

**PART - I (BIO - BOTANY) MARKS : 35****I. Choose the correct answer.****8 x 1 = 8**

1. The branch of Science which deals with the study of pollen grain is  
a) Cytology                      b) Zymology                      c) Ecology                      d) Palynology
2. King of bitters .....
- a) Phyllanthus amarus    b) Mangifera indica    c) Andrographis paniculata    d) Aloe vera
3. Which is the non-endosperms seed  
a) Maize                      b) Beans                      c) Barley                      d) Wheat
4. Fresh weight of an orchid seed may be .....  
a) 0 microgram              b) 20.33 microgram              c) 15 microgram              d) 30.05 microgram
5. "Gametes are never hybrid" this is an statement of  
a) Law of dominance                      b) Law of segregation  
c) Law of independent assortment                      d) Law of random fertilization
6. E.Coli cleaves DNA at  
a) AGGGTT                      b) GTATATC                      c) GAATTC                      d) TATAGC
7. Father of Indian Ecology .....
- a) P.Odum                      b) G.H. Shull                      c) R.Misra                      d) Robert Brown
8. The plants which are grown in silvi pasture system are  
a) Sesbania and Acacia                      b) Solanum and Croalaria  
c) Clitoria and Begonia                      d) Teak and Sandal

**II. Answer any four of the following questions.****4 x 2 = 8**

9. Define : Codominance.
10. What are advantages of artificial seeds?
11. What are psychoactive drugs?
12. Define Kelp?
13. Draw the diagram PBR322 plasmid. ✓
14. List out the functions of Tapetum. ✓

**III. Answer any three of the following questions. Q.No. 19 is compulsory.****3 x 3 = 9**

15. Write short notes on siddha system of medicine.
16. Parallelism between Mendelian factors and chromosomal behavior?
17. What is biofertilizers? Give an example.
18. What is thermal stratification? Mention their types.
19. Draw a neat labeled diagram - T.S. of mature anther.

**IV. Answer all the questions.****2 x 5 = 10**

20. a) Give a detailed account on parthenocarpy. Add a note on its significance. (OR)  
b) Enumerate the anatomical adaptations of xerophytes.
21. a) What is bioremediation? Give some examples of bioremediation. (OR)  
b) What is hybridization? Explain the different types of hybridization?

1. Which of the following forests is known as the lungs of the planet earth?
  - a) Tundra forest
  - b) Rain forest of north east India
  - c) Taiga forest
  - d) Amazon rain forest
2. B Cells that produce and release large amount of antibody are called
  - a) Memory Cells
  - b) Basophils
  - c) Plasma Cells
  - d) Killer Cells
3. Which one is essential for the maintenance of the endometrium?
  - a) Relaxin
  - b) Prolactin
  - c) Estrogen
  - d) Progesterone
4. Regeneration was first studied in Hydra by
  - a) Abraham Trembley
  - b) Charles Bonnet
  - c) John Kotlo
  - d) Alex Jeffereys
5. Which of the following is incorrect regarding ZW - ZZ type of sex determination?
  - a) It occurs in birds and some reptiles
  - b) Females are homogenetic and males are heterogametic
  - c) Male produce two types of gametes
  - d) It occurs in gypsy moth.
6. Which one of following is currently tried for recycling of PET plastics?
  - a) NitrosomonasEuropaea
  - b) Dechloromonas Aromatic
  - c) IdeonellaSakaiensis
  - d) PhanerochaeteChrysosporium
7. .... was the first ever pharmaceutical product of recombinant DNA technology administered to humans.
  - a) Penicillin
  - b) Insulin
  - c) Recombivax
  - d) Streptomycin
8. Which of the following Forests is known as The Lungs of the Planet Earth?
  - a) Tundra Forest
  - b) Rain Forest of North East India
  - c) Taiga Forest
  - d) Amazon Rain Forest

## II. Answer any Four of the following questions

4 x 2 = 8

9. What is zymology?
10. Define endemism?
11. Write the cause of Down Syndrome.
12. What is Ozone hole?
13. What is parthenogenesis? Give two examples from animals?
14. Which is called the golden age of reptiles?

## III. Answer any three of the following questions Q. No. 19 is compulsory.

3 x 3 = 9

15. Mention the differences between spermiogenesis and spermatogenesis?
16. How is the two stage process of protein synthesis advantageous?
17. List the common withdrawal symptoms of drugs and alcohol abuse?
18. What is Migration? Give examples?
19. Explain how 'Rosie' is different from a normal cow?

## IV. Answer the following questions.

2 x 5 = 10

20. (a). Explain the structure of immunoglobulin with suitable diagram? (OR)
- (b). Explain the various phases of the menstrual cycle?
21. (a). Explain the genetic basis of ABO blood grouping in man? (OR)
- (b). What is E-Waste? How will disposal of E-Waste?