

FIRST TERM EXAMINATION 2025-2026
STANDARD - X
SUBJECT - BIOLOGY

Time: 2 HRS.

M.M:80

Q1. Multiple choice questions:

(15)

i) Which of the following is not a function of blood?

- a) Transporting oxygen.
- b) Producing energy.
- c) Fighting infections.
- d) Clotting wounds.

ii) Which of the following helps in the absorption of water in plants?

- a) Xylem
- b) Phloem
- c) Root hairs
- d) stomata

iii) Assertion (A) Transpiration helps in the upward movement of water in plants.

Reason (R) Transpiration creates a suction force that pulls water upward through xylem.

- a) A is true R is false
- b) A is false R is true
- c) Both A and R are true
- d) Both A and R are false.

iv) The stage of mitosis in which Chromosomes align at the equator is.

- a) Prophase
- b) Metaphase
- c) Anaphase
- d) Telophase

v) The pigment responsible for oxygen transport in blood is:

- a) Chlorophyll
- b) Haemoglobin
- c) Myosin
- d) Keratin

vi) An example of non-biodegradable waste is.

- a) Vegetable peels b) Sewage
c) Livestock waste d) DDT

vii) The Cell organelle responsible for cell division is.

- a) Nucleus b) Mitochondria
c) Lysosome d) Golgi body

viii) The phase of the cell cycle where DNA replication occurs is:

- a) Prophase b) Interphase
c) Anaphase d) Telophase.

ix) The main excretory product in plant is.

- a) Urea b) Oxygen
c) Carbon dioxide d) Water

x) Assertion: Pollens and forest fires are natural Sources of air pollution.

Reason: As natural fire includes both biotic as well as abiotic components.

- a) A is true R is false
b) A is false R is true
c) Both A and R are true
d) Both A and R are false.

xi) Which of the following cells do NOT have a nucleus?

- a) RBC b) WBC
c) Platelets d) both a and c

xii) Which one of the following is a greenhouse gas?

- a) Oxygen b) Methane
c) Sulphurdioxide d) Nitrogen

xiii) The main function of platelets is to

- a) Transport Oxygen
b) Help in blood clotting
c) Carry nutrients

d) Protect against infection

xiv) **Assertion (A): A turgid plant cell is in a balanced state.**

Reason (R). In a turgid cell, turgid pressure and wall pressure are equal and in the same direction

- a) A is true and R is false.
- b) A is false and R is true.
- c) Both A and R are true.
- d) Both A and R are false.

xv) **Which part of the plant prevents excessive water loss**

- a) Root hairs
- b) Cuticle
- c) Xylem
- d) Cortex.

Question - 2

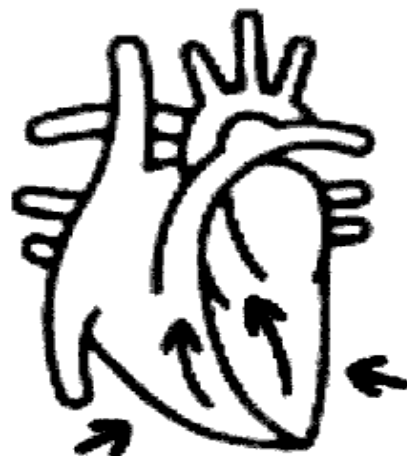
i. **Name the following:**

[5]

- a. The division of nucleus during mitosis and meiosis.
- b. A solution whose concentration is greater than that of the cell sap.
- c. The pigment of erythrocytes.
- d. The phenomenon occurs due to green house effect.
- e. The lymphatic organ that acts as blood reservoir.

ii. **The diagram given below is a human heart represents in one phase of its activity.**

Study the same and answer the questions that follow: [5]



The human heart is of four chambered. The upper two are the atrium and the lower two are the ventricles. The contracting phase is called [a] _____ and the relaxation phase is the [b] _____. The tricuspid and the bicuspid valves [c] _____ during the contraction of atrium. The semi lunar valves [d] _____ by producing the "DUP" sound. When ventricles contract the tricuspid and the bicuspid valves produces the "LUBB" sound. These valves are hold in position by [e] _____

iii. **Arrange and rewrite the terms in each group in the correct order so as to be in a logical sequence beginning with the term that is Underlined. [5]**

- Right ventricle, Lungs, Pulmonary artery, Pulmonary vein
- Root hair, Xylem, Soil water, Cortex
- Sub stomatal space, Thick cuticle, Spongy mesophyll, Upper epidermis
- Lumen, Muscular layer, Endothelium, Tunica externa
- Metaphase, Prophase, Telophase, Anaphase

iv. **Read the explanation given below and name the structure: [5]**

Example: The largest gland in the human body that secretes bile.

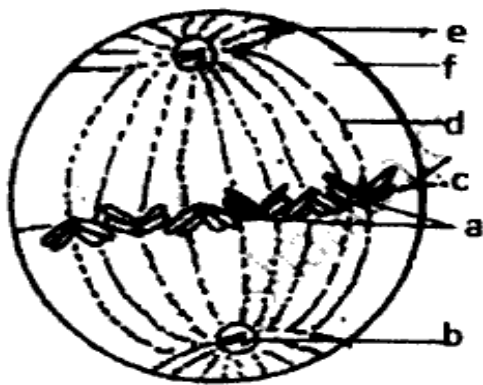
Answer: Liver

- Opening and closing of this structure is controlled by the Guard cells.
- These are the outgrowth of epidermal cells for absorption of water from the soil.
- The vein which carries the blood from the intestine to the liver.
- The largest WBC to ingest germs and can transform into macrophage

c. The nodal tissue located in the wall of right auricle of heart to originate the heart beat.

v. Given below is a structure of an animal cell that is showing the metaphase stage of mitosis. Match the structure marked [a] to [e] with their correct functions: [5]

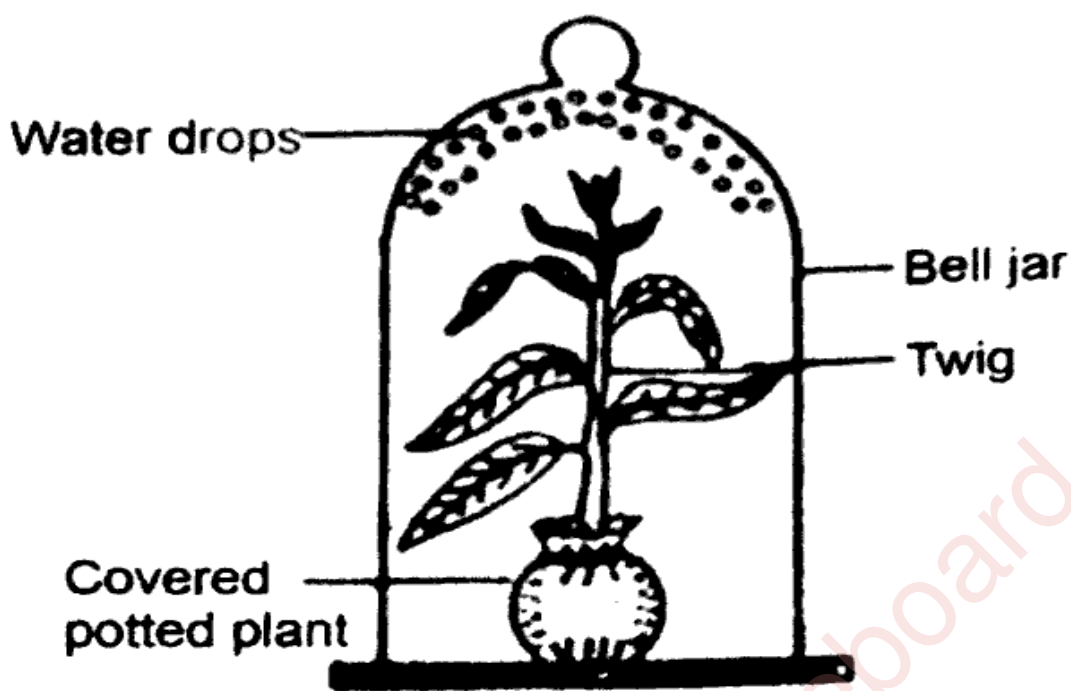
Example: f - 6.

Structure of Animal cell	Functions
	<ol style="list-style-type: none"> 1. The point of attachment of two chromatids. 2. It releases asters 3. It duplicates to make a copy of its own 4. It is responsible for pulling the chromatids. 5. This structure is mainly meant for cytokinesis 6. It is the place for chemical reaction.

SECTION - B

Question 3

- i) Define Turgidity (1)
 - ii) Write full form of DNA and ATP. (2)
 - iii) Give reason:
 - a) Wilted lettuce becomes crisp / firm when placed in cold water for a while.
 - b) The leaves of Mimosa pudica plant droop when touched. (2)
 - iv) Write two significances of turgidity in plant. (2)
- An apparatus as shown below was set up to investigate a physiological process in plants. The setup was kept in sunlight for two hours. Droplets of water were then seen inside the bell jar. Answer the questions that follows. (3)



- i) Name the process being studied.
- ii) Explain the process named above in the given apparatus.
- iii) Why was the pot covered with a plastic sheet?

Question- 4

- i) Give one harmful effect of oil spill. (1)
- ii) Give two examples for biomedical wastes. (2)
- iii) Write the full form of (2)
 - a) AVN
 - b) CFC
- iv) Define the terms (2)
 - a) Diapedesis
 - b) Wilting
- v) Draw a well labelled diagram to show the cross section of an artery (3)

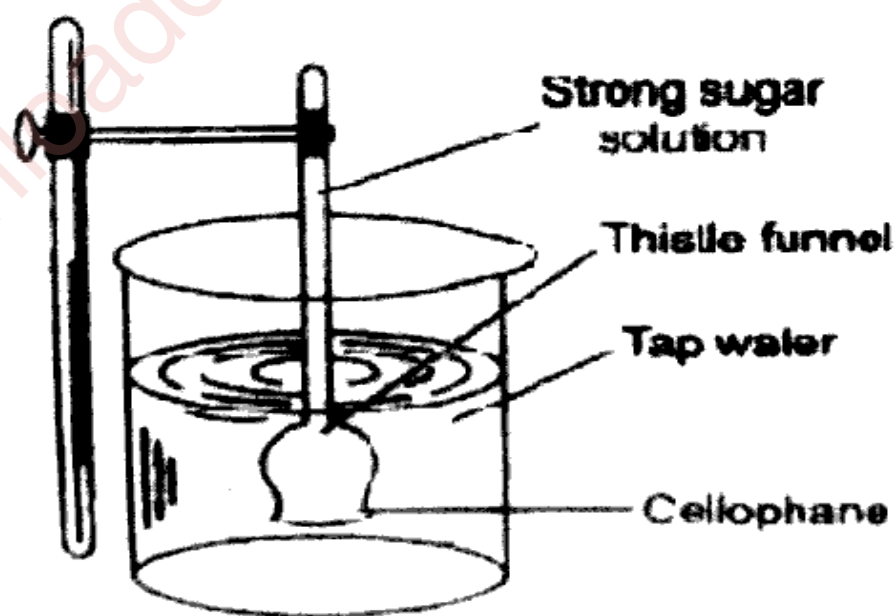
Question 5

- i) Define Biomagnification (1)
- ii) Differentiate between Biodegradable and Non-biodegradable waste. (2)

- iii) Give reason: The wall of the arteries are more muscular than the wall of the veins. (2)
- iv) Name any two adaptations found in plants to reduce transpiration (2)
- v) Draw a well labelled diagram of the stage TELOPHASE in Plant Cell. (3)

Question- 7

- i. Differentiate Mitosis and Meiosis [Number of daughter cells] (1)
- ii. Why do gametes have a haploid number of chromosomes? (2)
- iii. What does EURO BS stand for and what does it mean? (2)
- iv. Given below are two statements which are *incorrect*. Rewrite the correct statements by changing the underlined words. (2)
 - a. On a foggy day, rate of transpiration in plants increases.
 - b. X and Y chromosomes are called Autosomes.
- v. The figure given below shows an experimental representation of a process in plants. Study the same and answer the questions given below: (3)



- a. Name the process
- b. What changes do you see in this experiment after a few hours?
- c. What is the use of this process to a plant?

