

Reading Time: 15 MINUTES

Writing Time: 2 HOURS

Full marks: 80

SECTION A (40 MARKS)

(Attempt all questions from this Section)

Question 1

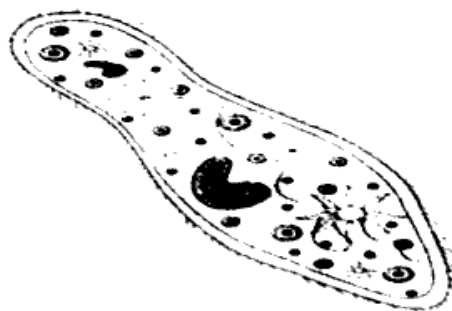
Select the correct answers to the questions from the given options.

(Do not copy the questions, write the correct answers only).

[15]

- i) Which of the following is a complex permanent tissue?
- Parenchyma.
 - Apical meristem.
 - Phloem.
 - Collenchyma.
- ii) Which tissue type forms the outer layer of the skin?
- Muscular.
 - Nervous.
 - Connective.
 - Epithelial.
- iii) Assertion (A) Monerans are prokaryotic organisms.
Reason (R) Monerans have well defined nucleus.
- (A) is true & (R) is false.
 - (A) is false & (R) is true.
 - Both (A) & (R) are true.
 - Both (A) & (R) are false.
- iv) Plant cell wall is made up of:
- Chitin.
 - Cellulose.
 - Lignin.
 - Protein.
- v) A student wanted to conduct an experiment. She took a bread, sprinkle water on it & it was undisturbed for 4 days. What will she observe?
- Growth of bacteria.
 - Growth of Rhizopus.
 - Growth of Agaricus.
 - Growth of Penicillium.
- vi) Assertion (A) Arthropoda have paired, jointed appendages.
Reason (R) They have a strong vertebral column.
- (A) is true & (R) is false.
 - (A) is false & (R) is true.
 - Both (A) & (R) are true.
 - Both (A) & (R) are false.
- vii) The most common allergic disease.
- Asthma.
 - Diabetes.
 - Marasmus.
 - Dwarfism.

- viii) Shanaz had some health issue like during night, she feels very thirsty & many times has to go for urination. Doctor has given some blood tests. It was found that excess glucose was there in the blood report. What may be the reason for this?
- Dehydration
 - Diabetes mellitus
 - Tumour in kidney
 - Liver disorder.
- ix) Assertion (A) Perennial allergies occur throughout the year
Reason (R) Allergen are generally present outside the house.
- (A) is true & (R) is false.
 - (A) is false & (R) is true.
 - Both (A) & (R) are true.
 - Both (A) & (R) are false.
- x) The bacteria which helps in the formation of curd.
- Staphylococcus.
 - Lactobacillus.
 - Rhizobium.
 - Chlamydomonas.
- xi) Assertion (A) Water is absorbed from the soil by the roots.
Reason (R) Xylem helps in the upward movement of water.
- (A) is true & (R) is false.
 - (A) is false & (R) is true.
 - Both (A) & (R) are true.
 - Both (A) & (R) are false.
- xii) The cells responsible for blood clotting:
- Chondrocytes.
 - Thrombocytes.
 - Leucocytes.
 - Erythrocytes.
- xiii) Identify the kingdom of the following organism:



- Moneran.
- Protista.
- Plantae.
- Fungi.

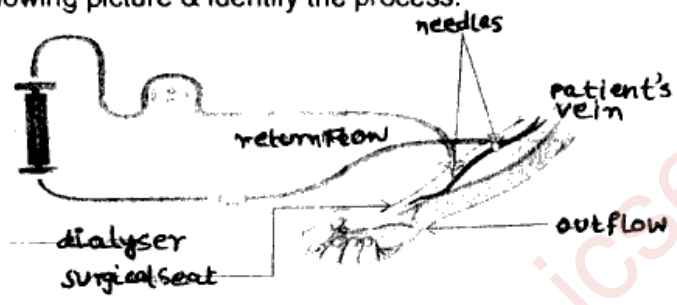
xiv) Rumi tried to match the tissue with their correct functions:

| | TISSUES | FUNCTIONS |
|---|-----------------|-----------------------------|
| P | Adipose | Stores fat |
| Q | Ligaments | Connects muscle with muscle |
| R | Muscular tissue | Transmit impulses |
| S | Epithelial | Protective tissue |

Identify the correct pair.

- a) P & Q.
- b) Q & R.
- c) P & S.
- d) R & S.

xv) Observe the following picture & identify the process:

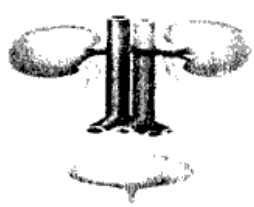


- a) Blood transfusion.
- b) Dialysis.
- c) Allergy treatment
- d) Kidney stone removal.

Question 2

- i) Name the following: [5]
 - a) The materials shed from the body of furred animals.
 - b) A group of similar organisms that can reproduce with each other.
 - c) The cells present in the tentacles of coelenterate.
 - d) Conducting tissue consisting of Xylem & Phloem collectively known as.
 - e) The short process arising from Cyton.

ii) Given below is the diagram of human excretory system. Read the information below the image & fill in the blanks. [5]



Various organs associated with excretion of waste constitutes the excretory system in human beings. It consist of a pair of kidneys, a pair of ureters, a single median urinary bladder & urethra. Kidneys are made up of a large number of nephrons. They produce urine which carries away the nitrogenous waste through the ureters & the bladder.

The blood containing waste materials enters kidney & circulates around (a)
 The waste products present in the blood get (b) Into the tubules. Some of the useful products filtered during the process are (c) back into the blood. The filtrate formed in the kidney enters the (d) followed by (e) where it is stored till expelled.

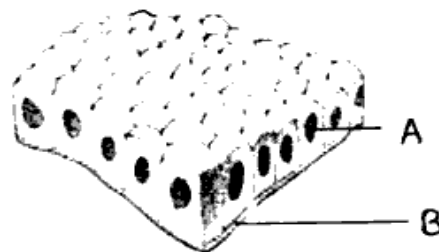
- (ii) Arrange the terms in each group in the correct order. Write them in logical sequence beginning with the term that is underlined. [5]
- Genus, Order, Family, Species.
 - Platyhelminthes, Porifera, Nematoda, Cnidaria.
 - Allergic reaction, Flowers, Watery-eyed, Pollen.
 - Ureter, urethra, Kidney, Urinary Bladder.
 - Cyton, Dendron, Axon terminal, Axon.
- (iii) Pick the odd one out: [5]
- Bone, Nerve, Tendon, Blood.
 - Parenchyma, Tendons, Chlorenchyma, Collenchyma.
 - Dust particles, Fungal spores, Pollen grains, Shellfish.
 - Sodium chloride, Urea, Ammonia, Uric acid.
 - Earthworm, Leech, Round worm Annelida.
- (iv) Given below is a diagram. Match the column A with column B. [5]

| COLUMN - A | COLUMN - B |
|------------|---|
| | <ol style="list-style-type: none"> Contractile vacuole. Pseudopodia. Cell membrane. Food vacuole. Nucleus. |

SECTION B (40 MARKS)
(Attempt any four questions from this Section)

Question 3

- Can bacteria & fungi be considered as plant? Justify your answer. [1]
- State any two characteristics of Meristematic tissue. [2]
- Expand the term UTI. Write any one symptom of UTI. [2]
- What do you understand by allergy & allergen? [2]
- Study the following diagram & answer the following questions. [3]



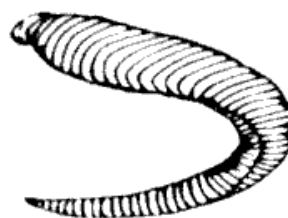
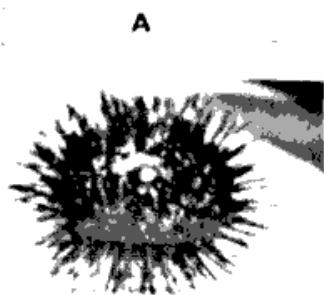
- Label A & B.
- Where will you find this tissue?
- State any two important characteristics of this tissue.

Question 4

- Mention the importance of cardiac muscle in the circulatory system. [1]
- During spring season, many persons suffer with sneezing & stuffy nose. What may be the reason? [2]
- State any two abnormal constituents of urine & what does these indicate? [2]
- Mention one harmful & one useful activities of fungi. [2]

Study the picture & answer the questions that follow

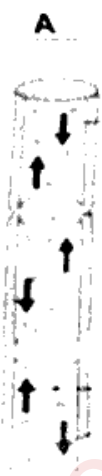
[3]



- Identify the organisms **A** & **B**.
- Mention the phylum to which it belongs.
- State one characteristic feature of each **A** & **B**.

Question 5

- State the difference between seasonal allergy & perennial allergy. [1]
- Lisa suddenly experiences severe pain in the back & notices blood in the urine after rigorous exercise. What might be the cause of these symptoms & how are they related to the excretory system? [2]
- Who proposed three kingdom system of classification? What are the three kingdoms proposed by him? [2]
- Draw any one Arthropoda & label any two parts. [2]
- Study the diagram & answer the following questions. [3]



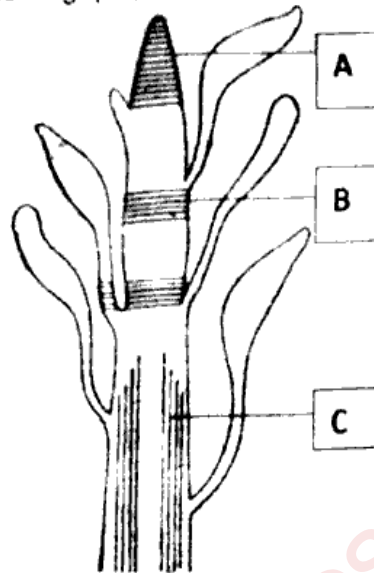
- Identify the above tissue **A** & **B**.
- What is the difference between the cell walls of these two tissues?
- State the function of the above tissues.

Question 6

- State one function of Sclerenchyma. [1]
- Identify the following cell & state its function. [2]



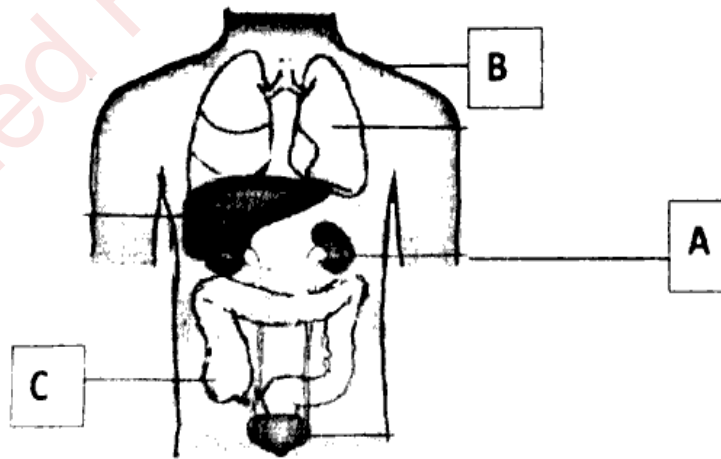
- iii) How will you differentiate between Platyhelminthes & Nematelminths? Give one example of each. [2]
- iv) How can you prevent dust allergies? [2]
- v) Study the picture & answer the following questions: [3]



- a) Identify the above picture.
- b) Label the parts mentioned **A**, **B** & **C**.
- c) State the function of **C**.

Question 7

- i) Females are more prone to urinary tract infection – why? [1]
- ii) Use of air conditioners can reduce risk of allergy to moulds – Explain. [2]
- iii) Draw and label diagram of Collenchyma tissue. [2]
- iv) Why is the classification of organism important? [2]
- v) Following diagram shows the organ of waste elimination. Study the diagram & answer the following questions: [3]



- a) Identify the organs **A**, **B**.
- b) What waste products are eliminated from **A**?
- c) Name the elimination process occur in **C** & name the products eliminated through this organ.