

- Note: (i) Figures to the right indicate marks.
 (ii) Draw neat and labeled diagram, wherever necessary.
 (iii) "A" part is compulsory from Question 3 to Question 6.

Total Marks - 70

Q-1 Fill in the blanks by choosing appropriate option.

[08]

- (1) Which one is advanced among the following _____.
 a. Apetalae b. Gamopetalae c. Polypetalae d. Sympetalae.
- (2) Crossing over occurs in _____.
 a. Meiosis b. Mitosis c. Amitosis d. All of these.
- (3) Egg apparatus consists of _____.
 a. Antipodals b. Polar nuclei c. Egg cell d. Synergids and egg cell
- (4) Angiosperm endosperm is _____.
 a. Haploid b. Diploid c. Triploid d. Tetraploid
- (5) Acrosome is present in _____.
 a. Ovum b. Sperm c. Pollen d. Egg
- (6) Vitelline membrane is a _____.
 a. Egg membrane b. Sperm membrane c. Ovary membrane d. All of these.
- (7) The cleavage furrow in Meridional plane of cleavage _____.
 a. Passes through animal-vegetal axis b. Passes through horizontal axis of egg
 c. above the equator d. below the equator
- (8) Outward movement of cells during gastrulation is called _____.
 a. Emboly b. Epiboly c. Blastulation d. Invagination

Q-2 Answer the following. (Any seven)

[14]

- (1) Define and differentiate homospory and heterospory
- (2) Differentiate parallel and reticulate venation with a diagram.
- (3) Draw and label the structure of female gametophyte.
- (4) What is polyembryony? Enlist the types of polyembryony.
- (5) Define artificial pollination.
- (6) What is teratogenesis? Enlist the abnormalities associated with it.
- (7) Write a note on blastulation.
- (8) What is fertilization? Give the significance.
- (9) Write a note on Microsporogenesis.

- Q-3 (A) Explain the life cycle of Angiosperms showing alternation of generation with diagram. [6]
- (B) What is sexual incompatibility? Write any six methods to overcome sexual incompatibility. [6]
- OR**
- (B) Write the characters of Angiosperms and justify how monocots are advanced than dicots. [6]
- Q-4 (A) What is anther culture? Write briefly on haploid production. [6]
- (B) Define parthenocarpy. Add a note on the types and importance. [6]
- OR**
- (B) Describe in detail on the types of endosperm in angiosperms. [6]
- Q-5 (A) Draw and label and explain the structure of human sperm cell. Add a note on the formation of Acrosome. [6]
- (B) Give a brief note on parthenogenesis and its significance. [6]
- OR**
- (B) Write a detailed account on the process of fertilization. [6]
- Q-6 (A) What is infertility? Describe procedure for in-vitro fertilization. [6]
- (B) What are morphogenetic movements? Explain the types of morphogenetic movements in animals. [6]
- OR**
- (B) Define cleavage. Give a note on the patterns of cleavage. [6]
