulture can be a highly profitable vocation. Returns start flowing in within 6 months of starting sericulture. The mulberry garden started and developed to grow the larvae of silk worm, will remain as such for 12-20 years. An acre of land can yield upto Rs.20,000 as net profit.
The larvae of silk worms are fed on mulberry leaves. They grow very fast and pupate inside a cocoon made of silk threads. The cocoons of the larvae are collected. The pupae in the cocoons are killed by placing these in steam. Later they are dropped in boiled water and the silk thread is reeled out.

**The Secret of Silk**

It was the Chinese who discovered the technique of making silk from the cocoons of silk worms around 3000 years ago. Chinese exported clothes made of silk to Europe and Rome. The route used for this export is called 'Silk Route'. India was also a country well known for silk. The story of 'Decca Muslin Silk' is an immemorable symbol of our craftsmanship and creativity.

**Apiculture**

You know about the medicinal value and also the economic importance of honey. Growing of honey bees (apiculture) has become a very yielding vocation. The source of honey for the bees, is the flowers of plants.

**Importance of Honey**

200 gms of honey contains the nutrients equivalent to those in 1.5K.g of milk, or 1.5 K.g of butter, 340 gm meat, 10 eggs, or 8 oranges: Honey wax is used in the preparation of more than 300 products.
More and more plants are being planted today by way of co-operative afforestation programme. Discuss how this process becomes helpful to apiculture. The guidance required for apiculture is available from Khadi Board. Collect more information regarding apiculture and explore the possibilities of starting apiculture at home.

**Two Birds in a Single Shot**

There are many plants for co-operative afforestation and apiculture. Cassia, Neem, Moringa, Lebbek, Albizia, Pomegranate and many other fruit trees are a few of these.

**Mushroom Culture**

Mushroom is an edible plant found in nature. It is a potent source of proteins and vitamins. Mushroom can be grown with very low investment in any weather condition. Collect more information on mushroom culture and try growing them.

*Collect varieties of mushrooms, identify their specialities and categorize. Collect relevant information and try growing edible mushrooms.*
The Pioneers in Mushroom Culture

90% of the total mushroom production of the world is from China, Italy, Korea and Taiwan. In India, mushroom culture is spreading rapidly in Andhra, Karnataka and Tamil Nadu.

The consistent development of an agrarian country like India is based on the progress in agriculture. The related vocations too have to expand parallel to agricultural production. Therefore such vocations have to be enriched in our state. It is only by utilizing the possibility of transforming the agricultural produce into commercial products, that we can improve our economic structure and thus our economic growth. Apart from all these it is necessary to ensure the scientific preservation of food items and their fair distribution. For this, the appropriate attitude and ways and means have to evolve. Only then can the vision of expansion be made a reality. Let agriculture remain a good model of our development culture.

The Paradox!

The food production of the world is sufficient to feed the whole human race on earth today, not once but twice! At the same time, more than 1.25 crores of people die of hunger in a year, according to WHO statistics. Are we not responsible for saving these unfortunate people?
SUMMARY

- Agriculture is the main aid to ensure a steady and consistent development of our country.
- Mixed cropping, rotation of crops and group farming are techniques used to increase the agricultural yield.
- The amount of vitamins present in different vegetables is different.
- Apart from selecting saplings or seeds suitable for the weather and landscape of a region, the aspects of availability of water and space, use of fertilizers and control of pests have to be considered while developing vegetable garden, pisciculture, sericulture and floriculture.
- Horticulture, Apiculture, Mushroom culture, Poultry farming etc. are areas which clearly bring out the significance of farming as a profession.
- Different varieties of micro-organisms cause varied diseases in plants resulting in a low yield of crops.
- A high breed of cattle can be produced by way of artificial insemination.
- To ensure a steady development of our country, it is essential that related vocations also expand along with agriculture.

Further Activities

1. The following graphs indicate the agricultural development in two countries respectively. Examine these and say which country shows steady progress?
2. How is mixed cropping different from crop rotation? How can we use paddy, coconut, tapioca, banana, yam, amorphophalus, colocasia, pea, bittergourd, snake gourd and gingely for mixed cropping and for rotation of crops?

3. What are the advantages of producing the necessary vegetables at home?

4. Below given is a list of pest control techniques adopted by a person in his vegetable garden. Analyse them and answer the following questions.

   a. use of fruit bait consisting of Furadan

   b. use of Furadan directly

   c. use of paper cover for covering raw bananas.

   i) Which is the pest control technique that causes the maximum side effects?
ii) Which is the technique that has no side effect at all?

iii) Will the side effects caused by (a) and (b) be the same? Analyse.

5. Evolve a design of a vegetable garden to be organised in 5 cents of land.

- Which types of vegetables will you select?
- How will you collect the saplings and seeds?
- How is the soil to be prepared for the cultivation?
- What fertilizers will you use?
- Which pest control techniques will you adopt.

6. Make a write-up on plant diseases.

7. It has been proved that if more than one produce is cultivated simultaneously in an interlinked fashion, the yield will increase. How can we utilise the following in this fashion.

Paddy, poultry, mushroom culture, sericulture and apiculture.

8. Anthrax is a greater threat to mankind compared to any other cattle disease. Why?

9. It has become imperative that the present generation sheds away false prestige and adopts agriculture as a means of self employment. Do you agree to this statement? Why?

10. Is growing plants for plant products, the expected goal of agriculture? Evolve a practical definition for agriculture.
2.2. Content Analysis of Chapter 1

By reading chapter 1, I hope, you can see the chapter is having a heading. Then while reading the chapter you can note a number of subheadings. The chapter heading gives the major concept and the subheadings give the different minor concepts included in the chapter. While analyzing content for identifying values we can start from the very beginning of the chapter and take the content under each subheading separately. This will help us to identify all the values coming under all minor concepts. Let us proceed.

Minor Concept 1 - Introduction

The first minor concept is the introduction. You read, from the first of the chapter to 'Mixed Cropping' twice. At first you just go through these sentences and concentrate on each sentence at the second reading. Can you feel any values here? Let us explore.

Learning Activity 1

In the light of what you have just read, are you able to find out value of this sentence shown below? (The last but one sentence of the third paragraph) "Along with the technical aspects, is it not necessary that we living in a land of agriculture, develop an aptitude and regard
for agriculture as a profession?" You might have noticed the message of this sentence. Please write down the value you could identify.

Notes:  
(i) Write your answer in the space given below  
(ii) Check your answer with the one given as its explanation below.

For the explanation:

We know that people are working in different fields. Some are in the Medical profession, some are Teachers, others are in Politics, another group is in Engineering, some are in Agriculture and others in productive Industrial field. All are engaged in their fields and meet their needs. Whatever may be the field, those who work hard and keep dignity of the job, are becoming competent models in these fields. They can also attract others to these fields. So paying regards to one's own job is a model to show that the job has a dignity even if it is of a low status. Hence the value here is Dignity of Labour.

Minor Concept 2 - Mixed Cropping

This is the second minor concept.
Learning Activity 2

The first paragraph of this minor concept upholds a value. Find out the value.

Notes:  
i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below

Explanation

Formerly, all people utilized their lands for maximum production and they were satisfied in their job. For this they used to collect seeds suitable for the field and produce different crops at the same time. By mixed cropping maximum utilization of all resources is possible. A preplanning is necessary for selecting and cultivating suitable crops for the land. This preplanning leads to success. The value contained in such an approach is known as Scientific Attitude.

Minor Concept 3 - Group Farming

Learning Activity - 3

In the minor concept, 'Group Farming' the paragraph upholds certain values. Which are they?
Explanation

Unity is strength. Here, members of a group are sharing an equal amount of duty. In this way if each member is committed to do his duty, the total effort will lead to success. Hence values present here are Commitment, Cooperation, Brotherhood and Friendship.

Minor concept 4 - Rotation of Crops

Read the minor concept 'Rotation of Crops' and try to find out the value it contains.

Learning Activity 4

'Rotation of Crops' provides you an important value.

Notes:  i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below:

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Explanation

In the field of agriculture, cultivation of different crops is a regular process and also economic. Farmers can apply different crops in their field by rotation and thus the field is utilised the maximum. Rotation of certain crops will add to the fertility of the land for the next crop also. This requires thorough planning. This planning results in the maximum utilization of their field along with maximum production. This planning is a special approach which is necessary for a satisfied life. The value present in this approach is known as Scientific Attitude.

Minor Concept 5. Table 1. a Amount of Vitamins Present in Different kinds of Vegetables

Learning Activity 5

Go through Table 1-a and list out the value possible in this table.

Notes: i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below:

Explanation

Being reliable in communication is a highly essential value for a
successful life. Thus, even from this table we can feel the need of an important value, that is, Reliability.

Minor Concept 6 - A vegetable Garden at Home

This minor concept includes a number of aspects like Issue of space problem, Use of fertilizers, Table 1.b and Pest control. Read this minor concept and try to find out values inherent in this.

Learning Activity 6

The first aspect is 'Issue of space problem' Do you feel any values here?

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below:

Explanation

This gives a message that, utilise all the resources available and produce the maximum. For this 'Scientific Attitude' is necessary.

Learning Activity 7

'Use of fertilizers', Here a particular value is hidden. Find out the same.
Notes:
i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.

Explanation

Fertilizers will increase the productivity. At the same time we will be concerned about the health of the users of the crop. So unwanted use of such fertilizers may affect the health of others and we must be careful in this, is the message here. Hence the value 'Concern for Others'.

Learning Activity 8

'Pest Control', This aspect upholds a value. Try to identify it.

Notes:
i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below

Explanation

The explanation is same as that is given to Learning Activity No. 7.

Hence the value 'Concern for Others'.
Learning Activity 9

Table 1.b provides certain values. Do you know those values.

Notes:

i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below

Explanation

If we are doing experiment it should be accurate. Hence the value present here is Accuracy. At the same time we must show 'Courageous Conviction' and accept the fault, if it happens.

Learning Activity 10.

Read the following 'box' carefully

"Careless and Unscientific"

There are many pesticides that pose a challenge to physical and mental growth. DDT and Endosulphan are only a few among them. The consequences tend to be more severe when the use of these pesticides is unscientific and mindless. A few incidents of the recent part point towards this disaster.
Identify the value hidden in the box given above?

Notes:  
  i) Write your answer in the space given below  
  ii) Check your answer with the one given as its explanation below.

Explanation

Some of the pesticides are harmful to man and cause health problems. It is not to be used even if it provides maximum production. We should not be that much selfish. We are always concerned about ourselves. Please, extend this concern to others also. Hence the value is Concern for Others.

Minor Concept 7 - Profit from Flowers

Learning Activity 11

Can you find values in this minor concept?

Notes:  
  i) Write your answer in the space given below  
  ii) Check your answer with the one given as its explanation below.
Explanation

A number of chances are here for getting employment and thus for livelihood. One among them is the field of floriculture. The fragrance of flowers and because of this their demand is also more now-a-days. Many people are attracted to this field. Floriculture, also helpful for better livelihood. But before approaching any field we feel the value Dignity of Labour. Along with providing livelihood can you think about the beauty of nature by flowers! This minor concept also provides the value Appreciation of Nature.

Minor Concept 8 - Plant diseases

Next minor concept is Plant diseases. It includes a table which provides you the diseases of plants and causative agents along with symptoms.

Learning Activity 12

Read the Table 1.c and find out values.

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below

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Explanation

The minor concept provide the value Reliability. The explanation is same as those given for Learning Activity No. 5.

Learning Activity 13

The last sentence of this minor concept is comparison between yield of crops and plant disease. There is a value hidden in this sentence. Find out the same.

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below

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Explanation

In any field, many factors affect the performance/production. Don't be desperate in the result. Approach again the same with confidence and scientific attitude along with courage, surely you will succeed. So the values here are, Scientific Attitude, Courage and Self-Control.
Minor concept 9 - Farming as vocation

This minor concept includes a number of aspects like, Introduction, Sericulture, Apiculture, Mushroom culture and a Table. In this the table provides the value **Reliability**.

**Learning Activity 14**

*When all the aspects are taken together, there is an important value hidden in this minor concept. Can you find out this message?*

**Notes:**

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below

We are not aware of the limitless opportunities before us. A number of chances are here. If we fail in one, we can try another. So before starting to live we should prepare ourselves and accept the feeling that Life is **Worth living**.
**Learning Activity 15**

*In this minor concept, you might have noticed an important note in a box on page 14. Read carefully this note and find out the values it contains.*

"Only if you have water...........

*Only if there is water, you can grow fish. By controlling water pollution, and by adopting scientific measures in the use of water and its protection we can maintain the water wealth of the country".*

**Notes:**

i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.

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**Explanation**

*Scarcity of water is an acute problem today. Everyone knows that this is due to the activity of man. So it is the duty and responsibility of man to prevent pollution and thus preserve the natural resources for the existence of nature as such for the coming generations. Hence the value is Responsibility.*
Learning Activity 16

In apiculture, one paragraph shows the relationship between co-operative afforestation programme and apiculture. Can you describe this relationship in terms of values?

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.

Explanation

We know the relationship between plants and animals. Life without plants is not possible for animals. That means there is an interrelationship between the two. This interrelationship is the basis of life on earth. The first component, i.e., plants are doing service to the animals. So it is the duty and responsibility of man especially, to protect nature and maintain the interrelationship between the two. Hence the values inherent here are Interdependence of Man and Nature and Responsibility.

Learning Activity 17

The last paragraph of this chapter given in a box provides you a message in the form of a value. Read this paragraph and find out the value it contains.
"The Paradox!

The food production of the world is sufficient to feed the whole human race on earth today, not once but twice! At the same time more than 1.25 crores of people die of hunger in a year according to WHO statistics. Are we not responsible for saving these unfortunate people?"

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below

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Explanation

On one side man flourishes and on the other side poverty too. This imbalance affects the nation's growth. The point stressed here is the helping hand towards the poor. Each and everyone has to share his things with others. The message of this paragraph is Servicemindedness.

Minor Concept 10 - Summary and Further Activities

Learning Activity 18

'Summary and Further activities' also provide some values. Read this carefully and list out values from them.

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below
Explanation

*We may feel that Life is miserable. Challenges may come to life, still we can find out alternate ways and succeed finally. There is no need for desperation. Be optimistic in every step. Courage and optimism resulting from this belief should make us feel, Life is Worth living.*

**LET US SUM UP**

We have analysed the content of the first chapter in detail. A brief summary of its results are given below:

| Chapter 1 | : | Agriculture |
| --- | | --- |
| Major Concept | : | Agriculture |
| Minor Concepts | : | Values Identified |
| 1. Introduction | : | Dignity of Labour |
| 2. Mixed cropping | : | Scientific Attitude |
| 3. Group farming | : | Commitment |
| | | Co-operation |
| | | Brotherhood |
| | | Friendship |
| 4. Rotation of crops | : | Scientific Attitude |
| 5. Table 1 a. | : | Reliability |
| 6. A vegetable Garden | : | Scientific attitude |
7. Profit from flowers
   : Dignity of Labour
   : Appreciation of Nature

8. Plant diseases
   : Reliability
   : Scientific Attitude
   : Courage
   : Self Control

9. Farming as a vocation
   : Life is worth living
   : Responsibility
   : Interdependence of Man and Nature
   : Servicemindedness

10. Summary and Further Activities
    : Life is Worth living.

The Major Value Identified

By keeping all these values in mind once again concentrate on the heading of the chapter. Then you can understand that these values all lead to the message of the whole chapter in the form of a value. Surely this is the major value of the chapter. The minor concepts of the chapter lead to the development of the major value of the chapter. Now can you find out the major value of the chapter?

Learning Activity 19

Find out the major value of the chapter.
Explanation

Self sufficiency, Responsibility, Concern for Others, Service-mindedness, Dignity of labour, and Scientific Attitude that helps us to plan with thinking of alternates, lead to the development of the major value. We know that all these values are very precious for leading a satisfied life. They keep us go on. They give us the feeling life is precious and a boon. Nobody has the right to endanger one's life. Hence the major value of the chapter is 'Life is worth living', means, Life is worthy and is to be lived successfully'.

From the first chapter we got the major value Life is worth living. Now-a-days we can see in our adolescent students, especially by the end of the secondary level there is a tendency to endanger their own life and also of others. The minute problems like shortage of marks in examinations; the delay in meeting their demands about money, dress and other materials from their parents; teasing by friends; poverty; failure in examinations and love affair, all lead to suicide or criminal tendency in them. That is why this particular value is of current importance.
Now-a-days Counselling centres/Guidance centres are becoming common. Each teacher can become a counsellor, if she is aware of such values to be taught and their way of transaction. So it is sure that, text books contain all essential values necessary for students of the specific age level. This is proved from the analysis of the first chapter. Hence it is the duty of the teachers to identify all the values hidden in the content of the text books and try to develop them in the students.

Now let us pass on the subsection 3 which deals with the second chapter of the text book. This subsection analyses only the content matter of the chapter and boxes and tables are not analysed and discussed. Hope with the earlier experience you will analyse them also and identify the values hidden there.
SUBSECTION 3. CHAPTER 2. NUTRITION IN PLANTS

Minor Concept 1. The first minor concept is the introduction. While you are reading this minor concept, you might have noticed a sentence in the third paragraph which provides you an important value. The sentence is, Green Plants prepare food for all living organisms on earth.

Learning Activity 1

Can you find out the particular value hidden in the sentence above?

Notes:
   i) Write your answer in the space given below
   ii) Check your answer with the one given as its explanation below.

Explanation

Can you imagine life without plants? Plants are the first components in our ecosystem. They prepare food for all living organisms on earth. They are doing service to other components and thus doing their duty without any break. Human beings never think about this and their activities destroy the green earth. The duty and responsibility of man is to keep the balance of the
ecosystem and keep the earth green for the future generations. This is what we have to do in turn to the service of the plant world. The values inherent here are Servicemindedness and Duty.

The box in this minor concept (p.20) contains the value Interrelationship is the base of life. This means there is a relationship between the components of an ecosystem. If one component is detached from the others the whole ecosystem will perish. So, try to keep the relationship. Such persons can develop other values like Brotherhood, Servicemindedness and Sense of duty also.

Minor Concept 2 - Factors needed for the preparation of food

Under the minor concept, a number of subheadings are given in the form of different factors needed for food preparation. These are, light, Chlorophyll, Carbon dioxide and water. The necessity of all these components is proved with experiments.

Learning Activity 2

Taking all the above together, write down values inherent in them.

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.
Explanation

If we are doing an experiment, it should be accurate. The results of an experiment provides data. This data should be reliable. Behind such an experiment, its findings and interpretation, hard work is necessary. Hence the values are Hard work, Reliability and Accuracy.

Minor concept 3 - Chemistry of Photosynthesis

This minor concept gives the details of the process of photosynthesis. If we go through its details, a particular feeling haunts you.

Learning Activity 3

Can you identify the value inherent in this minor concept.

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.
Explanation

The process of photosynthesis detailed here makes one wonder about the nature's plan of action. Really this wonder is named in the form of a value, Appreciation of Nature

Minor Concept 4 - Photosynthesis: The basis of Life

The last paragraph of this minor concept provides you an important value.

Learning Activity 4

Read this minor concept, and identify the value contained in it.

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.

Explanation

Plants are the basic component of life. Without plants no life is possible. But man is destroying this earth day by day. The consequences are very many. The shortage of rainfall, earthquake are some examples only.
Now is the time for rethinking. Protection of nature and natural resources and thus keeping the earth balanced is the duty and responsibility of man. Hence the value here is **Responsibility**.

**Minor Concept 5 - Summary and Further Activities**

Summary and further activities remind you of all the values described in the chapter.

**Learning Activity 5**

No. 4 of the further activities provides you an important message. Can you identify the same?

**Notes:**

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.

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**Explanation**

The service of the plants are very many. This chapter, reminds the service of plants to the ecosystem. And, therefore, we are indebted to plants for our whole life. The value we are to be imbibed from this activity is **Gratitude**. It is to be practiced in our life also.
The Major Value Identified

Food is necessary to allay hunger and it becomes useful to provide nutrients for growth to provide energy for body activities, to repair body tissues, and to maintain resistance. The chapter starts with this sentence. All these processes are included in the process of nutrition. This process starts from plants because they prepare food for all organisms. This chapter describes the role of plants to maintain life on earth, by stressing the value servicemindedness of the givers and need to be indebted to them by the users. So the major values of the chapter are *Servicemindedness* and *Gratitude*.

Adolescence is the period of storm and stress. Adolescents are full of energy. A teacher can channelize this energy to the productive fields. The second chapter highlights the value servicemindedness. Once again it is proved that text books contain all essential values necessary for students of the specific age level. Through Biology, a teacher can inculcate values among adolescents. We know that adolescents are more interested in group activities. A teacher can guide them to selfless activities thus inculcating the value *Servicemindedness*. At the same time, paying *Gratitude* to those who give service to us also is a very important value to be practiced in our life.
SUBSECTION 4. CHAPTER 3. NUTRITION IN ANIMALS

Minor Concept 1- Nutrition

This minor concept includes, nutrition in Amoeba, in Hydra, and in Earthworm.

Learning Activity 1

Taken all the above together find out values included in them

Notes:  

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.

Explaination

The process of nutrition in these animals stress the structures adapted for the purpose. This makes us wonder about the nature's preplanning for the existence of each form of life. The ability to feel this wonder is known as Appreciation of Nature.
Minor Concept 2 - Nutrition in Man and the path of food

This minor concept describes the process of digestion in man.

Learning Activity 2

Read this minor concept and try to find out values included in it.

Notes:

i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.

Explanation

The process of digestion, and the organs undertaking this function are described here. While going through these details we will be wondering. The feeling that "Are all these happening in our body!" is contributing to the value Appreciation of Nature. From the same information the other value projected out is Cleanliness. Because cleanliness is the key to keep all these organs/processes in proper way.
Minor Concept 3 - Liver and its diseases.

Read this minor concept and find out values included in it.

Learning Activity 3

Notes:

i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.

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Explanation

The information on Liver and its diseases gives the importance of health in our life. For the proper health of the body self discipline and good manners are inevitable. Healthy mind exists only in a healthy body. For this unwanted habits like smoking, drinking and using other intoxicants are to be avoided. Not only oneself should practice this but one should try to transfer these ideas to others also. Hence the values included here are, Self Discipline, Good manners, and Social Service.

Minor Concept 4 - Nutrients in the Food

Learning Activity 4

Can you find out any value in this minor concept.
Notes:  
i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.

Explanation

The explanation is the same as that given for the minor concept 1.

Minor Concept 5 - Nutritional deficiencies lead to diseases

Learning Activity 5

This minor concept contains an important value. Can you identify the value?

Notes:  
i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.
Explanation

In our society we can see two extremes; on one side there is acute poverty on the other side the posh life. If the haves are willing to share their surplus resources with the poor, the conditions of the latter could have been made better. So it is appreciable if we extend our concern to others also.

Hence the value is Concern for Others.

Minor Concept 6 - Over Nutrition

Read this minor concept and find out the value hidden.

Learning Activity 6

The last sentence of the concept includes a value. Identify the value.

Notes:  

i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.

Explanation

Healthy mind exists in a healthy body. Good habits are to be practiced in our life. It begins from very early in life. Such practice will prevent diseases. So the value is Self-Discipline.
Minor Concept 7 - Summary and further activities

Learning Activity 7

Summary of the chapter, especially point No. 8 upholds a value.

Can you identify the value.

Notes

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.

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Explanation

In this chapter nutrition and digestion of food is described in detail. From this description we got a picture of our body organs and their functions. Along with this there is a warning that the poisoning of such organs may lead to their destruction. This causes an imbalance in function which leads to acute diseases. For their proper functioning proper health is to be maintained. Hence the practice of Good Manners is the value here. We should avoid taking in of any poisonous substances.
Major Value Identified

The noted values, cleanliness, good manners etc. lead to the major value of the chapter which is **Self-Discipline**.

Adolescence is the period of maximum vegetative growth of the body. That is why the intake of food also is to be increased. Food habits have a very prominent role in one's personality. Better dietary habits are to be practiced along with their routine of intake. A teacher through this chapter in Biology can develop the value of discipline in all aspects of life along with food habits. This chapter thus upholds **Self Discipline** as the central value in it, which has as a prominent role throughout our life.
SUBSECTION 5. CHAPTER 4. RESPIRATION IN ORGANISMS

Minor Concept 1 - Modes of Respiration in Organisms

This minor concept includes the subheadings, viz., respiration in unicellular & multicellular organisms, insects, fishes, frogs and in man. All these aspects provide you an important value.

Learning Activity 1

Can you identify the value hidden in this minor concept.

Notes
i) Write your answer in the space given below
ii) Check your answer with the one given as its explanation below.

Explanation

Here the process of Respiration in different organisms and the structures adapted for this in them are well explained. This convinces us that the whole thing is really a wonderful mechanism. Hence the value felt here is Appreciation of Nature.
Minor Concept 2 - Chemistry of respiration

This minor concept describes the release of energy for life activities from the food we take in.

Learning Activity 2

Do you feel any value here?

Notes:

i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.

Explanation

Energy is produced by the breakdown of food. It implies the necessity of food for life. All living beings require food. A helping hand extended towards the poor and the other life forms is a highly appreciable behaviour. Hence the value is Concern for Others.
Minor Concept 3 - Tidal volume and vital capacity

**Learning Activity 3**

This minor concept includes an experiment about respiration.

Can you identify the value included in it?

**Notes:**

i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.

Explanation

As explained in chapter 1, Learning Activity 9, doing an experiment

Hard work and Accuracy are the inevitable values.

Minor Concept 4 - Respiration without oxygen

**Learning Activity 4**

Read the minor concept and find out values included in it.

**Notes:**

i) Write your answer in the space given below.

ii) Check your answer with the one given as its explanation below.
Explanation

The process of respiration involves the role of different respiratory gases and different respiratory organs of our body. Now a days we can see that the earth is becoming polluted day by day by the deadly activities of man. If the air is becoming polluted, it will cause dangerous effects to the mankind and the other animals too. This also adversely affects our respiratory organs and spreading of dangerous diseases. It is the duty and responsibility of each and every individual to protect the earth from pollution. We should pay concern to the health of others along with ours. Likewise we have to keep good habits for good health. Along with all these, we have to participate in the activities of awareness programmes for good health. Hence the values here are Responsibility, Servicemindedness, Concern for Others and Social Service.

Minor Concept 5 - Respiration in plants

Respiration in plants provides the importance of respiratory gases. Many values are there in this concept.

Learning Activity 5

Can you identify values included in this minor concept.

Notes:

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below
Explanation

Life and Life processes depend upon the availability and intake of respiratory gases. Life depends upon the purity of gases along with the perfectness of respiratory organs. Without air we cannot live even for one moment. But many substances like those toxic ones included in cigarettes affect our respiratory system. These substances may give timely pleasure but more of permanent acute diseases. These substances are causing diseases to others also along with smokers. That is, a smoker is causing danger to others also. Life is a boon to us. It is worthy and to be lived by all. Similarly letting them to live is the right of others too. So avoiding the substances which cause harm to our body is necessary. We have to keep robust health till death. Hence the values are, Life is Worth living, Concern for Others, and Self-Discipline.

Minor Concept 6

The closing paragraph of the chapter describes the role of plant community in the existence of other components of an ecosystem.
Learning Activity 6

Can you find out any values here?

Notes:  
   i) Write your answer in the space given below
   ii) Check your answer with the one given as its explanation below.

Explanation

The role of plant community in the existence of life on earth is very important. Life without plants is never to be thought of. They provide food for all and along with this they maintain the ratio of $O_2$ and $CO_2$ in the atmosphere. This reminds us of their service to the mankind and motivates for practicing servicemindedness in our life. Also it teaches us to keep interrelationship because this is the base of life. If such a feeling is with us we will be serviceminded. Hence the values here are **Interdependence and Servicemindedness**.
Minor Concept 7 - Summary and further activities

Learning Activity 7

Summary and further activities gives a massage in the form of a value. Can you identify the value.

Notes: 

i) Write your answer in the space given below

ii) Check your answer with the one given as its explanation below.

Explanation

Summary and further activities provide almost all the values cited above in the chapter analysis. Points 6 and 7 of summary uphold the value Goodmanners. Points 10 and 11 of further activities provide values Social Service, concern for Others, and Responsibility.

The Major Value Identified

The chapter describes about the process of gas exchange, and respiratory organs. Respiration is the inevitable process in life. Any toxicity of respiratory organs affect health which may lead to death. So we have to keep Healthy Habits in our Life, because health is wealth.
In the period of adolescence maximum development is possible. Thus the body weight and height are in maximum and body organs also are developing. The students do not know all the internal changes happening in their body. A Biology teacher can teach them about health and health problems of the body; and thus highlight the value of the avoidance of intoxicants and the practice of healthy habits. He/She can make aware of the diseases due to the intake of intoxicants. Sometimes it is due to the absence of guidance in this period that the children become addicts of intoxicants like cigarette, cocaine like substances, drinking and finally become delinquents.

Next we pass on to chapters of 6, 7, 8 and 9. Here you are provided a very brief analysis of these chapters like the sum up of chapter 1. Take this part as a guideline only. Still, I hope you will analyze these chapters with the same procedure of chapter 1.
SUBSECTION 6. CHAPTER 5. SKELETAL SYSTEM AND MUSCULAR SYSTEM

Major Concept: Skeletal and Muscular System

Minor Concepts: Values Identified

1. Introduction: Duty and Responsibility
2. Skeletal System: Responsibility, Cooperation
3. Diseases of Joints: Sympathy
   Servicemindedness
   Love
   Tolerance
4. Muscular System: Responsibility
   Co-operation

Major Value Identified: Servicemindedness
### SUBSECTION 7. CHAPTER 6. GENETICS

**Major concept**: Genetics  

**Minor concepts**: Values Identified  

1. **Introduction**: Appreciation of Nature  
   - Brother hood  
   - Love  

2. **Genetics-origin and Laws**: Scientific Attitude  
   - Hard work  
   - Tolerance  
   - Honesty  
   - Simplicity  
   - Patience  
   - Sincerity  
   - Courageous Conviction  

**Chromosomes**: Reliability  
**Cell division**: Appreciation of nature  
**Chromosomal disorders**: Justice  
   - Considerateness  
**Genetic diseases**: Sympathy  
   - Kindness  
   - Servicemindedness  
   - Social Service
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<td>Scientific Attitude</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hard work</td>
</tr>
<tr>
<td>Major Value Identified</td>
<td>:</td>
<td>Hard work</td>
</tr>
</tbody>
</table>
SUBSECTION 8. CHAPTER 7. CONTINUITY OF LIFE

Major Concept: Continuity of Life

Minor Concept: Values identified

1. Introduction: Interrelationship
2. Continuity of Life: Scientific Attitude
   in plant and animal world
   Appreciation of Nature
   Reliability
   Servicemindedness
   Co-operation
   Hard work
   Tolerance
3. Reproduction in Man: Self discipline
   Love
   Non-violence
   Justice
   Kindness
4. The Foetus: Responsibility
   Relationship
   Kindness
   Non-violence
   Concern for Others
   Healthy habits
   Tolerance
5. Puberty: Cleanliness
   Healthy habits
   Social Service
Co-operation
Concern for Others
Responsibility

Concern for Others
Sympathy
Cleanliness
Healthy habits
Justice
Considerateness

Responsibility
Self-discipline
Self control.

Inter relationship
Good Manners
Concern for Others
SUBSECTION 9. CHAPTER 8. BIODIVERSITY AND ITS CONSERVATION

Major Concept: Biodiversity and its conservation

Minor Concepts

1. Introduction: Appreciation of Nature

2. Taxonomy and classification: Scientific Attitude
   Appreciation of Nature
   Reliability

3. Biodiversity in India & in Kerala: Appreciation of Nature
   Courageous Conviction
   Non-violence
   Kindness
   Responsibility
   Duty
   Justice

4. Gene Pool: Considerateness

5. Summary: Scientific Attitude
   Servicemindedness
   Inter relationship.

Major Value Identified: Sense of Responsibility
I hope you have mastered the skills to analyse the content to identify the hidden values in it. I further hope you would have also developed the feeling of helping your colleagues also in attaining the same skills. (That is, you have developed the value of Generosity and Servicemindedness!).

If we are able to identify values from the content thus, we have to know how to transact these values to our students also. So let us pass on to Section 2.
SECTION 2: TRANSACTION OF THE SELECT VALUES THROUGH JURISPRUDENTIAL INQUIRY MODEL

OBJECTIVE: At the end of this section you will be able to transact values to students through JIM.

This section deals with an instructional strategy, which is one of the important Models of Teaching, known as the Jurisprudential Inquiry Model (JIM).

Like section 1, section 2 has nine subsections. The first subsection gives you an Introduction first and a detailed orientation to the model JIM. The other eight subsections deal with eight lesson plans prepared through JIM.
SUBSECTION 1. INTRODUCTION

In section 1 you understood the procedure of content analysis to locate values. The next step is knowing to transact these values in your classrooms. Before entering into the model, you please answer the following questions.

1. Do you know any method/model for transacting values?

   Yes/No

2. If your answer is 'yes' what is the effect of the method/model? Is it longlasting, or just for the particular occasion?

3. If your answer is 'No', Is there any need for special strategies for value development upto a sustainable level?

   Yes/No

If your answer is 'Yes' to the last question you can directly enter to the following part of this material. If your answer is 'No' you also can enter this part and experience it, thus understand the use of this strategy.
About the Model

The Jurisprudential Inquiry Model of Teaching (JIM) is developed by Donald Oliver and James P. Shaver (1966, 1971). This model belongs to the Social Interaction Family of Models of Teaching. This is developed for teaching young citizens to reflect on social issues. Its objective is to help students to learn to think systematically about contemporary issues. It is especially useful in helping people to rethink their position on important legal, ethical and social questions. This approach helps students participate forcefully in the redefinition of social values.

JIM is based on a conception of society in which people differ in their views and priorities and in which social values legitimately conflict with one another. Resolving complex and controversial issues requires citizens who can talk to one another and successfully negotiate their differences. The effective strategy for this should train people in reflecting others' opinions and respond to them by own thinking.

The dictionary meaning of Jurisprudence is science or philosophy of Law, or the knowledge or skill to deal with issues in legal fashion. Oliver and Shaver who created this method meant Jury process of resolving complex controversial issues within the context of productive social order. In other words, it is a process of inquiry for solving controversial issues as is held by a Supreme Court Judge. The judge first of all listens the case which is
followed by evidences, then analyses the legal position taken by both the
sides weigh these positions and evidences, assesses the meaning and
position of law, and finally makes the best possible decision.

When a similar role is played by the teacher along with the
students in the classroom to analyse the social problem or public policy
issues, then it becomes jurisprudential way of teaching. This model helps
the students in understanding the complexity of the problems so that they can
be able to make their position reflect that complexity. The main purpose of
this method is to help students learn how to formulate defensible stances on
public policy issues. In this way the main goal of the model for students is to
develop public policy stances and dialogue skill by using three types of
competence, that is

i) an understanding of the values

ii) mastery of the intellectual skills of legal reasoning and

iii) knowledge of contemporary public issues.

During the process of dialogue, students take a position and the teacher
challenges the position with questions. The teachers' questions are designed
to push students' thinking about their stance and to help them learn. The
teacher orients the class to the case and students usually become emotionally
involved in the analysis, making the discussion intense and personal. With
more practice, it is hoped that their positions will become more complex and well formulated.

**Check Your Progress 1**

*What is the main goal of the Model JIM, for students?*

*Notes: i) Write your answer in the space given below. ii) Check your answer with the model answer given at the end of this subsection*

The model has to be looked into from the point of view of its assumptions and characteristics.

a) **Assumptions** - The basic assumptions underlying the jurisprudential inquiry model are,

i) In society, people differ in their views and priorities in which social values legitimately conflict with one another.

ii) Controversial issues are not simple and there is no one right solution for them.

iii) The differences in values can be negotiated through *free and open debate* by making it the process of rational consent.
b) Characteristics - The specific features of Jurisprudential Inquiry Model are,

i) Public Policy Issue – A public policy issue is a question/case involving choice or a decision for action by students. These policy issues can be phrased either as general question or as choices for personal action. On the basis of these questions conflicting values have to be identified.

ii) Conflicting values – The situation is taken up in terms of conflicting social values. The stand on these values are taken through the process of dialogue. This dialogue implies commitment to reason, reflection and the right of all parties to express themselves before being bound by a decision.

iii) Socratic dialogue – The heart of this model is socratic style of dialogue. The teacher persuades the students to take a position on an issue. Then the teacher challenges the taken position with questions. These questions are designed to push students' thinking about the stand taken by him.

**Check Your Progress 2**

*What are the characteristics of the Jurisprudential Inquiry Model?*

**Notes**

i) Write your answer in the space given below

ii) Check your answer with the model answer given at the end of this subsection.
Now let us see the key concepts of the model.

**The Model of Teaching**

There are four concepts to describe the operation of any Model of Teaching. These are,

1. Syntax
2. Social system
3. Support system

The *syntax* describes the step by step phases in the action of the model. *Social system* describes the role of students and teachers and their relationship while they are going through these phases. *Principles of reaction* explain the procedure by which teacher deals with the reactions of the students. *Support system* deals with the use of other teaching aids, human skills and technical facilities required for the instruction of the model. Along with these details, *application* and *effects* of the model also have to be thought about.
1. Syntax

The syntax of this model, namely, JIM includes six phases. Let us see these phases.

**Phase One : Orientation to the Case**

As explained above the first activity to start the JIM will be the 'Teacher introducing a case'.

**Learning Activity 1**

*Suggest some materials that can be used as a case?*

*Note: Space is provided below for your answer.*

Let us see an example for the case that can be used for a JIM class.

"**Manhandling is the treatment for the Patient**"

Thiruvananthapuram: A patient with jaundice was admitted to Thiruvananthapuram Medical College and his parents were cruelly beaten up by medical students and house surgeons. Dextrose drip is to be given continuously to jaundice patients. While all other jaundice patients were supplied with the medicine from the hospital medical
store, the doctor said to the said patient, Mr. Binoy to get it from the market. The patient got annoyed of this injustice and it is reported that he manhandled the doctor. Medical students became furious on this development, they came in group, cruelly beaten up the patient, his parents and also peon and the security staff. The matter was reported to the authorities and a professor and nine medical students were arrested. House surgeons and other medical students are striking on the incident.

You have seen the material that is used as the case. This was a paper article of an incident happened.

The case materials can be

a) A story or historical narrative

b) Filmed incident involving values

c) An actual incident of a student or school or community

d) Imaginative items involving value controversy

The second activity that comes in the Phase one of JIM is 'Teacher reviewing facts'. For this the teacher analyses the case in detail and identify the facts present in the case as who did, what and why.
Learning Activity 2

Now you may try to identify all possible facts present in the above case.

Note: Space is provided below for your answer

1. 
2. 
3. 
4. 
5. 
6. 

Let us see which are the facts present in the above case.

1. All jaundice patients were supplied with the medicine from the hospital medical store.

2. Doctor asked Mr. Binoy to bring the medicine from the market.

3. The annoyed patient over this injustice, beaten the doctor.

4. Because of this, Medical students came in group beaten the patient and his parents, peon and security staff.

5. In this issue a professor and nine medical students were asserted.

6. House surgeons and other medical students call for a strike.

Phase one ends with identifying facts in this way and noting them down.
Phase Two: Identifying the Issues

By examining the above facts you can see that the facts numbers 1, 2, 3 and 4 are to be more seriously thought of in view of the public interest.

Learning Activity 3

Identify the reasons why the facts 1, 2, 3 and 4 are becoming issues of public interest?

Note: Space is provided below for your answer.

The facts 1 and 2 are the clarifications for the doctor's decision. A doctor is aware of the consideration to be extended to patients. The doctor knows how to deal with a situation according to its seriousness.

The facts 3 and 4 clarify the patient's side. A patient expects every help from the doctor without any partiality, if it is not given he becomes annoyed. The action taken by the patient leads to more complications.

So by making the students analyse the case thus, the teacher creates a dilemma in students. This makes the students to think which side is more correct.
These facts, therefore can be put in the form of a public issue for discussion as;

**Right of Doctor Vs Right of Patient.**

This is how in phase two issues for debate are identified.

**Phase Three. Taking Positions**

This phase is for finding out student's views on the above policy issue.

**Learning Activity 4**

*Identify the positions that can be taken by your students in the above issue.*

*Note: Space is provided below for your answer.*

As the issue here is on the Right of Doctor or Patient at least two positions are possible here,

1. Comparing to a patient, a doctor should stand one step ahead in all respects. Hence a doctor should realize and consider all patients equally irrespective of their state and status. Thus one group can opine that the patient's right and freedom are to be given importance. *(This is the position for the Right of Patient).*
2. One becomes a doctor after hard work and effort. The doctor knows how to tackle a situation of illness. Hence patients should respect the doctors and allow them to exercise their freedom; another group opines (This is the position for the 'Right of Doctor').

Phase three ends thus with the positions taken by two groups of students here.

**Phase Four: Exploring the Stance(s) Pattern of Argumentation**

This phase allows the two groups of students to argue on their positions with each other directly.

**An illustration follows**

The arguments of two groups are arranged in two columns as Group A and Group B. Here the arguments of Group A is favouring Patients and Group B favouring Doctors. This illustration is only imaginary. The arguments of students in Phase four might have differences as per the students.

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>A man is said to be ill when he is either physically or mentally weak and tired. It is doubtful that whether</td>
<td>All patients are not equal. As each and everyone has got different diseases and its nature also varies, it</td>
</tr>
<tr>
<td>the doctors care and consider all patients.</td>
<td>is not possible for doctors to consider all patients equally.</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>The state of being ill is equal to all patients. Hence all patients are equal, doctors should treat them as equals and his time is not much precious than the life of a patient (Consistency).</td>
<td>Patients are of various types and a doctor only is able to diagnose his state. Can the care given to one patient admitted in 'ICU' be one and the same to that is given to another patient with general weakness admitted in general ward? Hence the consideration depends upon the nature of disease and condition of the patient. A doctor is also a social being and he is one among the common people before and after his duty hours (Consistency).</td>
</tr>
<tr>
<td>Health Science is not like any other field. Each and every life is invaluable and a doctor should work around the clock. Health of a person is vulnerable to mental imbalance than physical disorders. A doctor should be aware of this fact and he should adhere to the professional ethics of service to humanity.</td>
<td>There is a fixed time table of work for a labourer on daily wages. As there is such a particular timing for every working hand, so is for a doctor as a professional hand. Why do you bind them up exclusively with an unjustifiable logic? A patient who question this right of a doctor indeed is to be punished, therefore, he has no right to punish the doctor.</td>
</tr>
<tr>
<td>A doctor who comes in the respectable class of the society is to be a model himself for all, and especially to a patient. Doctor's attitude should not animate the patient and neither be biased. It is a patient's right to get the best medical care. A patient can very much punish the doctor who negates and denies all these.</td>
<td>Do you think that only the patient has got rights? Has he got any right to beat up the doctor? In the present situation, by beating up a doctor, the patient has challenged the doctor's rights, hasn't he? The steadfastness of the patient to get the best medical care from the efficient doctor is to be discarded as the doctor is unable to render service to humanity in all its meaning and spirit with all other limitations.</td>
</tr>
<tr>
<td>There are many doctors who wind up their work on time without bothering the long queue of patients waiting</td>
<td>A doctor has his own personal needs and comforts. Though he can adjust a little, he cannot devote his whole</td>
</tr>
</tbody>
</table>
Phase four thus goes on with exploring the positions taken by the students. Both groups are rigidly standing on their views. Now it is the duty of the teacher to interfere and clarify their positions so that their positions can be changed if necessary.

<table>
<thead>
<tr>
<th>Outside. Do they practice their professional ethics then? He should serve humanity at least to a certain extent.</th>
<th>Day for patients. A doctor who leaves hospital after a tiring duty may be attending patients at his home also.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Almost all doctors like to do private practice at home. They give better treatment by extracting handsome amount as fees. They value money than anything else.</td>
<td>Money is a must for living. Good service is to be paid also as you are ready to pay for a precious thing in the market. As the patient comes to the residence of the doctor to get his personal care, the same is to be paid reasonably.</td>
</tr>
</tbody>
</table>

Check Your Progress 3

*Identify the need for Phase four in JIM.*

Notes: i) Write your answer in the space given below

ii) Check your answer with the model answer given at the end of this subsection
Phase Five: Refining and Qualifying the Positions

In this phase the teacher interferes in the dialogue of both the groups. This phase is more important from the view of the role of the teacher, as she checks the position of the two groups by asking very simple, personal situations to prove their moral sense.

Let us examine what will occur in the above case.

Teacher asks to Group A

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Group A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you say that a doctor is to sacrifice for the patient?</td>
<td>Certainly</td>
</tr>
<tr>
<td>Is he to consider all patients equally?</td>
<td>Yes, he should</td>
</tr>
<tr>
<td>If so, is it proper to give the same medical care to both a patient with general weakness and a patient of serious cardiac trouble?</td>
<td>Both are patients</td>
</tr>
<tr>
<td>Also is it right to give the same medicine for both?</td>
<td>No</td>
</tr>
<tr>
<td>Likewise, are not we to give due importance to a serious disease? Otherwise what will happen to patient who wants immediate care and attention is deserted by a doctor who gives his time to attend a patient with cold and cough?</td>
<td>Certainly the patient will die for want of treatment.</td>
</tr>
<tr>
<td>If you are in the position of the doctor, in such a situation what will you do?</td>
<td>We will attend first the serious case and more attention is given to him. (shifting)</td>
</tr>
<tr>
<td>What will you do in the case of a patient with general weakness?</td>
<td>We will convince him by saying the priority in attention is to the seriousness of the disease.</td>
</tr>
</tbody>
</table>
Do you have any suggestions?

A doctor knows very well that what is to be done first and his duty is to follow the true Professional ethics. (consistency)

How do you respond to my statement that a doctor's attitude depends upon and being regulated by the behaviour of a patient?

Indeed. The relation of a doctor and a patient is like that of a teacher and a pupil. Good behaviour of a patient creates a good doctor.

Likewise, the teacher interferes in the opinion of Group B.

Teacher

What do you opine about the doctor's action in the incident in question?

Group B

Doctors action is truly justifiable. Since the patient manhandled the doctor, he was provoked and compelled to retort.

Then, is there any difference between doctor and patient? Who is to be excused here? Whether the healthy doctor or the weak patient?

Both should have patience. (Shifting)

Suppose, you might have come across the report in news papers that a man who was on the road with serious injuries in a motor accident was left to die with no one to hospitalise him. Have you got anything to say in this regard?

Had anybody extended a helping hand to the injured man, his life could have been saved.

Here also a doctor's help is inevitable. Is it not?

Yes

Suppose, you could bring the injured man to a doctor. But the doctor is very particular about the duty timings. In that state, what will happen to the injured man? What will happen if the doctor is reluctant?

The doctor can save that precious life, if he put himself into service.
Can you explain the role of a doctor? He must be always ready to serve the patients. Because this duty is bound to him. He will show patience in every situations, because the patients are always worried about their diseases (Consistency).

Check Your Progress 4

Identify the role of the teacher in Phase five of JIM?

Notes: i) Write your answer in the space given below.

ii) Check your answer with the model answer given at the end of this subsection.

Phase Six: Testing Factual Assumptions Behind Qualified Positions.

Determine the predicted consequences and examine the factual validity.

With the interference of teacher each group comes to a conclusion about their stance/position on the issue. Phase six actually tests the facts of the students' stances. These are the facts of the issue drawn out from the discussion.
Learning Activity 5

Identify the factual assumptions behind the two groups after phase five.

Notes: Space is provided below for your answer.

Explanation

Group A argues for patients and they justify only the needs of patients first. But with the interference of teacher there occurs a shifting from the former position and they understand the situation of the doctor also.

The arguments of Group B were truly justifiable for the doctor's stances formerly. During refinement the students shifted with the personalising question of the teacher.

The new positions of both the groups lead to the following factual assumptions.

1. In the field of health, doctors should serve considering the needs of patients.

2. Doctors are liable to save human lives by giving due consideration to all patients who approach them.

3. Like the patient the doctor is also a human being. He has his own personal needs and problems.
4. Patient has to understand the doctor when he gives particular instructions.

The second activity under Phase six is Determine the predicted consequences and examine the factual validity.

The dilemma situation presented here first asks whether Right of the Doctor or Right of the patient is to be given more weightage? Though the issue is on the Right of both there is one particular value hidden in the issue.

Learning Activity 6

Can you identify the particular value hidden in this case?

Notes: Space is provided below for your answer.

Explanation

Here in this issue both doctor and patient were not in concern of the others in the beginning. Hence such consequences occurred. If both were extending concern towards the other such consequences said in the issue would not have occurred. Hence the value hidden in this case is Concern for Others.

The predicted consequences highlight that both the groups are likely to extend this value in future situations. The facts identified in the phase six of this issue has made it clear that the doctors should
take into account of the patient's need and that the patients should understand the position of the doctor also. Thus the closing of this JIM class should correctly point out the need of practicing the value Concern for Others in our day-to-day life.

By dealing with this particular case to this extent we can predict that the consequences of the class will be helping all students to practice this value in future situations. This JIM class has providing them a training to look at both sides while dealing with a problem that necessitates 'Concern for Others'.

Check your Progress 5

Identify the most important challenges to be faced by the teachers in using JIM for value development.

Notes: i) Write your answer in the space given below.

ii) Check your answer with the model answer given at the end of this subsection

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2. Social System

This describes the role of teacher and students in dealing with a case in jurisprudential approach. At first, the teacher initiates the phases and moving
from phase to phase the role changes from high to low depending upon the students' abilities to complete the task. After experience with the model the students should be able to carry out the process unassisted thereby gaining maximum control of the process.

3. **Principles of Reaction**

The teacher reacts to students' comments by questioning relevance, consistency, specificity or generality and definitional clarity. The teacher stretches the thought of one group or one stance to the maximum and concludes in a strongest possible stance and then enters to the second group for the same process. That means a teacher must be prepared to play the Socratic role that is, probing and challenging the value claims of students. This leads to the clarification and development of the most acceptable value. Through this process merits of the case is highlighted as the outcome.

4. **Support System**

The major material supports for this model are source documents that focus on a problem situation. The materials may be in the form of accounts of real situations or hypothetical ones. These materials should be clear and include all pertinent facts of the situation.
5. **Application**

It is highly useful to teachers since it requires a fair amount of teacher directed activity and direct instruction. Gradually, as students become competent the phases of the model should blend into student directed discussion.

The model is well or closely fitted to older students and must be *modified considerably* for use at the junior high school and middle school levels even with the most able students. The face to face dialogue that surrounds the argumentation of social issues are threatening to less verbal students.

Sometimes all students will not participate in an issue at first. But through practice, the students form groups with others having similar stances which leads to the whole participation of the class; thus ensures the total involvement of the class through this approach.

6. **Effects of the Model**

**Direct effects** – 1) Mastery of the framework for analysing issues which includes,

1. Skill in identifying policy questions
2. Use of analogies to explore issues.
3. Resolving of cases or problems.
2) Ability to carry on forceful dialogue with others.

3) Values of society embracing many cultural traditions and a respect for the point of view of others.

4) It proves the role of emotional responses of students along with reasoning in value problems.

**Indirect effects**

1) Capacity for social involvement and arouses the desire for social action.

*Check your progress 6*

*What is the advantage of the Model JIM, to teachers?*

*Notes: i) Write your answer in the space given below.*

*ii) Check your answer with the model answer given at the end of this subsection.*

Hope you have enjoyed learning this. Wish you all success to be a teacher to practice JIM in your classroom.
Check your progress – Model Answers

1. JIM provides a situation to students in the classroom to deal with issues of society. An issue regarding a value is presented in the class, thus an understanding of such values happens in the class. Each student has his/her own views about an issue which may/may not have reasons. Through dialogue it may be expressed, thus dialogue skill is possible. By the process of thinking, a student can express his/her opinion based upon reasons and is possible to weigh the reasons of others on the issue. Thus thinking process is happening. As an application, through JIM a student can identify issues of society which hides values and organize a debate/discussion in future if it is in need.

2. The important characteristics of the model are,
   (1) JIM provides a chance to conduct a debate on general question of social issues in a class. The students have different opinions about this issue; that is some are positive to the issue while some are negative to the issue. The issue is generally termed as public policy issue.
   (2) If an issue is presented in a class, the stances/positions taken up by students are based upon their reasons. If two or more stances are there on a public issue it is known as conflicting values.
   (3) Two or more groups are formed on an issue and they take part in dialogue based upon their differences. Within this process the teacher also participate and puts-forth questions with each group. This leads to the thinking of students about their positions and may occur refinement if it is needed. This is termed as Socratic dialogue.

3. Phase Four is necessary to identify the present level of value-based thinking of the students and the reasons for their stances. This helps
the teacher to direct phase five in such a way that the present level of value can be made better.

4. Phase Five reflects the role of the teacher in a dilemma case. As the students are immature and they are not in a position to say which is right and which is wrong, a teacher can help them to make a decision in a dilemma. As per the clarifications in the phase four teacher asks personal questions to know the extent of their value judgements in similar occasions.

Teacher's questions direct the students to think emotionally well and to substitute himself in the place of others and thus the correct accepted actions are to be developed by thinking.

In this phase empathizing, organizing and convincing all happens in the light of clarifications that lead to their refinement. Teacher must be thorough in asking questions to check the positions of his students while dealing with a problem case in the class.

5. 1) Choosing the most appropriate case material

The appropriateness of the case means, the case reflects the current issue of the society. It should be also debatable. The cases should be simple and clear to the students and accepts if it is life oriented.

2) Skills in questioning in Phase Five by using appropriate analogies, personal questions etc, so as to make students emotionally involved in the issue. Only this personal involvement will change their negative attitude to the issue and help to come to a desirable stance.

6. JIM is a value – clarification and value inculcation strategy by its own nature. Through its application a teacher can master a Value inculcation strategy. Teacher can understand the various opinions of students about an
issue, and this instigates him to take up its correct remedial measures. JIM is a powerful strategy for this. Through this model teacher can inculcate a general awareness about social problems/issues among students. In short, whenever there is an issue for students and they are in a dilemma as to which side is right and which is wrong, the approach of JIM will help them to solve it. So it is the duty of teachers to train students in using the special way of thinking proposed in JIM.

**ASSIGNMENT QUESTION**

1. Find out another case material for the same value *Concern for Others* and prepare a lesson plan through JIM with necessary arguments in Phases Four and Five.

   *Note: No space is given for writing your answer. So you would prepare your answer in separate sheets.*

**Sources**


Now let us pass on to the following subsections. Subsection 2 onwards this module provides you eight model lesson plans prepared through JIM for training procedure. All these eight lesson plans were already prepared and practiced in the classrooms and their effects well established. You can also experience the same through its application in your classrooms. There is one thing to remember; the phase four of the lesson plans might have changes in accordance with the view of your students.
SUB SECTION 2

LESSON PLAN FOR THE VALUE ‘LIFE IS WORTH LIVING’

Phase One: Orientation to the Case

'Three students committed suicide as they failed in exams'.

Facts
1. Three students committed suicide as they failed in exams.

Phase Two: Identifying the issues

Is life to be ended by self?
or
Is life to end by living?

Phase Three: Taking Positions

1. It is proper to end life when it seems to be futile to live
2. It is improper to put an end to one’s own life

Phase Four: Exploring the Stance(s)

Patterns of Argumentation

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our family may have much expectation about us. There is no meaning in further living, if we cannot rise up to their expectations. There is the society to confront after our family. One cannot face the society after failure in exams. Hence, they decided to end life. Therefore, family and society are equally responsible for his suicide. It gives much importance to exams and hence defeat in exams is a great issue.</td>
<td>There is only one life for us on this earth. Life is laden with sufferings. We should attempt to overcome all hurdles in life. Is success in SSLC/+2 exams the only aim of education process? The aim of education is to acquire knowledge and make use of it in life. It will be much easier to achieve success in exams and prosper in life by treading the track of life with such a view.</td>
</tr>
</tbody>
</table>
Parents have expectations on their children. Their expectations should match the capabilities of their children. Therefore, parents, other family members, or the society is responsible for their committing suicide. And all issues end with the death of that person.

Phase Five: Refining and Qualifying Positions

Teacher

What is your goal? For example, is it your goal to pass X\textsuperscript{th} Standard?

Suppose, you failed in the examination. Then what will you do?

Why is it so? You can re-appear in exams.

You cannot bear losing one year in your life. If so, how much you and others lose when you end your life by yourself.

Opportunities are ample in life. Is it right to be desperate with the loss of one of the opportunities. Try to grab other opportunities. A great number of people have conquered heights from initial falls and failures. Handicapped people, Sportsmen --- etc are a few who made use of such opportunities.

Group A

Our goal is to rise up to the expectations of our parents and have a better future. Hence, success in examinations matters much.

Will commit suicide.

It is a shame to face all after a failure in exams. Moreover, we lose a year if we reappear later. It is better to avoid both.

--------

Yes. A fall or failure need not be repeated

(Shifting)
Can't you proceed further with confidence by finding out better ways and methods to achieve success in exams?

Man is a social being with many contacts in society. Contacts like family friends, teachers, colleagues etc. You will be able to solve your problems in life by sharing them with others. For example Rajani could not pay the fees for higher education and she committed suicide. She had approached only one bank for education loan. She need not have committed suicide, if she had shared her problems with friends, teachers or sponsors. Do you agree with it?

If you have some disease, will you let anybody know about this?

Is it good to consult a doctor or make it known to the society?

So, sudden thoughts lead us to suicide. Suicide of farmers is an example for it. Such a mass suicide would not have occurred, if the farmers had shared the problems they faced in agriculture and sorted them out together.

Problems are to be solved and will be solved. But what about those people who committed suicide?

**Teacher**

What will you do when you have to confront difficulties and hurdles in life?

**Group B**

Try different ways to solve it.
Do you think that suicide solves all problems?

No, it is an escape from problems without facing them boldly.

Why is it so?

Problems are to be solved. We are not to run away without facing them.

How?

There are chances to re-appear in exams. Our attempts should be in that way.

Is it shameful to fail in exams?

Yes. But is only our fault. We are to take up the responsibility for such defeats and try again to succeed. It is not necessary to fail again if we failed once. Those who teased us will congratulate us when we achieve success. Hence efforts are to be made to come through the exams with flying colours.

Would you share your problems with others?

Indeed.

Likewise would you have patience to listen to others?

Yes.

How would you help others?

We will take them to the right people who are able to solve the issues (For example, teachers).

Do you feel death is the only solution to all problems?

No. We cannot regain life, if we lost it once. (Consistency confirmed).

Phase Six: Testing Factual Assumptions Behind Qualified Positions

(The new positions of both the groups lead to the following factual assumptions)

1. It is not proper to escape from life without living it fully.

2. Our attempts should be to achieve success in exams.
3. Problems should be shared with the right people who are capable of solving them.

4. Death is not the final solution to all problems.

**Facts**

We have certain responsibilities towards our home and the society. Life is full of difficulties and death will never overcome them. Sudden thoughts lead one to think of ending one’s own life. Problems should be solved practically by confronting them, thinking reasonably and sharing them with others. It is not proper to consider death as the final solution for all problems and never think it will serve good to others. Instead, life is to live in its fullest sense by serving oneself and others as well. Life provides us with a chance to serve others; hence it is precious and is to be lived meaningfully.
SUB SECTION 3

LESSON PLAN FOR THE VALUE 'CONCERN FOR OTHERS'

Phase One: Orientation to the Case

"AIDS made the kids orphans and they are waiting for kindness of society"

Article dated

Facts

1. AIDS is a deadly disease to today's world.
2. Society extends a neglecting approach to AIDS patients.
3. AIDS patient and his family are alienated in the society.
4. Wards of AIDS patients are prevented from entering into schools on one pretext or the other.
5. AIDS which is infected through free life-style without any morals not only destructs him but his family also.
6. Humanitarians and social/ charitable institutions may come forward to take care of the children of AIDS patients by giving basic amenities and education.

Phase Two: Identifying the Issues

Wards of AIDS patients are being prevented from entering into school.

Wards of AIDS patients should be permitted to prosecute studies.  
Vs  
Wards of AIDS patients should not be permitted to do so.

Phase Three: Taking Positions

1. AIDS will not spread to others through the wards of AIDS patients if they attend schools. Hence these wards should be permitted.
2. AIDS is a communicable disease and it will spread through their wards, if they attend school.

**Phase Four: Exploring the Stance(s)**

**Patterns of Argumentation**

<table>
<thead>
<tr>
<th><strong>Group A</strong></th>
<th><strong>Group B</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wards of AIDS patients should be permitted to attend school.</td>
<td>AIDS is a deadly disease.</td>
</tr>
<tr>
<td>Education is a fundamental Right. It should not be denied.</td>
<td>AIDS destroys the immunity of the human body and death is imminent.</td>
</tr>
<tr>
<td>Children of parents infected with HIV need not have AIDS.</td>
<td>AIDS patients and their family will be alienated by the society.</td>
</tr>
<tr>
<td>Innocent children of parents who died of AIDS should not be punished for no fault of them.</td>
<td>No other parents will be ready to send their children to sit and study with wards of AIDS patients.</td>
</tr>
</tbody>
</table>

**Phase Five: Refining and Qualifying Positions**

**Teacher**

Will you permit the wards of AIDS patients for schooling, if they got AIDS from their parents?

What is your opinion about imparting special education to those wards?

**Group A**

AIDS will not spread through air, water, food, touch etc. Hence there is nothing wrong in permitting them for schooling.

Special education will again keep them away from society. Since they would like to sit and play with other children, keeping them away from the society is isolation of these wards. Education is a right; and to deny it is unconstitutional. Hence, they should be given
opportunity to sit and study with other children in the school (*consistency*).

**Group B interferes**
AIDS is a dreadful disease. Parents will never send their children in which the wards of AIDS patients are studying because AIDS is an infectious disease.

Will it spread to children if they sit, play, eat, or study with the wards of AIDS patients?
- No.

If so, is there any logic in the apprehension of the parents of other children?
- Unable to explain.

Can you explain the term special education as proposed by you?
- Special education means arrangements for their education not in the company of other children but separately.

Will it not alienate them more from the society? Don’t they wish to sit and study with other children? How do you justify this separation for no fault of them?
- No response

(Shifting starts)

Suppose if you are isolated like this for none of your fault, what will be your attitude?
- We will hate them. Punishment is to be given only to the guilty.

Why do you alienate them, if AIDS will never spread by their schooling in the company of other children?
- No need to alienate them. They should not be denied the chances to sit and study with other children, if they desire so. (Shifting confirmed).

**Phase SIX: Testing Factual Assumptions Behind Qualified Positions**

1. Wards of AIDS patients are to be permitted into schools.
2. Do not punish those who are not guilty.
Facts

Though AIDS is a deadly disease there is no need for panic. It will not spread through air, water, food or touch as other diseases do. Eradication of this disease demands a scientific view. Only a collective effort can prevent the AIDS patients and their families from being isolated from the society. What these people require is not disregard by the society but due consideration from it. Only by extending care and consideration they could be brought into the mainstream. Isolation of these patients and their families will lead them to utter poverty and a stage beyond recovery. Individuals and organizations should try their level best to provide these people with whatever they require to lead a normal life, including good education. It is not proper to punish those who are not guilty as long as we are not ready to get punished by others for none of our faults. This ‘Concern for Others’ should be extended to them so that their misfortune is shared by us.
Phase one: Orientation to the Case

"Paramban Najeeb was born in a poor family and was brilliant in his studies. He gave up his studies while he was in the final year of M.B.B.S as he fell in to the trap of narcotics. Hence he has lost his life and his village has lost a doctor".

Facts

1. Najeeb has lost his studies and thereafter his life since he fell into the trap of drugs.
2. The support of a son to a family and valuable services of a doctor to a society have been lost due to drugs.
3. Drugs generate patients

Phase Two: Identifying the Issues

Are drugs/narcotics a hazard to the society?

Phase Three: Taking Positions

1. One group has the opinion that the drugs/narcotics should never be used.
2. The other group opined that anything can be used as long as it does not exceed a certain limit.
Phase Four: Exploring the Stances (s)

Patterns of Argumentation

**Group A**

Drugs generate many problems in our society

My neighbour, who is a drug addict, has been deserted by his wife.

Our sports women, Pratima Kumari, and Karnam Malleswari have been debarred from participating in Olympics since they were detected to have abused drugs.

Those who are addicted to drugs will resort to crimes when they do not get it.

There is every chance of drug abuse leading to fatal diseases like AIDS.

**Group B**

These drugs are being used as sedatives by doctors during surgeries.

Are all steroids narcotics?

May families make their livelihood by marketing drugs.

Drugs make men forget his sorrows and make him merry.

Drugs are a relief to cancer patients from unbearable pain.

Phase Five: Refining and Qualifying Positions

**Teacher**

Do you mean that drugs are permissible to a certain extent in life?

Doctors make use of them only after taking into consideration the nature and gravity of the disease.

Doctors make use of it only as a curable medicine to the patient for the time being and not in harmful quantities to the body.

If the daily use will not give the pleasures to you then what will you do?

**Group B**

These drugs are in use in some areas of medical science.

So, it is good to human body.

Is it not right?

Like wise, drugs are also to be used daily in a limited quantity.

Then we have to increase the dose.
do?

If so, you will become another Najeeb as in this incident, an addict.

Suppose, you are taken to the hospital for treatment as a drug addict? Your doctor suggests avoiding the drugs completely. Then what will be your response? Will you go on using them?

Teacher

Is it sure that you will never consume drugs in your life?

Many people are using drugs as a panacea for mental tensions. Is it proper?

Then are you capable of refusing drugs in any situation even in the face of temptation?

Group A

Indeed, We will never use drugs.

No, never. That may provide us temporary happiness/pleasure. But that will ultimately lead us to utter disaster.

Yes, certainly.

(Consistency)

Phase Six: Testing Factual Assumptions Behind Qualified Positions.

1. Drugs are not a remedy for our sorrows and worries.

2. Instead they will destroy our life.

Facts

Drugs are in use as medicines in its small qualities. Its abuse creates un-healthiness in the society. The powers of creative thinking of those who consume drugs get destroyed gradually. These drugs play a major role in the spread of deadly diseases like AIDS, Hepatitis B etc., among their preys. We
should avoid unhealthy habits like smoking, consumption of alcohol and drugs....etc. We should also bring back to normal life those people who are addicted to aforesaid unhealthy habits. Thus 'Good manners' are to be practised in our life.
Phase One: Orientation to the Case

"The youth injured in the accident was abandoned on the Road for 800 rupees"

Thiruvananthapuram

The youth injured in a car accident was abandoned on the road for Rs. 800. Santhosh, aged 26, was seriously injured when a car knocked him down near Kizhekke Kotta here yesterday. Santhosh was knocked down by a car owned by Manjith. Santhosh who was seriously injured was surrounded by a large crowd. Soman who was among them claimed that the injured was his friend and he took him to the hospital in Manjith's car. But on the way, Soman told Manjith that it was better to leave the injured on the road side since there would be criminal case against him if he died on the way. Taking 800 rupees from Majith, Soman abandoned the injured person on the side of the road and tried to escape by an auto. But he was caught hold of by the people.

Facts

1. False promise of help was offered by saying that the injured person was his friend.

2. Without considering the serious condition of the injured person, the other tried to exploit the situation.
3. Leaving the injured person on the way, the other tried to escape with Rs.800.

4. The friend who offered help was caught by the public.

Phase Two: Identifying the Issues

The seriously injured person was abandoned on the way for money by offering help.

(Personal Motive Vs Service)

Phase Three: Taking Positions

1. Our life is more important than those of others. Serving others by sacrificing our life is ignorance

2. Life of others is more important. Servicing others is more important than anything else.

Phase Four: Exploring the Stance(s)

Patterns of Argumentation

**Group A**

Many matters would have persuaded the accused to act like this.

Even if the seriously injured person is taken to the hospital, nothing can be done to save his life with this meagre amount.

Moreover, he will be held responsible for the accident and will be charged

**Group B**

We should not act like this out of greed, life is precious.

If so, why did he receive money from the owner of the car?

If he had not interfered in the matter, somebody else would
with criminal case. He might have escaped for this reason. He would have done this as self-defence.

In cases like this, it is foolish to save others without minding one's own defence.

Phase Five: Refining and Qualifying Positions

**Teacher**

Is it money or is it the life of a person that is more important?

What would you do if this has happened to a close relative of yours?

If this accident had happened to you, what would you expect others to do for you?

Then would you give more importance to money or would you give more importance to the action to save the life of others?

**Teacher**

Would you save others in situations like this at any cost?

What would you do if someone prevents you from helping others by giving you money?

Would you help the injured man if he was identified as a notorious person known as corrupt among the public?

**Group A**

Nothing can be done without money. So money is more important than the life of a person or anything for that matter.

I would help him to save his life

I think others would have taken me to the hospital immediately.

Certainly, I would give more importance to save the life of others.

**Group B**

Certainly

I would give more importance to helping others than money.

I think that he deserves it as punishment for his wrongs. Still I would consider it as my duty to save him.
Phase Six: Testing Factual Assumptions Behind Qualified Positions

1. More importance should be given to moral values than money.

2. Saving the life of the person injured in an accident should be given more importance.

Facts

We should always be service-minded. This is what is taught to us by the stories and actions of great people. A doctor should not ever miss a chance for extending his helping hand to someone who is really in need. We should always try our level best to make our work fruitful. We can never behave differently if we observe how unselfishly the plants serve the earth!
SUB SECTION 6
LESSON PLAN FOR THE VALUE 'HARD WORK'

Phase One: Orientation to the Case

Tamil families are engaged in the work of laying cable near the school gate. It is said that they have enough farmland in their native place. They come here and do laborious work when there is no farming work in their place. Why can't we do such laborious work when unemployment is a burning problem here?

Facts

1. People from Tamil Nadu are willing to work hard.
2. They come to Kerala and earn money through hard work when they are free from farming work in their place.
3. In Kerala unemployment is becoming a burning problem.
4. The people of Kerala are not willing to work hard in their native place.
5. The result is that job opportunities are lost to us in our own place.

Phase Two: Identifying the Issues

1. Unemployment is becoming a grave problem in Kerala.
2. Our people are reluctant to work here
3. Hence we lose our job opportunities here

(Unemployment Vs Attitude towards Hard work)
Phase Three: Taking Positions

1. The problem of unemployment is due to the negative attitude of people towards hard work.

2. The problem of unemployment is due to the policy of Government.

Phase Four: Exploring the Stance(s)

Patterns of Argumentation

**Group A**

There are many job opportunities in Kerala. But the problem is that we do not make use of them in the proper way. Our approach to employment should change. We should treat every job as dignified. Similarly we should try to work hard.

If we were willing to work hard we could have procured even those jobs in Kerala which are being done by people from other parts of our country.

We should do our duty. It is said that some of the Tamils who come to work here have enough savings in their homeland. Still it should be noted that they have the habit of working hard. Once a habit is formed it becomes impossible to alter it. It is such persons who become robbers and criminals in life afterwards.

**Group B**

Here it is the duty of the government to solve the burning problem of unemployment. They should give due importance to this problem. In a society, it is not necessary for all people to work hard. For example the rich need not do it.

There is nothing wrong in using the wealth inherited from our forefathers. If there is enough savings, life can be very happy and only when all savings get exhausted one should think about earning for living.

In that case, robbers and criminals are people who work hard.
Phase Five: Refining and Qualifying Positions

**Teacher**

What is your view about life?

If you work hard, you can earn more. The more you work, the more you earn.

It is hard work that takes us to the peak of life.

For example, haven't you seen people going to the Gulf countries seeking jobs? Such people do hard work and make money there. Hard work will be recognised everywhere. So we should cultivate the habit of hard work.

**Group B**

My view is that life is to be celebrated. We are reluctant to work hard as we think of becoming rich all of a sudden. There is no need of hard work if there is enough ancestral property.

It is the high-salaried job that makes us reach the peak of life.

We should change ourselves according to the situations of life.

(Shifting)

**Teacher**

Do you have respect for people who work hard?

All great men have attained their greatness through hard work and miseries, haven't they?

Do you respect people who labour for earning a livelihood?

Can you give example for such persons?

**Group A**

Certainly.

Yes, (Examples are given).

Yes.

Group A confirms this argument through public discussion and gives examples directly known to them.
Phase Six: Testing Factual Assumptions Behind Qualified Positions

1. One should attain greatness through hard work.
2. The only way to reach the peak of life is hard work.
3. Such people will be respected by all.

Facts

Hard work is a good habit. There is no success without hard work. The life of many great men has proved this. A person who works hard can live with respect anywhere in this world. If the earning is to be sustained, continuous hard work is necessary.
SUBSECTION 7
LESSON PLAN FOR THE VALUE 'SIMPLICITY'

Phase One: Orientation to the Case

Teacher shows two pictures;

1. No Gold, No Marriage - 1st Case
   Then teacher asks, “What do you feel from this picture?”

2. Picture of Poverty - IIInd case
   Teacher asks, “What do you see in this picture?”

Facts

1. Extravagance is to keep up status
2. It is beautiful
3. It is show-off
4. People can live without any extravagance
5. Poverty can not be wiped off.

Phase Two: Identifying the Issues

- Extravagance is to keep up status
- Poverty can be wiped off

One policy issue for discussion

Extravagance/Simplicity, which is to be given more importance in life?
Phase Three: Taking Positions
1. One cannot blame the rich for their lavishness.
2. Simplicity makes us acceptable to all.

Phase Four: Exploring the Stance(s)

Patterns of Argumentation

Group A
Being extravagant is not to be appreciated.

While wealthy people expend so much money they do not consider the poverty stricken people.
The gap between haves and have-nots is increasing day-by-day. So wealthy people should help the have-nots at least to fill their stomach.

Group B
If you are wealthy there is nothing wrong in being extravagant.

Money makes you prominent in the society. Undoubtedly money gives you name and fame.
Each person saves money for himself.

Phase Five: Refining and Qualifying Position

Teacher
What do you mean by extravagant items?

Won't you use these items?
Even if your parents purchased them for you?

Teacher
Do you say that life is to be celebrated with all festivities by spending all that you save?

Money is also meant for helping others. Isn't it?

Suppose, you are in need of help from

Group A
Each item you purchase in order to get noticed among others is extravagant.

No

Group B
Yes, why should one save money? We have only one life and that is to be lived joyfully in every possible way.

There is no need of helping others. We have no time to spare for others.

Yes (Shifting)
others. In such a situation do you expect them to help you?
Is it not the same if others wanted a help from you?
Don’t you think that it is your duty to help others by giving a bit out of what you spend extravagantly?

Yes.
Yes, Certainly.

(Shifting confirmed)

Phase Six: Testing Factual Assumptions Behind Qualified Positions

1. Extravagance for popularity and for being prominent in the society is foolishness.

2. Helping those who are in need is better than being extravagant.

Facts

Our expenses should be only for our real needs and not for over and above it. Do not get enthralled by extravagant items. Lead a simple life. For example, the simplicity of Mahatma Gandhi has made him known all over the world. The habit of acquiring costly and unwanted items just to compete with others should be avoided.
SUBSECTION 8

LESSON PLAN FOR THE VALUE 'DIGNITY OF LABOUR'

Phase One: Orientation to the Case

Even after acquiring educational qualifications required for becoming a teacher in High Schools and though well off, Raju is employed as a peon. All the other members of his family are holding high posts. Raju's low employment status/low profile creates headache to his family members. Here what is to be done by Raju?

Facts

1. Raju is satisfied with his present job.
2. Rajus' relatives are highly employed.
3. Raju's profile is low according to all others.
4. Others have thrown him into total confusion.

Phase Two: Identifying the Issues

Is Raju to continue with his present job with all dignity?

or

Is Raju to forsake his job to keep all others happy?

Phase Three: Taking Positions

1. Raju should continue in his job
2. Raju should resign his job, if it creates problems to others.
Phase Four: Exploring the Stance(s)

Patterns of Argumentation

**Group A**

Any job accepted by the society is respectable. Hence Raju should continue in his job.

Here, employment in accordance with educational qualifications is impossible. Hence continue with the job he has got and try to ascend in stature.

Is acquiring money the only motive in life? Every job has its own dignity.

Is not agriculture a dignified job?

Failure is nothing but stepping stones to success. Why do not they resort to farming of other seeds?

**Group B**

May be true. Still, Raju's qualifications will provide him a higher job. Hence Raju should not continue with his job.

He can try for other jobs even after giving up the present occupation. High status job provides us with high salary, and also high reputation.

But only those with highly paid jobs have high reputation in the present day society.

Many farmers committed suicide since they were in debts.

Aren’t they risking their lives by doing so?

Phase Five: Refining and Qualifying Positions

**Teacher**

What do you want to become in life?

Suppose, you did not get those ones, then what will you do?

Suppose, you got a job having a very low salary? Then what will you do?

Will you keep the dignity of the job that you got?

Why?

Will you try to sacrifice its dignity for money?

If so, will you support a wealthy

**Group B**

(Says different high status jobs)

(They mention jobs with comparatively lower status.)

Will do the job for the time being.

Yes.

That may lead to success (*Shifting*).

No.
underworld don or a simpleton who struggles hard to live on with the income of his hard work?
So, is it good for Raju to continue with his job believing in its dignity?

**Teacher**
Do you give importance to the respectability of a job?
Will you take up any job for living?
Don't you believe that you should stick on to this policy at any juncture?

**Group A**
Yes. Money comes and goes.
Yes. Any respectable job will be accepted.
Yes, Sure. *(Consistency)*

**Phase Six: Testing Factual Assumptions Behind Qualified Positions**

1. Small jobs also have dignity.
2. Find out respectability in one's job, should not live only to amass wealth.

**Facts**

Though sufficient job opportunities according to the educational standard of all are not available we can take up any job which is recognized by the society. For example, farming is also a dignified job. It is high ambitions which are beyond our reach that usually lead us to failure in life.
SUBSECTION 9

LESSON PLAN FOR THE VALUE 'SENSE OF RESPONSIBILITY'

Phase One: Orientation to the Case

Roadside garbage, blocked drainage pipes, uncleared waste bins and industrial wastes being deposited into rivers. Who is responsible?

Facts

1. Wastes are heaped in every place.
2. Environment is becoming polluted.

Phase Two: Identifying the Issues

- Environment is becoming polluted. Who is responsible?

One Policy Issue for discussion

Who is responsible for the cleanliness of our surroundings? The Public / The Government?

Phase Three: Taking Positions

1. The Government should take necessary action for the cleanliness of our surroundings.
2. Each and everyone should clean the surroundings.

Phase Four: Exploring the stance(s)

Patterns of Argumentation

<table>
<thead>
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<th>Group B</th>
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</thead>
<tbody>
<tr>
<td>We should keep our classroom neat and clean.</td>
<td>Peons and sweepers are employed exclusively for that job.</td>
</tr>
</tbody>
</table>
Remnants of food should be deposited only in the place meant for it. We should keep our surroundings neat and clean. Boys should also use lavatories for passing urine.

Why shall we not clean the lavatories ourselves? We should not pass urine in open area. It will spread diseases. Can't we stop dumping waste in public places?

Man being a social being should give equal importance to personal hygiene and also hygiene of society.

Deadly diseases like Dengue fever etc., are due to lack of hygiene and sanitation of the surroundings.

Treatment is very expensive and complicated as well. *Teacher interferes.*

**Phase Five: Refining and Qualifying Positions**

**Teacher**

*Are you indifferent to the hygiene of the society?*

*Won't you keep your house and its surroundings neat and clean?*

**Group B**

*We cannot clean the area occupied by others.*

*Indeed.*
What will you do if you notice that the surroundings are dirty because of the carelessness of others and it is leading to spread of diseases?

What will you do if they do not clean it still?

Will you make it a routine or be reluctant afterwards?

We will tell them to clean it.

We will clean it for the time being. *(shifting)*

We will show how effective our work has been, what good it will serve and will make them understand about their responsibility to clean the surroundings and extend our help to them for the same.

Yes.

We ought to do that.

Do you say that only the Government Servants should play a role in cleaning the surroundings?

Suppose, if you are designated for the job, what will you do?

Teacher

Do you say that you will try your level best for maintaining social hygiene?

Even if you have been employed to clean public lavatories?

Group A

Yes.

Indeed, we will do the job sincerely. *(consistency)*

Phase Six: Testing Factual Assumptions Behind Qualified Positions

1. We shall always keep our surroundings and ourselves clean.

2. When we think about those who are indulged in the duty of cleaning surroundings, we understood the necessity of cleaning the surroundings by ourselves.
Facts

Since "Hygienic Keralam beautiful Keralam" is the motto, our responsibility is to ensure cleanliness and while ensuring personal hygiene, we should also ensure social cleanliness. Likewise, this Nature is very beautiful and it is our responsibility to preserve that beauty. We should never litter in public places. It is our collective responsibility to prevent pollution and thus protect Nature. Preservation of Nature leads us to health and ultimate happiness.
CONCLUSION

JIM is peculiar in all its aspects. One of the important characteristics is its 'Socratic Style' in which the teacher asks the students to take a position on an issue and then challenges their positions by exposing its implications. This is for mature clarifications from the students. She adds analogous questions also to students.

Case selection for discussion is more important in a classroom for using JIM. Likewise, from the part of the teacher asking personal questions to get them intensely involved emotionally and personally in the issue is a task. Because it is in this phase five that the acceptable value from the conflicting pair of values is to be selected finally. Hence all teachers are requested to pay more attention to phases one and five of JIM.

For the teacher who has a prominent role in JIM there are specific duties in each of the six phases.

**Phase One** - Skill for identifying appropriate case materials for discussion/debate.

**Phase Two** - Skill for identifying the most relevant fact from those stated by students that can be used for pinpointing the value conflict.

**Phase Three** - Skill for pointing out the different stances/positions usable for argumentation.

**Phase Four** - Skill for monitoring the students' arguments.

**Phase Five** - Skill for asking personalized questions for developing emotions and thinking in students.
Phase Six  -  Skill for pointing out the differences happened between the original stand point and present stand point regarding the value problem and guiding students for its future applications.

Hope that this module will be useful to you for mastering JIM and the skills to achieve the aim of inculcation of values through it.

Wish you all the best