

B.Sc. Part I
Paper -III Gamete and Developmental Biology

A. Objective type/Short answer type questions.

1. Both the cell divisions i.e. mitosis and meiosis take place in which organ?
a. a) kidney b) testes c) germ cells d) somatic cells
2. In insects Yolk is formed in-
a. a)fat body b) liver c) ovary d) Yolk
3. In which embryonic stage yolk plug is seen-
a. a)Neurula b) gastrula c) foetus d) blastula
4. Epiboly during gastrulation forms-
a. a) ectoderm b) mesoderm c) endoderm d) meso -
endoderm
5. Describe various planes of cleavage with the help of suitable diagrams. The evolutionary development of an animal is called as
i. a)Ontogeny b) phylogeny c) embryology d)
development
6. The role of fertilizin is
1. a) for sperm agglutination b) to activate sperm
2. c) to attract sperm by chemotaxin d) none of the above
7. When the cleavage furrow passes through the central part of the egg from animal Pole to vegetal pole it is called as
i. a)Equatorial b) transverse c) meridional d)
longitudinal
8. How many types of cleavage are found in animals on the basis of amount of yolk?
9. Differentiate between cleavage and Mitosis.
10. What is parthenogenesis?
11. What is the importance of morphogenetic movements?
12. Distinguish between epiboly and emboly.
13. What is wolffian regeneration?
14. What are the functions of all three types of extra embryonic membranes?
15. Classified the Placenta on the basis of implantation.
16. What are the functions of placenta?
17. Give the name of various types of stem cells.

18. What are the xenobiotics?
19. Differentiate between isogamy and anisogamy.
20. Give an account of activation of egg during fertilization.
21. Distinguish between invagination and Polyinvagination.
22. Give an account of significance of parthenogenesis.
23. What is primary organizer?
24. Give the name of extra embryonic membranes in mammals.
25. What are the sources of embryonic stem cells?
26. What is the full form of SCNT?
27. What is embryo biopsy?
28. What are fate maps?

B. Long answer type questions

1. What is fertilization? Describe the mechanism of fertilization and suggest its importance.
2. Classified with suitable examples the various types of eggs.
3. Describe various types of morphogenetic movements with the help of suitable diagrams.
4. Describe in detail the structure and functions of extra embryonic membranes in mammals.
5. What is placenta? Describe the various types of placenta found in mammals.
6. Describe in detail the electron microscopic structure of a typical sperm. Add a note on their different shapes and sizes.
7. What are the characteristics of cleavage? Describe various planes of cleavage with the help of diagrams.
8. Give a detailed account of regeneration ability found both in invertebrates and vertebrates.
9. Write an essay on the extra embryonic membranes in mammals.
10. Write an essay on stem cells and their applications.