

# First Term Examination (23 September 2017)

Class XI (Medical)

Subject - Biology

(Set - B)

Time: 3hrs

M.M.70

## General Instructions:

- i) All questions are compulsory.
- ii) Q1 to 5 carry 1 mark each.
- iii) Q 6 to 10 carry 2 marks each.
- iv) Q 11 to 22 carry 3 marks each.
- v) Q 23 carries 4 marks.
- vi) Q 24 to 26 carry 5 marks each.
- vii) Draw diagrams wherever necessary. Diagrams should be neat and properly labelled.

- Q1. "Fertilisation is not an obligatory event for fruit production in certain plants".
- Q2. "Alleles of a particular gene differ from each other what is the significance of it.
- Q3. State Gauser's competitive exclusion principle.
- Q4. Where are T-cells formed and matured?
- Q5. Mention the importance of L-H surge.
- Q6. Why does a doctor administer tetanus antitoxin and not a tetanus vaccine to a child injured in a roadside accident with a bleeding wound? Name the microbe that cause tetanus.
- Q7. Write the full form of VNTR. How is VNTR different from probs?
- Q8. If a father and son are both defective in red-green colour vision, is it likely that the son inherited the trait from his father?
- Q9. How do hormone releasing IUDs act as contraceptives?
- Q10. A flower of brinjal plant following the process of sexual reproduction produces 360 viable seeds.  
Answer the following:  
a) How many ovule are minimally involved?  
b) How many male gametes are involved for above care?
- Q11. i) What are gemmae? What role it play in reproduction?  
ii) Write any two examples of mosses?
- Q12. i) Differentiate between radial symmetry and bilateral symmetry  
ii) Which two basic forms are exhibited by cnidarians?
- Q13. Draw a well labelled diagram of monocot seed.
- Q14. What is periderm? How does periderm formation take place in dicot stem?
- Q15. i) What is stomatal apparatus?  
ii) What are trichomes? What is their importance?
- Q16. i) What are chondrocytes?  
ii) Which tissue is present in tubular parts of nephron? Write two functions of this tissue.
- Q17. Draw a diagram of alimentary canal of cockroach. Label the following parts & write function of each: (a) Malpighian tubules (b) hepatic caecae

**Q18.** List and explain the role of biochemical components present at root nodule of leguminous plants.

- Q19.**
- Why is photorespiration called wasteful process?
  - What is Kranz anatomy?

**Q20.** Explain the role of  $F_0-F_1$  particles in oxidative phosphorylation with the help of diagram.

**OR**

Explain 'Glycolysis' using the help of flow diagram.

**Q21.** Write differences between photosystem I and photosystem II.

**Q22.** Which one of the plant growth regulatory would you use if you are asked to:

- rooting in a twig
- quickly ripen a fruit
- delay leaf senescence
- induce growth in axillary buds
- 'bolt' a rosette plant
- induce immediate stomatal closures in leaves.

**Q23.** Mother used to keep dough in the warm weather for making some dishes. Raman asked his mother the purpose of this. She replied that it makes the dough soft and spongy but she did not know the reason. Raman discussed the issue with Biology teacher who told that it happens due to fermentation process.

Read the above passage and answer the following questions:

- What is fermentation?
- Name one commonly used organism employed for fermentation.
- How is fermentation different from aerobic respiration?
- What are the commercial products produced by fermentation?

**Q24.** Describe the various types of placentations found in flowering plants.

**OR**

Explain the process of secondary growth in the stem of woody angiosperms with the help of schematic diagram.

- Q25.**
- Explain the two pathways of water absorption by root with the help of diagram.
  - Name two properties of water that accounts for the massflow of water.

**OR**

Describe Calvin cycle with the help of a flow diagram.

- Q26.**
- a) Explain diplontic life cycle in plants.
  - b) Explain briefly the terms: (i) protonema (ii) archegonium

**OR**

- a) Write scientific names of (i) filarial worm (ii) hook worm
- b) To which phylum they belong?
- c) Write two characteristics of that phylum.
- d) What do you understand by metamerism?