

# SAMPLE QUESTION PAPER

Class: XII  
Time : 3 Hours

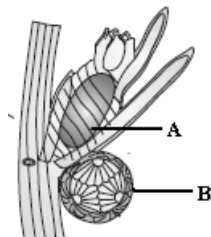
BIOLOGY (Theory)  
Max. Marks: 70

## GENERAL INSTRUCTIONS:-

- (i) All questions are compulsory.
  - (ii) The question paper consists of four sections A, B, C and D. Section-A contains 8 questions of 1 mark each, Section B is of 10 questions of 2 marks each, Section C has 9 questions of 3 marks each whereas Section D is of 3 questions of 5 marks each.
  - (iii) There is no overall choice. However, an internal choice has been provided in one question of 2 marks, one question of 3 marks and all the three questions of 5 marks weightage. A student has to attempt only one of the alternatives in such questions.
  - (iv) Wherever necessary, the diagrams drawn should be neat and properly labelled.
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## SECTION – A

1. Label A and B parts in given diagram below. 1

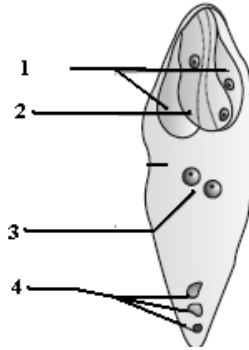


2. Which of the following are nucleosides? 1  
Adenine, Cytosine, Cytidine, Guanine, Adenosine
3. Name new breed of sheep developed in Punjab by crossing Bikaneri ewes and Marino rams. 1
4. Why there are large holes in 'Swiss cheese'? Name the bacterium used for this. 1
5. Which of the following DNA sequences would a Restriction enzyme recognize and cut? 1  
(a) ATGGAC      (b) GATATC      (c) TAGATA      (d) TTTATA  
    TACCTG      CTATAG      ATCTAT      AAATAT
6. Which bonds have to be removed to convert pro-insulin into insulin? 1
7. Name the active chemical produced by *Rauwolfia vomitoria* growing in Himalayan ranges. 1
8. Where do you find greatest biodiversity on earth? 1

## SECTION – B

9. What is the effect of biomagnification in fish-eating birds? 2
10. What are the functions of following? 2  
(i) Tapetum in microsporangia, (ii) Sporopollenin
11. Name the two types of cells lined inside the seminiferous tubule and one function of each. 2
12. What principal is involved in Natural birth control? Name any two such methods of birth control. 2

13. Explain how the principal of natural selection can be applied to the development of resistance in mosquitoes for DDT. 2
14. What are the Objectives of Biofortification? 2
- OR
- Find out morphological, biochemical or physiological characteristics that make the Plants insect resistance in:- (a) cotton and (b) wheat. 2
15. Label the 1, 2, 3 and 4 in given diagram below:- 2



16. Few gaps have been left in the following table showing certain terms and their meanings: 2

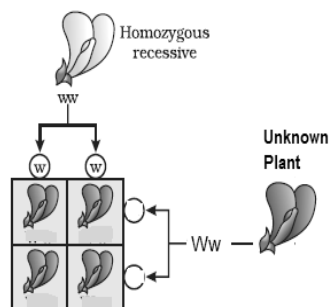
Sl.No	Terms	Meanings
1.	-----	any protein encoding gene is expressed in a heterologous host
2.	Lysozyme	-----
3.	-----	In this recombinant DNA is directly injected into the nucleus of an animal cell.
4.	Ti	-----

17. Which Indian origin crop got patent rights by American company? Name the other two products and processes based on Indian traditional herbal medicines, attempts have made to get patent. 2
18. What kind of physiological adaptation found in the following organism that enables to survive and reproduce in its habitat. 2
- (a) Kangaroo rat (b) Polar seas

### SECTION – C

19. Name the following:- 3
- (a) The hormone which stimulate Ovulation,
- (b) The structure which provides vascular connection between fetus and uterus,
- (c) Milk produced during the initial few days of lactation
20. What is meant of R cells and S cells in Griffith experiment? What did he proved from this experiment? 3
21. A tRNA is charged with the amino acid methionine: 3
- (i) At what site this amino acid bind to tRNA,
- (ii) What is the mRNA codon for methionine?
- (iii) What is the another name for tRNA?
- OR
- How does hnRNA become mRNA? 3

22. (i) Which one is called the first human like creatures?  
 (ii) What was his brain capacity?  
 (iii) What were its ancestors? 3
23. How active immunity differs from passive immunity? Where do you place the immunity obtained by foetus from their mother, through the placenta during pregnancy? 3
24. Study the figure given below and answer the following:- 3



- (i) What kind of cross is it called?  
 (ii) Give the phenotypic and genotypic ratio by completing the diagram
25. What is insertional inactivation? Which enzyme is used in this process?  
 What type of colour it gives in its reaction? 3
26. Name the technique used to prevent nematode infestation in tobacco. Where this process commonly takes place in living organisms? What is the main function of it in these organisms? 3
27. Which type of UV radiation are almost completely absorbed by Earth's atmosphere?  
 What are the effects caused by such radiations? 3

### SECTION- D

28. List the various functions of an ecosystem. Describe any two of them with example. 5  
 OR
- (a) What are nutrient Cycling?  
 (b) Name the two types of Nutrient Cycles  
 (c) What are the natural reservoirs of Carbon and phosphorus?  
 (d) How human activities influence the Nutrient cycles? [1+1+1+2]
29. Describe the treatment of sewage before it is discharged into a water body like a river. 5  
 OR
- (i) Why is cow dung used in the generation of biogas?  
 (ii) What are the major components of biogas?  
 (iii) Name the common bacterium involve in biogas formation  
 (iv) Draw a labeled diagram of typical biogas plant [1+1+1+2]
30. Name any three Chromosomal disorders. Give comparison with respect to Composition of chromosomes, Sex and two characteristic features of each. 5

OR

- (i) Who proved experimentally that DNA is semiconservative replication process?
- (ii) Which material they used in this experiment?
- (iii) How they incorporated labeled isotopes in that material?
- (iv) How they separated normal DNA from labeled one?
- (v) Where they found newly synthesized DNA in Experimental set up.

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