

Time: 2 ½ Hours

Max. Marks: 68

**Instruction:** This paper consisting of Short-Answer Questions (Section "B") and Detailed-Answer Questions (Section "C") will be given after 30 minutes and its total duration will be 2 ½ hours only.

**SECTION "B" (SHORT-ANSWER QUESTIONS)****ZOOLOGY****(MARKS 21)****NOTE: Answer 7 questions from this section.**

2. Define the following branches of Biology:  
(a) Palentology (b) Embryology (c) Genetics
3. Write down any three characteristics of Phylum Echinodermata.
4. Write down any three types of animal tissues.
- OR Give any three differences between sexual and asexual reproduction.
5. Define Portal system. Name two types of Portal system found in frog.
6. Define cold blooded and warm blooded animals. Give one example of each.
- OR Name the units of Classification.
7. Write down the names of three subgroups of mammals with one example of each.
8. Name three Muslim biologists and write one contribution of each in the field of Biology.
9. Draw a neat and labelled diagram of Excretory and Reproductive System of Male frog.
- OR Write three health problems related to nutrition in man.
10. Define any Two of the following: (a) Mitosis (b) Digestion (c) Appendicitis (d) Species
11. Write three differences between Arteries and Veins.
- OR Write three function of Skeleton in man.

**(SHORT-ANSWER QUESTIONS)****BOTANY****(MARKS 21)****NOTE: Answer 7 questions from this section.**

12. Draw a neat and labeled diagram of Funaria plant OR Chlamydomonas.
13. Define photosynthesis. Write its chemical equation.

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14. Give any three differences between Angiosperm & Gymnosperm Plants.
- OR Define Osmosis and Transpiration in plants.
15. Write down three differences between photosynthesis and respiration.
16. Describe three types of Plastids.
17. Write three Points of importance of Bacteria.
18. Define Parasites, Saprophytes & Insectivorous plants.
19. Describe any two of the following:  
(a) Bryophytes (b) Eukaryotic Cell  
(c) Stomata (d) Phototropism
20. Define simple tissue and complex tissue in plants. Write two examples of each.
21. Define Hypogeal germination and Epigeal germination.
- OR Write two functions each of Root and leaf in plants.

**SECTION 'C' (DETAILED-ANSWER QUESTIONS)****ZOOLOGY****(MARKS 14)****NOTE: Attempt 2 questions from this section.**

22. Draw neat & labeled diagram of arterial system of frog
- OR Draw a neat & labeled diagram of L.S. of human kidney
23. Describe Lamarck's Theory of Evolution with two examples.
- OR Write different types of teeth in man and describe their functions.
24. Describe Fauna of Pakistan.
- OR Define Endocrine glands. Name three endocrine glands. Also write one hormone secreted by each.

**(DETAILED-ANSWER QUESTIONS)****BOTANY****(MARKS 14)****NOTE: Attempt Two questions from this section. Each question carries 7 marks.**

25. Draw a neat and labeled diagram of the T.S. of the root of Brassica.
- OR Write five points of importance of transpiration in plants. Describe two factors which affect transpiration.
26. Define Tactic and Nastic movements in plants and describe two types of each movement.
- OR Write down any seven points of importance of Vascular plants.
27. Describe an experiment to prove that Carbon dioxide is necessary for Photosynthesis. Draw a labeled diagram also.