WORK BOOK

CLASS: X **BIOLOGICAL SCIENCE**

LIFE PROCESSES

Date: / / 1 Mark

Answer the following in one word or phrase.

1. **What type of chemical reactions take place in our body to break down the food materials?**
Ans
2. What are the factors required for photosynthesis?
Ans
3. Herbivores: Very long small intestine :: Carnivores: _____
Ans
4. Haemoglobin: Iron:: Chlorophyll: _____
Ans
5. ADP + _____ → ATP
Ans
6. Write a balanced chemical equation of photosynthesis.
Ans
7. Finger-like projections in small intestine are called _____.
Ans
8. During photosynthesis, oxygen is produced from _____.
Ans
9. Expand ATP.
Ans
10. What is the digestive juice without enzymes? _____
Ans

Date: / / 2 Mark

Answer the following in two to three sentences.

1. What will happen if HCl is not secreted in stomach?
Ans.
2. Write a balanced chemical equation of photosynthesis.
Ans.
3. What will happen if the diaphragm is not there in the body?
Ans.

4. Write a precaution that you want to take to prevent respiratory diseases.
Ans.
5. What will happen if the platelets are not present in the blood?
Ans.
6. Write a slogan on organ donation?
Ans.

Date: / / 2 Mark

Answer the following in two to three sentences.

7. **Define nutrition. What are the different types of nutrition?**
Ans.
8. What questions will you ask if have a chance to meet a gastroenterologist?
Ans.
9. What precautions do you follow to escape from the dental caries?
Ans.
10.What is fermentation? Give two examples.
Ans.

Date: / / 2 Mark

Answer the following in two to three sentences.
11. What will happen if our respiratory tract is not moist?
Ans
12. Why do muscle cramps occur in the legs during sudden activity?
Ans
13. How are fats digested in our bodies?
Ans
14. What is the role of saliva in the digestion of food?
Ans
15. What are the differences between autotrophic nutrition and heterotrophic nutrition?
Ans
16. What type of questions will you ask a nephrologist to know about kidney?
Ans

Date: **4 Marks**
Answer the following in 4-5 sentences

1. What are the differences between aerobic and anaerobic respirations?

2. Write the differences between arteries and veins.

3. Differentiate xylem and phloem.

4. “The design of the lungs supports the gaseous exchange well.” A student commented. Do you agree with the statement? Why?

5. What are the differences between combustion and respiration?

Date: **8 Marks**

Answer the following in 6-8 sentences

1. Describe the procedure of the experiment to prove that chlorophyll is essential for photosynthesis. Ans.

2. Describe the procedure of the experiment that proves the CO_2 is necessary for photosynthesis.

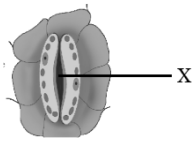
3. Describe the experiment that proves fermentation.

4. Describe the structure of nephrons. Why are they called functional units of excretory system?

Diagram Based Questions

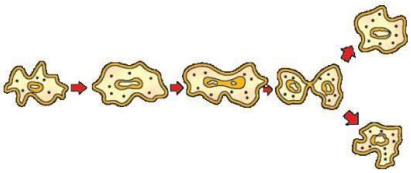
Date: **1 Mark**

1. Identify the part ‘X’ labelled in the diagram.

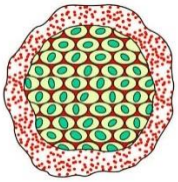


Ans:

2. What is the process you observed in the diagram?

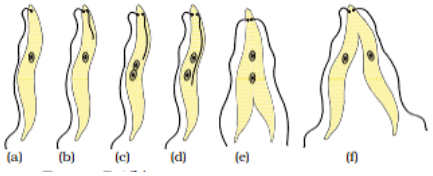


3. What is the process you observed in the diagram?



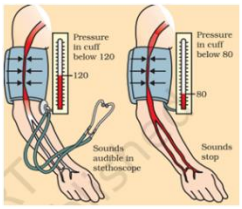
Ans:

4. What does the picture depict?



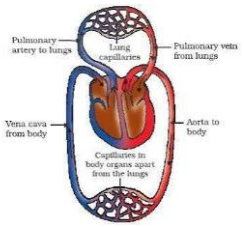
Ans:

5. Name the apparatus in the picture.



Ans:

6. Which type of circulation is shown in the picture?

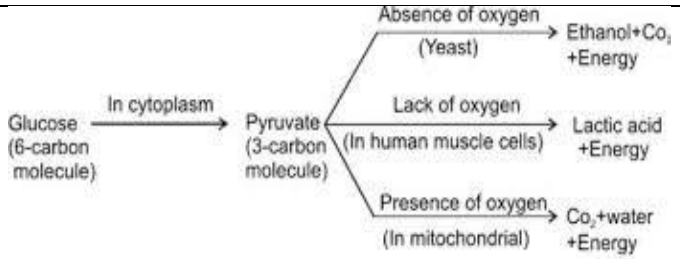


Ans:

Date: **4 Marks**

1. **Draw the neat labelled diagram of the human excretory system**.
2. Draw the diagram of a nephron and label the parts.

3.**Read the above flow chart and answer the following questions**.



a) What does the flow chart indicate?

b) Name the place where lactic acid is formed?

c) What is the starting factor in this reaction?

d) Name the products formed after the reaction in mitochondria.

CONTROL AND COORDINATION

Date: / / 1 Mark

Answer the following in one word or phrase.

1.Which part of the brain regulates hunger and thirst?

Ans.

2.What will happen if all the functions of the human body are controlled by the brain?

Ans.

3. Which part of the brain helps in riding a bicycle?

Ans.

4. What disease may be caused due to lack of iodine in our daily food?

Ans.

5. Give an example for a growth-inhibiting plant hormone.

Ans.

6. Name the hormone responsible for phototropism in plants.
Ans.

7. Which plant hormone promotes cell division?
Ans.

8. The gap between two neurons is called _____.
Ans.

9. What type of movements are observed in Mimosa?
Ans.

10. What will happen if the reflex action does not occur in our body?
Ans.

Date: / / 1 Mark

Answer the following in one word or phrase.

1. Why are some patients of diabetes treated by giving injections of insulin?
2. What is synapse? What happens at synapse?
3. How do you differentiate axon from dendrite?
4. What will be the consequences if the cerebrum of one's brain is damaged?
5. Suggest two precautions to maintain a healthy nervous system for proper body coordination.
6. Give four examples to show that plants respond to stimuli.
7. Analyse the reason for not being able to taste the food properly when we suffer from a cold.
8. What questions will you ask an endocrinologist to know about endocrine glands?

Date: **4 Marks**

Answer the following in 4-5 sentences

1. Write differences between running and walking.
2. Difference between stimulus and response.
3. Give four examples to show that plants respond to stimuli.
4. Compare the coordination process in plants and animals.
5. Diabetes is a chronic disease. What precautions will you take to control the diabetes of your grandfather?

Date: **8 Marks**

Answer the following in 6-8 sentences

1. What are the differences between a receptor and an effector?

2. **Describe the structure of a neuron and explain its functions.**

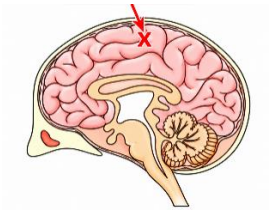
3. How do the control and coordination take place in plants?

4. Compare and contrast nervous and hormonal mechanisms for control and coordination in animals.

DIAGRAM BASED QUESTIONS

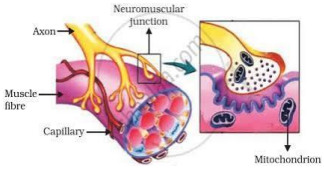
Date: 1 Mark

1. Identify the part 'X' in the picture.



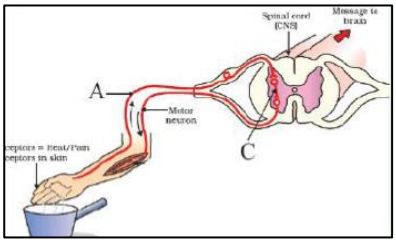
Ans:

2. What does the picture show?



Ans:

3. Observe the diagram and identify the parts A & C.



A. C.

Date: 4 Marks

1. Draw a neat labelled diagram of a neuron.

3. Draw a neat labelled diagram showing reflex arc.

7.HOW DO ORGANISMS REPRODUCE?

Date: / / 1 Mark

Answer the following in one word or phrase.

1. When planaria was cut into two pieces, it developed into two individuals. This process is called
Ans:
2. Whether the statement "Amoeba is immortal" is right or wrong? Justify.
Ans:
3. What is fertilization?
Ans:
4. Which hormone is secreted by testes?
Ans:
5. Expand DNA.
Ans:
6. Expand HIV.
Ans:
7. Expand AIDS.
Ans:
8. Expand STD.
Ans:
9. Tubectomy: Fallopian Tubes:: _____ : Vas deferens.
Ans:
10. The life span of a human unfertilized egg is _____.
Ans:

Date: **2 Marks**

Answer the following in 2-3 sentences.

1. What are the functions of testes?
Ans:

2. Differentiate between pollination and fertilization.
Ans:

3. Give examples in which binary fission and multiple fission take place.
Ans:

4. What are the changes observed at the time of puberty in girls?
Ans:

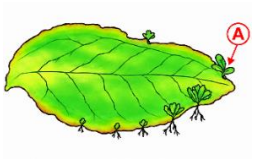
5. What are unisexual and bisexual flowers? Explain with examples.
Ans:

6. Suppose there is no duplication of DNA before cell division. What will be the consequences?

DIAGRAM BASED QUESTIONS

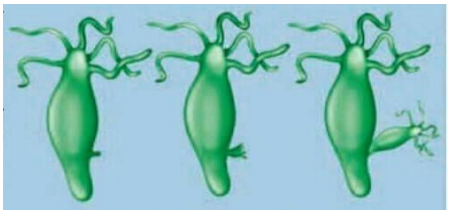
Date: **1 Mark**

1. **Identify the part 'A' in the given diagram**.



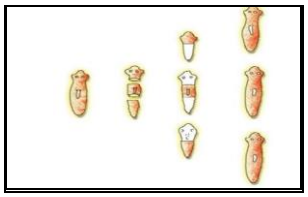
Ans. Bud

2. Identify the 'X' in the given diagram.



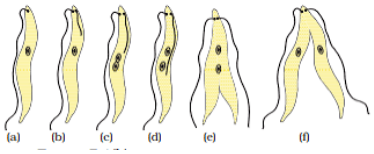
Ans.

3. What kind of process do you notice in the picture?



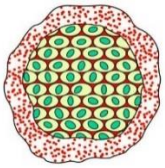
Ans.

4. Name the reproduction method depicted in the picture.



Ans:

5. Which reproduction process in Plasmodium is seen in the given picture?



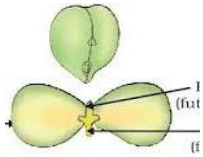
Ans:

6.**Identify the type of asexual reproduction in the given picture.**



Ans:

7.**Identify this process in the picture?**



Ans:

Date: **4 Marks**

1. Draw the diagram of human female reproductive system and label the parts.

2. Draw a neat and labelled diagram of L.S. of flower.

3. Draw the diagram of male reproductive system.

Date: **4 Marks**

Answer the following in 4-5 sentences

1. What are the advantages of sexual reproduction over asexual reproduction?

2. What are the different methods of contraception?

3. What is the importance of DNA copying in reproduction?

4. Give suggestions to your friend to be aware about reproductive health.

5. Write any four slogans for propaganda against female foeticide.

Date: **8 Marks**

Answer the following in 6-8 sentences

1. Describe the modes of asexual reproduction.

2. Write the differences between asexual and sexual reproduction.

3. Explain an activity to observe reproduction in yeast.

4. Explain the lab activity to observe spore formation in Rhizopus.

HEREDITY

Date: **2 Marks**

Answer the following in 2-3 sentences

1.**Define Heredity**.
Ans:
2.**A tall plant was given to you. How can you determine whether it is homozygous tall or heterozygous tall?**
Ans:

3.**Define the term variations.**
Ans:

4.How do you appreciate the role of genes in heredity?

Date: / / 1 Mark

Answer the following in one word or phrase.

1. Who is called the father of Genetics?

Ans:

2. Which of the gametes – sperm decides the sex of the child?

Ans:

3. What is the genotypic, phenotypic ratio of a monohybrid cross?

Ans:

4. In some animals, sex is not genetically determined. Give one example.

Ans:

5. Which plant did Mendel select for his experiment?

Ans:

6. From the following Punnett square find out the phenotypic ratio of tall and dwarf plants.

Ans:

7. A boy said, 22 pairs of autosomes are present in adult boys. But Raji said one pair of autosomes are present in human sperm. Whose statement is correct?

Ans:

8. Sex determination is by males, but blaming females for a girl child. Write a slogan on it.

Ans:

9. Write examples of variation in human beings.

Ans:

10. The sex chromosomes in male are represented by _____.

Ans:

Date: **4/8 Marks**

Answer the following in 6-8 sentences

1. How do Mendel's experiments show that traits may be dominant or recessive?
2. How do Mendel's experiments show that traits are inherited independently?
3. Justify the statement “Sex of the children will be determined by what they inherit from their father.”
4. What are the contrasting visible characters observed in the pea plant by Mendel?

5.“Traits may be dominant or recessive.” How would you analyse this statement as per Mendel's experiment?

6. Draw the diagram showing sex determination in Human beings?

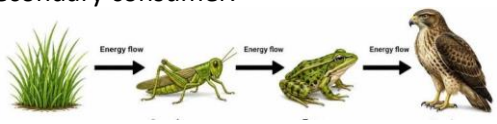
OUR ENVIRONMENT

Date: / / 1 Mark

Answer the following in one word or phrase.

1. A farmer named Ramaiah is continuously cultivating a particular crop in his field. Gradually, his crop yield is decreased, production cost increased and he is facing repeated losses. What should Ramaiah do to make his farm profitable again?

2. Identify the secondary consumer.



3. Write a slogan to display on Environmental Day.

4. What is the chemical name of O_3?

5. Give examples of biodegradable and non-biodegradable wastes.

6. What would happen if all producers in an ecosystem die?

7. Write a slogan on “Save Earth”.

Date: **2 Marks**

Answer the following in 2-3 sentences

1. Paper bags are advantageous to plastic bags. Explain.
2. Give two suggestions to control bio-magnification.
3. List two causes of depletion of ozone layer.
4. What will happen if we remove primary consumers from a food chain?
5. Suggest any four eco-friendly practices to reduce plastic wastes.
6. What will happen if we remove predators from food web?
7. Suggest some methods to reduce chemical pesticide in agriculture.

Date: **4/8 Marks**

Answer the following in 6-8 sentences

1. Our activities will affect the environment. Support the statement by giving instances for positive and negative effects on the environment.

2. Which is the better method in waste disposal – “burning” or “composting”? Justify your answer with proper reasons.

3.What are the precautions you suggest to reduce the effect of “non-biodegradable” waste?