

## **BIOLOGY-(044)**

### **General Instruction:**

1. There are total of questions and five sections in the question paper. All questions are compulsory
2. Section A contains five questions and each question carries 1 mark
3. Section B contains seven questions and each question carries 2 mark
4. Section C contains nine questions and each question carries 3 marks
5. Section D contains three questions and each question carries 3 marks
6. Section E contains three questions and each question carries 5 marks

### **( SECTION- A)**

1. What are antherozoid?
2. Why is banana considered a good example of prthenocarpy?
3. How many microsporangia are present in a typical anther of angiosperms?
4. Name the kind of pollination in maize.
5. What is anatropous ovule?

### **(SECTION-B)**

6. What is emasculation? Explain its importance in hybridization.
7. What is agamospermy? How is agamospermy different from parthenogenesis and parthenocarpy?
8. How does the pollen mother cell develop into a mature pollen grain? Illustrate the stages with labeled diagrams
9. Is pollination and fertilization necessary in apomixes? Give reasons
10. Differentiate between Embryo of grass and Embryo of bean
11. Cleistogamy can favour only autogamy. Justify?
12. The plant Yucca and moth cannot complete their life cycle without each other, Why?

(SECTION-C)

13. Can an unfertilized, apomictic embryo sac give rise to a diploid embryo? If yes, then how?
14. What is self incompatibility? And differentiate between Hypocotyl and epicotyls
15. What is the function of germ pore? And differentiate between Perisperm and pericarp
16. List the changes each part of the fertilized ovule undergoes to develop into a seed.
17. Why does the zygote begin to divide only after the division of primary endosperm cell?
18. What is filiform apparatus? What is its function?
19. What is triple fusion? And how are pea seeds different from castor seeds with respect to endosperm?
20. The number of taxa exhibiting asexual reproduction is drastically reduced in the higher plants (angiosperms) and higher animals (vertebrates) as compared with lower groups of plants and animals. Analyse the possible reasons for this situation
21. What is binary fission? Explain with the help of diagram

(SECTION-D)

22. What is vegetative propagules? Name any four along with their examples
23. Higher organisms have returned to sexual reproduction in spite of its complexity. Why?
24. Why are offsprings of oviparous animals at a greater risk as compared to offspring of viviparous animals?

(SECTION-E)

25. Differentiate between seasonal and continuous breeders and draw a labeled diagram of the sectional view of a mature pollen grain in angiosperms. Explain the function of its different parts
26. Explain double fertilization and trace the post fertilization events in sequential order leading to seed formation in a typical dicotyledonous plant.
27. What is meant by monosporic development of a female gametophyte? And arrange the following terms in the correct development sequence: Pollengrain, sporogenous tissue, microspore tetrad, pollen mother cell, male gametes