ACADEMIC SESSION 2020-21

BIOLOGY

SMART SKILLS

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KEY FEATURES OF SCIENCE SMART SKILLS

- This edition is enriched with activities, crosswords, multiple choice questions, in-text questions etc. to check the child's grasp of the concept.

- The activities will help to focus child's attention on the concept to follow and explain and reinforce the scientific concepts.

- The **LET US DO** sections have activities like research, group work etc. which will help the child to apply the concepts of science.

- Last but not the least – This smart skill has been prepared to help the children develop a scientific aptitude by
    - Reinforcing concepts
    - Strengthening expression
    - Developing independent thinking
    - Understanding the reasoning of day to day phenomena

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SYLLABUS

BIOLOGY

Ist Term Syllabus: April 20 to Aug 20

APRIL-MAY:

Chapter 2: Microorganisms: Friend and Foe

Chapter 7: Conservation of plants and animals. (Holidays Homework)

Chapter 8 : Cell-Structure and functions

JULY-AUG

Chapter 8: Cell structure and function -continued

First Term Exams.—September 2020

IInd Term Syllabus: Sep 20 to Feb 21

SEP- Oct: Chapter 9: Reproduction in animals

Nov--Dec: **Chapter 10:** Reaching the age of adolescence

JAN-- Chapter 1 : Crop production and management(from handout)

FEB: **Chapter 18:** Crop production and management(continued)

Revision

Second Term Exam... March 2021

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Chapter - 1

CROP PRODUCTION AND MANAGEMENT

AGRICULTURE

The science that deals with the growth of plants and animals for human use is called *agriculture*.
Agriculture includes-

- Soil management- the cultivation of soil
- Crop farming- growing and harvesting of crops.
- Horticulture- growing and harvesting of fruits, vegetables, flowers and decorative plants
- Animal husbandry- the breeding and raising of livestock including poultry

The land where plants are cultivated is known as *fields*.
Plants grown in large quantities in field are known as *crop plants or crops*.
Based upon the seasons, the crops are divided into two types- summer crops called *kharif crops* and winter crops called *rabi crops*.
Kharif crops are grown during summer between June/July and harvested by September/October. Rice, groundnut, maize, cotton , pulses are some common kharif crops.
Rabi crops are grown in the winter between October/November and harvested by March or April. Wheat, barley, mustard, potato and peas are some common rabi crops.

The tasks that a farmer follows are called agricultural practices. The major steps involved in this process are-

- Preparation of soil
- Selection and sowing of seeds
- Addition of manure and fertilizers
- Irrigation
- Protection from weeds and pests
- Harvesting
- Storage

Preparation of soil:

Ploughing or tilling involves loosening and turning of soil using a tool or an implement called the plough. Then the soil is leveled.
Loosening of the soil-

1. Allows the roots to breathe easily
2. Helps the roots to penetrate deeper into the soil.
3. Enables fertilizers to mix uniformly with the soil.
4. Aids the growth of organisms such as earthworms, millipedes, bacteria and fungi.

Sowing of seeds:

Seeds used for sowing should be of good quality, healthy, viable and free of infections. Seeds are sown manually by broadcasting or by seed drills. *Broadcasting* is the scattering of seeds over the soil surface by hand.

Addition of manure and fertilizers:

Plants require nutrients for growth. They get these nutrients from the soil. This can be done either by natural methods or by adding manures and fertilizers to the soil.

Natural methods:

Field fallow: The method of leaving the field without cultivating any crops to replenish nutrients in the soil.
Crop rotation: It involves growing two or more crops alternatively on the same land in the same growing season so that the soil is not depleted of any particular nutrients.

Differences between manures and fertilizers:

Differences between manures and fertilizers:	
Manures	**Fertilizers**
These are natural organic substances that are derived from animal wastes and plant residues.	These are inorganic salts made by humans.
These are rich in humus but not in inorganic nutrients.	These are rich in inorganic nutrients but do not contain humus.
They are quite bulky and difficult to transfer.	They are less bulky and easy to handle.

Irrigation:

Irrigation is the artificial supply of water to farms when needed.
Some of the modern irrigation methods are as follows:

- Sprinkler system
- Drip irrigation

Protection from weed and pests:

Weeding:

- Weeds are unwanted plants that grow along with the crops. They compete with the crops for water, minerals and sunlight and, therefore reduce crop yield.
- Amaranthus is very common weed which grows with almost every crop.
- Weeding can be done manually using a trowel or a harrow or by using a seed drill using certain chemicals called weedicides for example- 2,4-D. some common weedicides are Dalapon, Siniazine and Picloram.

Pests:

- Insects that attack crops and damage them are called pests.
- Pests can be controlled by pesticides which are poisonous chemicals. Pesticides kill pests as well as their eggs and larvae but do not affect the plants.

Harvesting:

- *Harvesting* is the cutting and gathering of the mature crop from the fields.
- *Threshing* is the process of removal of the edible part of grain from the scaly, inedible chaff that surrounds it.
- *Combine harvester* is a farm machine which does both harvesting as well as threshing.
- *Wind winnowing* is a method of separating grain from chaff by throwing the mixture into the air with a winnowing fan.

Storage:

Large scale storage of grains is done in granaries or silos to protect them from pests like rodents, microbes or insects.

Increasing crop produce:

Crop produce can be increased by increasing the land under cultivation, by improvement in the methods of agriculture, and by developing better varieties of crops by plant breeding.
Hybridization is a technique used for plant breeding in which new varieties with desired characteristics of high yield and resistance to disease, are developed.

Nitrogen cycle:

Air contains about 78% nitrogen. Nitrogen is used by life forms for the formation of protein, amino acids and nucleic acids.

The cyclic process of nitrogen being fixed, used by plants and animals and later returned to the atmosphere is referred to as the nitrogen cycle.

Nitrogen cycle involves the following steps:

- *Nitrogen fixation:* fixing free nitrogen gas of the atmosphere into inorganic compounds by organism such as Rhizobium.
- *Nitrogen assimilation:* converting inorganic nitrogen into usable organic compounds in organisms.
- *Ammonification:* Conversion of organic nitrogen into ammonia.
- *Nitrification:* Ammonia is converted into nitrates in the soil with the help of bacteria.
- *Denitrification:* Conversion of nitrates into nitrogen gas by denitrifying bacteria.

Animal husbandry:

- The breeding, feeding and caring of domestic animals for food and other purposes is called animal husbandry.
- Meat or egg yielding animals such as goat, poultry animals (e.g. chicken, duck and turkey), fish, sheep.
- Milch or (milk yielding) animals such as cow, buffalo, goat and camel.
- Large scale rearing of fish for food is known as *pisciculture*.
- Large scale rearing of honeybee is known as *apiculture*.

Choose the correct option

1.Which of the following is the use of the agricultural tool given below

a) It is used to put manure or fertilizer near the roots of trees.
b) It is used to sow the seeds at equal distances.
c) It is useful to remove weeds from the field
d) Both A and B

2.Which of the following crops is grown from October to March?

a) Wheat
b) Pea
c) Mustard
d) All of the above

3.Which of the following methods of irrigation is adopted extensively in areas of acute water shortage?

a) Chain pump system
b) Drip irrigation
c) Sprinkler system
d) Furrow irrigation

4.Read the following passage and answer the questions that follow

Grains obtained by threshing are dried in the open. The dried grains are stored in gunny bags, and placed in properly ventilated cemented halls, known as godowns. Farmers keep dried grains in jute bags or metallic bins or mud bins. Large scale storage of grains is done in silos and granaries

(A) What is threshing?
(B) Why is it important to dry the grains?
(C) What procedure is followed for large scale storage of grains?

Find Out More:

Organic Farming

The harmful fallout of Green Revolution in Punjab

Any Organic product that you have purchased: What does the label say?

Sustainable Farm Practices

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CHAPTER 2

MICROORGANISMS: Friend and Foe

Organisms too small to be seen with the naked eye are called as microorganisms or microbes. These are found everywhere soil, water and air. They can survive in ice cold or hot springs desert and marshy lands. Microbes are classified into five groups: **viruses, protozoans, bacteria, algae and fungi**. Microbes can be unicellular (bacteria, and fungi), filamentous (cells joined end to end; such as algae) or multicellular (fungi).

Microorganisms and Human beings: Microbes play an important role in our lives. Some of the microbes are beneficial while others are harmful and cause diseases.

NITROGEN FIXATION:
It is the process of converting free nitrogen in the atmosphere into compounds of nitrogen. It can be done in two ways:
Atmospheric fixation: by the action of lightening.
Biological fixation: by certain bacteria & blue green algae. Bacterium *Rhizobium* lives in the root nodules of leguminous plants & converts atmospheric nitrogen into compounds of nitrogen.

NITROGEN CYCLE:
Nitrogen is an essential constituent of proteins, chlorophyll, nucleic acids & vitamins. As a result of nitrogen cycle the percentage of nitrogen in the atmosphere remains more or less constant.

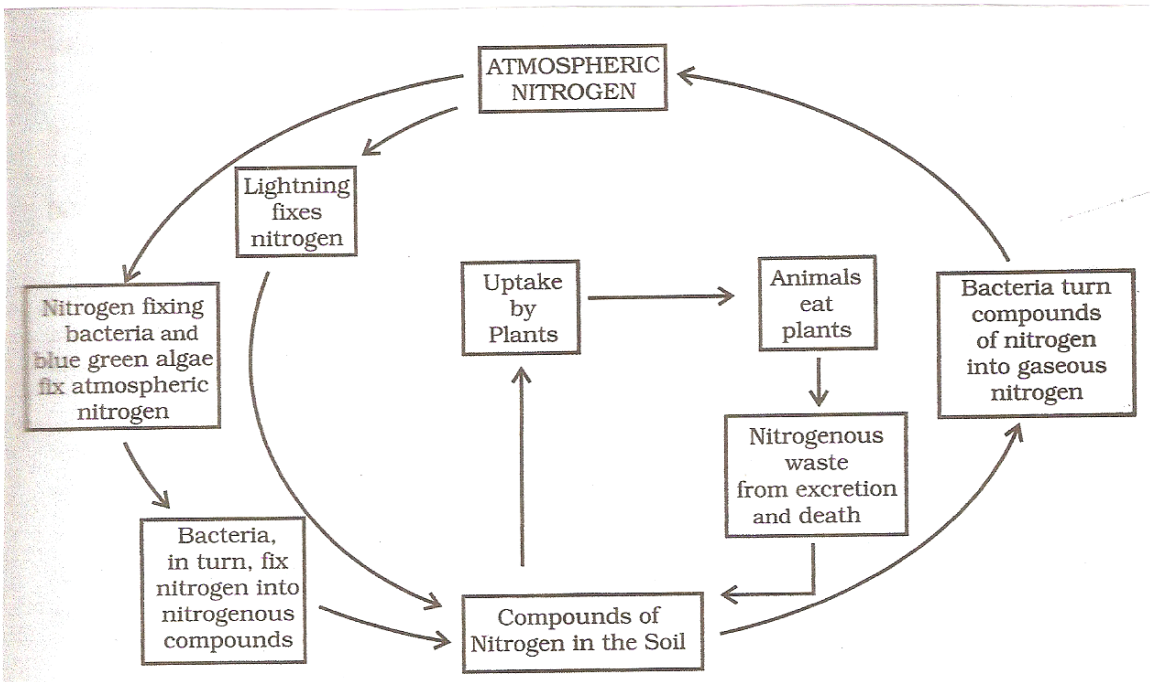

Fig. 2.10 : *Nitrogen cycle*

MICROORGANISMS: FRIEND AND FOE

Q1. Give one word answer.

- Branch of Biology which deals with the study of microorganism.
- Medicines which kill or stop the growth of these disease causing microorganisms.
- Disease causing microbes
- The process of conversion of sugar into alcohol.

Q2. Give reasons:

- Antibiotic should be taken only on the advice of a doctor.
- Milk is boiled before it is stored.
- Breads and cakes are fluffy
- Fruit juices become sour.
- Oil is added in the pickles

Q3. Fill in the blanks:

- _____ only multiply in the body of living organism.
- _____, _____, _____ and _____ are four major groups of microorganisms.
- _____ and _____ disease are caused by virus in humans.
- The full form of AIDS is_____.
- _____ and _____ are examples of antibiotics.

Q4. Name the causative organisms, their mode of transmission, and carrier of the following diseases, in a tabular form.

Tuberculosis, Measles, Typhoid, Foot and mouth disease and Dengue

Q5. Define

i) Nitrogen fixation
ii) Antibiotic
iii) Pathogens

Q6. How does nitrogen, which is a part of living organism, go back into the atmosphere?

Q7. What are the methods of preservation?

Q8.Why are the bacteria called natural scavengers?

Q9. Read the passage and answer the questions that follow

When a disease-carrying microbe enters our healthy body, the body produces antibodies, body fights and kills them by these antibodies. The body

also remembers how to fight the microbe if it enters again. The antibodies remain in the body for a long time and protect us from the disease causing microbes.

(A) Give one word for disease causing microbe

(B) Name the substance which is injected into the body to trigger the body to initiate the above process.

Find Out More:

Drug Resistant TB-A result of rampant misuse of antibiotics

Swine FLU, Bird Flu

Viruses causing Cancer

Stomach Ulcer-a bacterial Infection

VISIT THE BIOTECH LAB TO SEE BACTERIAL COLONIES GROWING ON AGAR PLATES

ROOT NODULES OF LEGUMINOUS PLANTS

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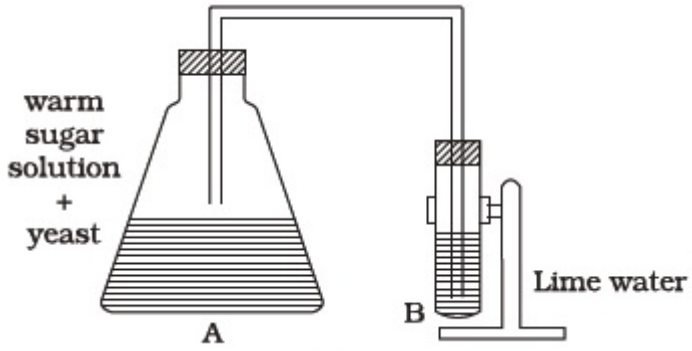
Activity

Q1. Observe the set up given in the Fig below and answer the questions



a) What happens to sugar solution in A?

_____

_____

_____

b) Which gas is released in A?

_____

c) What changes will you observe in B when the gas released is passed through it?

_____

_____

_____

Q.2 Give one difference between the following pairs taking example under each category:

a. Communicable and non-communicable diseases

b. Microbe and Pathogen

c. Carrier and Vector

Q.3 Explain briefly the following:

a. Food Poisoning

_____

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b. Nitrogen Fixation

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Chapter 7

Conservation of Plants and Animals

The existence of a diverse variety of plants, animals, and other living forms is known as **biodiversity** (biological diversity). Existence of plants and animals is **important** due to various reasons:

- roots of the plants help in binding the soil and hence **prevent soil erosion**
- forests are home to numerous plants and animal species,
- forests maintain a balance between the oxygen and carbon dioxide levels in the atmosphere
- forests also play role in the climate , wind and rainfall of the both locally and globally
- Different plants and animals form vital links in food chains and food webs.

Thus for the survival of the mankind and to maintain the natural ecological balance it is necessary to conserve biodiversity.

Following are the **causes of the loss of biodiversity**:

- Increase in human population and use of land for agriculture and urban development leading to large scale destruction of forests resulting in **deforestation**. Consequences of deforestation are many:
- Deforestation results in the change in soil property gradually leading to **desertification**.
- Falling of trees may also result in the increase in the temperature of the earth (**global warming**)
- It also leads a disturbance in the water cycle and less rainfall resulting in drought
- Loss of trees decrease the water holding capacity of the soil. The movement of water from the soil surface into the ground is reduced leading to floods.

ii Killing of animals for their meat, skin and other body parts

iii Pollution of air, water and land adversely affects many plants and animals.

iv Natural disasters like, earthquakes, cyclones etc.

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Conserving the biodiversity on earth is the duty of every human being to promote conservation, government and non-government bodies at the international, national and local levels are constantly organizing awareness programs, and issuing rules and regulations to protect the existing forests and wild life. To conserve biodiversity it is necessary to follow certain conservation strategies. These strategies involve establishing protected areas for plants and animals (Sanctuary, National park and biosphere reserve), restoring ecosystems, and managing already existing plant and animal species.

Terms associated with biodiversity:

Species: a group or a class of animals and plants having certain common and permanent characteristics that clearly distinguish it from other groups.

Flora and fauna: numerous species of plants living in their natural surroundings (habitat) are termed as flora, and the animal species constitute the fauna. Together the flora and fauna form the biodiversity of the place.

Extinct species: species of plants and animals that are no longer existing.

Endangered species: These are at a high risk of getting extinct in their habitat in the near future.

Endemic species: species of plants and animals which are found exclusively in a particular area. A particular type of animal or plant may be endemic to a zone, a state or a country. The following factors affect the natural habitat of endemic species and endanger their existence:

- Destruction of their habitat
- Increasing population
- Introduction of new species

An **ecosystem** is made of all the plants, animals and microorganisms in an area along with non-living components such as climate, soil, rivers etc.

To protect our flora and fauna and their habitats, **protected areas** called sanctuaries, national parks and biosphere reserves have been earmarked. Plantation, cultivation, grazing, felling trees, hunting and poaching are prohibited here. These protected areas include:

Wildlife sanctuary: provides protection and suitable living conditions to wild animals. They are a tract of land with or without lake where wild animals or fauna can take shelter without being hunted. Some of the threatened wild animals like black buck, white eyed buck, elephant, rhinoceros, etc., are protected and preserved in our wild life sanctuaries.

National parks: They are reserves of land, usually owned by governments, which are protected from most human developments. National parks are large and diverse enough to protect whole sets of ecosystem. Tiger is one of the many species which are slowly disappearing from our forests. In a food chain tigers are the top carnivores.

Biosphere reserves: they are areas meant for conservation of biodiversity. **Biodiversity** is the variety of plants, animals and microorganisms generally found in an area. The biosphere reserves help to maintain the biodiversity and culture of that area. The area covered by a biosphere reserve is the largest and it can have a number of national parks and sanctuaries within its area.

Top carnivores are those which are situated at the top of a food chain. They eat many animals but nobody eats them. The removal of a top carnivore can have a serious impact on the ecosystem. Thus, the protection of carnivores is very important. For this the **Project Tiger** was launched by the government in 1973 with the objective to ensure the survival and maintenance of the tiger population in the country.

Red data book is the source book which keeps a record of all the endangered animals and plants. It is compiled and maintained by the International Union of Conservation of Nature and Natural Resources (IUCN).

Migration is the phenomenon of movement of a species from its own habitat to some other habitat for a particular time period every year for a specific purpose like breeding. Migratory birds fly for laying eggs as the weather in their natural habitat becomes very cold and inhospitable.

We have already caused tremendous damage to our forests. If we have to retain our green wealth for future generations, plantation of more trees is the only option. **Reforestation** is restocking of the destroyed forests by planting more trees. The planted trees should be of the same species which were found in that forest. The **Forest (Conservation) Act** in our country is aimed at preservation and conservation of natural forests and meeting the basic needs of the people living in or near the forests.

Find Out More:
Biodiversity Hot Spots

The Himalayan Glaciers

Any Case study to minimize Man Animal Conflict

Chipko Movement

Traditional systems of conservation-Sacred plants and animals

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Useful References: These are online resources that can be referred to for all the topics of grade VIII

- **http://www.britannica.com**
- **Biology 4 kids.com**
- **www.niaid.nih.gov**
- **www.microbiologyonline.org.uk**
- **www.bbc.co.uk/bitesize/ks3/science**
- **Cbse-notes.blogspot.in**
- **www.slideshare.net**

CONSERVATION OF PLANTS AND ANIMALS
(HOLIDAYS HOMEWORK)

AN APPROPRIATE ACTIVITY WILL BE DONE AS A PROJECT For HOLIDAY HOME WORK

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Chapter - 8

CELL

1. Fill in the blanks:

   a. _____ is called the living substance of the cell.

   b. The three main parts of a generalized cell are _____, _____ and _____.

   c. An example of human body cell that can change its shape is _____.

   d. _____contain pigments and occur in plant cells only.

   e. Chromosomes carry _____ that help in the transfer of characters from parents to the offspring.

   f. _____ is the unit of inheritance in living organisms.

   g. _____ is a single celled organism.

   h. _____ coined the term cell.

   i. Nucleus is separated from the cytoplasm by a membrane called_____

   j. _____ & _____ are prokaryotic.

2. Indicate whether the following statements are True (T) or False (F). If false, write the correct statement also.

   a. Plant cells have smaller vacuoles than animal cells.

   b. Organ is the basic structural unit of life.

   c. Organisms made of more than one cell are called multicellular organisms.

   d. Pseudopodia are found in *Paramecium.*

   e. The entire living substance of the cell is called cytoplasm.

   f. Tissues form organ systems.

3. a. Name the largest and the smallest cell known. Also mention their respective sizes.

   b. Give examples to prove that the shape of a cell is related to its function?

c. What role do the following perform in a cell?

1. Cell wall
2. Nucleus
3. Plastids
4. Chromosomes
5. Vacuole

4 Differentiate between the following pairs:

a. Cell and Tissue

b. Prokaryotic and Eukaryotic cell

5. Draw neat and well-labelled diagrams of the following

a. Plant cell.

b. Animal cell.

6. What are genes and where are they found?

7. Look at the diagrams of the cells given below and answer the following questions:

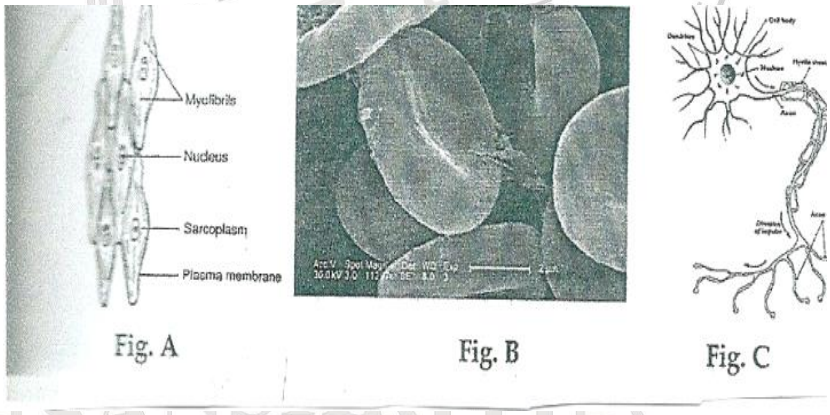

Fig. A Fig. B Fig. C

a. What is the shape of cells in fig. A?

b. Figure C corresponds to cell responsible for receiving and transferring messages in the human body. Name the cell.

c. Name the cells shown in figure B?

8. Classify the following terms as cell, tissue, and organ and write it in the table below

RBC, heart, hand, blood, nerve cell, WBC, blood vessel, muscle

Cell	Tissue	Organ
.....	.....	.....
.....	.....	.....
.....	.....	.....

9. Fill in the blanks with the words given below:

Nucleus, chromosomes, cell wall, cell membrane, protoplasm, cytoplasm, ribosome, cell organelles

The outermost layer of plant cells is the ___(a)___ beneath which is the ___(b)___. The term ___(c)___ refers to the jelly-like substance containing all the ___(d)___. The ___(e)___ contains thread-like structures called ___(f)___.

10. Choose the correct option

1. Pathogen causing disease spread through

I BODY CONTACT

II THE AIR

III A VECTOR

a) I and II only
b) I and III only
c) II and III only
d) I,II and III

2.Which of the following is the bio control method to check spread of malaria

a) Using mosquito repellants.
b) Rearing fishes
c) Spraying insecticides
d) Using mosquito nets

3.Which of the following processes involves the escaping of nitrogen into the air from decaying matter?

a) Nitrification
b) Denitrification

c) Nitrogen assimilation
d) Nitrogen fixation

4. Read the passage and answer the questions that follow

Cells are mostly round, spherical or elongated in shape. Cells sometimes are quite long. Some are branched. Components of the cell are enclosed in a membrane which provides shape to the cells. Cell wall is an additional covering over the cell membrane to give shape and rigidity to plant cells.

(A) Name the long and branched cell. What function do they perform
(B) Name the membrane that encloses the cell. What other function does it perform besides giving shape to the cell.
(C) Why do plant cells need a cell wall?

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Lab Activity

Observe the given slides. On the basis of the observations made try to identify the cells/ organism shown. Also draw a neat diagram of the cell/organism identified.

	NAME OF CELL/ORGANISM	OBSERVATIONS	DIAGRAM
SLIDE 1			
SLIDE 2			

SLIDE 3			
SLIDE 4			
SLIDE 5			

Chapter - 9

REPRODUCTION IN ANIMALS

Q.1 Match the items in Column A with items in Column B.

(A) Zygote	Egg cell
(B) *Hydra*	Birds
(C) Ovum	Stage when organs can be identified externally
(D) External fertilization	Binary fission
(E) Foetus	Buds
(F) *Amoeba*	*F*usion of male and female gametes
	Fish

Q.2 Fill up the blanks:

(A) The type of reproduction that involves fusion of male and female gametes is called as_____.

(B) The testes produce male gametes called as_____

(C) The ovaries produce female gametes called as _____.

(D) Fusion of male and female gametes is called as_____.

(E) Sperm and ovum fuse to form _____.

(F) Egg laying animals are called as _____ while those which give birth to young ones are called as _____.

(G) Transformation of larva to an adult is called as_____ _____.

(H) The type of reproduction in which only one parent is involved is _____.

(I) *Hydra* reproduces by_____ while *Amoeba* reproduces by_____.

(J) _____ of sperms are produced by the testes whereas a_____ ovum is produced at a time by the ovary.

(K) The first animal to be cloned was a _____.

(L) Each sperm is a _____ cell.

Q.3 Differentiate between

1. Sperm and Ovum (Two points)
2. Internal and external fertilization.
3. Sexual and asexual reproduction.
4. Testis and ovary.

Q.4 Name the parts of the sperm.

Q.5 Give the function of jelly found around the eggs of the frog.

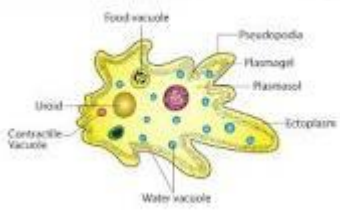
Q.6 Define the following:

1. Metamorphosis
2. Fertilization
3. Embryo
4. Fetus
5. Viviparous animals
6. Oviparous animals
7. Asexual reproduction
8. Zygote

Q.7 Describe the process of fertilization in frog.

Q.8 Describe the process of reproduction in a hen.

Q.9 The organism shown in the given diagram reproduces by:



(A) Budding

(B) Fragmentation

(C) Fission

(D) Fusion

Q.10 How is the sex of the Baby determined?

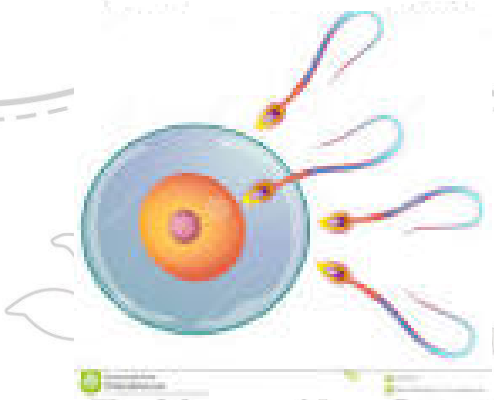
(A) Sex chromosomes of mother

(B) Sex chromosomes of father

(C) 'X' chromosome of unfertilized egg

(D) All 23 pairs of chromosomes

Q11. Which process is shown in the diagram below?



(A) Metamorphosis
(B) Moulting
(C) Fertilization
(D) Respiration

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Chapter - 10

REACHING THE AGE OF ADOLESCENCE

Q.1 Fill in the blanks:

- _____is the period in the life of an individual when the body undergoes changes resulting in reproductive maturity.
- Endocrine glands are also known as _____ glands.
- _____ is the hormone which is responsible for the development of breasts in females.
- Out of _____ pairs of chromosomes in the nucleus of each human cell, two are called _____ chromosomes and are named _____ and _____.
- Hormones secreted by _____ gland stimulate testes and ovaries to produce _____ and _____ hormones respectively.
- _____ gland secretes growth hormones.
- _____ is the male hormone and _____ the female hormone.
- Hormones are secretion of _____ glands.

Q.2 Match the following:

COLUMN A	COLUMN B
Testes	Thyroxine
Adrenal	Growth Hormone
Thyroid	Testosterone
Ovaries	Insulin
Pancreas	Adrenalin
Pituitary	Oestrogen

Q.3 Name the virus responsible for AIDS.

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Q.4 Name a food item which is a balanced meal in itself.

Q.5 Name the disease caused due to improper functioning of

a) Thyroid b) pancreas

Q.6 What type of foodstuffs should an adolescent take for blood formation?

Q.7 Give reasons to justify the following statements:

- The voice of adolescent boys becomes hoarse.

- Acne and pimples are more common among adolescents.
- Wall of uterus becomes thick during the first phase of menstrual cycle.
- Chips and tinned food can never replace regular meals.
- We should say "NO" to drugs.
- Adolescents should be careful of what they eat.
- Endocrine glands are called ductless glands.

Q.8 Differentiate between menopause and menarche.

Q.9 What is menstruation?

Q.10 List the secondary sexual characters that develop in boys and girls respectively at puberty.

Q.11 Name the hormone that controls metamorphosis in frogs.

Q.12 Enlist any three ways in which HIV can be transmitted from an infected to a healthy person.

Q.13 Enumerate the steps in menstrual cycle.

Q14. Choose the correct option

1.What is the function of thyroxine hormone in frog

a) Controls metabolic rate in frog
b) Controls metamorphosis in frog
c) Controls the development of reproductive organs
d) Controls the function of other endocrine glands

2. Which sequence is correct about the menstrual cycle based on the information given below

W-the ovum dies within 24 hours after ovulation

X-the uterus wall thickens with blood vessels
Y-The uterus wall breaks down
Z-The ovary discharges an ovum

a) Z,X,Y,W
b) Y,W,Z,X
c) X,Z,WY
d) W,Y,X.Z

3.Read the passage and answer the questions that follow

Hormones are chemical substances secreted by **A**___ glands. They also known as **B**___ glands. These glands release hormones directly into the blood stream to reach a particular body part known as **C**_____.

Hormones control the changes that occur at adolescence. The male hormone called _____ is secreted by the testes at the onset of puberty and cause development of facial hair, chest hair etc. At the onset of puberty in girls, ovaries secrete female hormone or _____ which makes the breast develop.

(A) Identify A , B and C.

(B) Name the male and female hormone

(C) Name the master gland that controls the secretion from testes and ovaries.

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Section C **Biology** **MM-26**

Q.1. Fill in the blanks **0.5X4=2**

a. The fungus that helps in production of antibioticis _____.
b. Chicken pox is caused by a _____ .
c. Nucleus contains thread – like structures called_____ .
d. Mustard is a _____ crop.

Q.2. Name the following : **1x4=4**

a. A disease caused by virus in plants.
b. An example of an antibiotic
c. The process of separating grain from chaff
d. A single celled Algae.

Q.3 Give any two functions of the following in a cell **2x2=4**

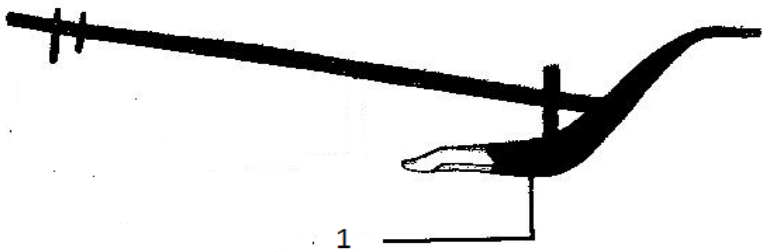
a. Nucleus
b. Cell membrane

Q.4 Give one point of difference between the following. Give an example of each **2x2=4**

a. Prokaryotic cell and Eukaryotic cell.
b. Carrier and vector

Q.5 **1+1+1=3**

Given below is a diagram. Study the same and answer the following questions.



a. Identify the given diagram.
b. Label part 1.
c. State the function of the given tool.

Q.6 a. Draw a neat diagram of a plant cell. **3**

b. Identify the following parts of the cell :

i) Power house

ii) Outermost covering of the cell

c. Label the above parts on the diagram you have drawn.

Q7 2X3=6

Answer the following questions

a. Your mom bought flour from the market and kept it in a moist container. What will happen to the flour? Why?
b. Certain microbes help in fixation of nitrogen. What is nitrogen fixation? Give two examples of microbes that help in nitrogen cycle.
c. Microbes play an important role in dairy and bread industry. Name and explain two important processes involved in each of the industry. Mention the microbes involved in each of the process

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Section C **Biology** **MM-26**

Q.1. Q1. Fill in the blanks **0.5X4=2**

a. Alcohol is produced with the help of _____
b. Cholera is caused by _____.
c. Nucleus contains thread – like structures called_____ .
d. Paddy is a _____ crop.

Q.2. . Name the following: **4**

a. Chemical used for food preservation.
b. One disease caused by virus in plants.
c. Single celled organism.
d. Machine which is harvester and thresher.

Q.3 Define the following terms: **2**

a. Cytoplasm.
b. Plastid.

Q.4 Give one point of difference between the following terms. Also give an example of each. **4**

a. Manure and fertilizer.
b. WBC and *Amoeba*.

Q.5 Answer the following questions **6**

a. What are biological nitrogen fixers? Give an example
b. Microbes play an important role in Dairy Industry life. Justify giving two important examples.
c. Your Mom bought flour from the market and kept it in a moist container. What will happen to the flour? Why?

Q.6 Draw a neat diagram of a plant cell.Label the following parts: **3**

a. Power house of the cell
b. Outermost covering of the cell

c. Controller of the cell

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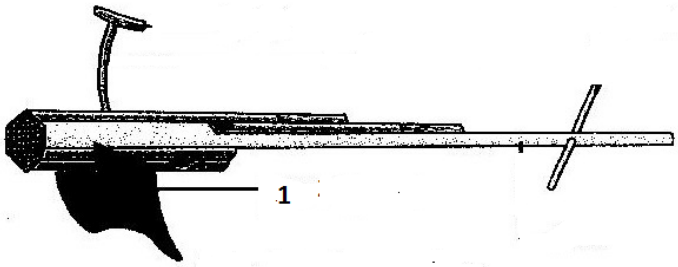
Q7 Given below is a diagram. Study the same and answer the following questions. 3(1+2)



a. Label the part 1.
b. Identify the given diagram. State the function of the given tool.

Q8 Explain in detail how soil gets affected by the continuous plantation of crops in a field. 2

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