

BHARATIYA VIDYA BHAVANS V.M. PUBLIC SCHOOL
SAMPLE PAPER-2
SUBJECT –BIOLOGY

General Instructions

1. All questions are compulsory
2. The question paper consist of four sections A,B,C and D and E. Section A consist of 5 questions of one mark each. Section B is of 5 questions of two marks each. Section C is of 12 questions of three marks each. And Section D is of 1 questions of 4 marks each and E is of 3 questions 5 marks each.
3. There is no overall choice. However, an internal choice as been provided in one question of 2 marks, one question of 3 marks and 3 questions of 5 marks weightage. A student have to answer only one of the alternatives in such questions.
4. Wherever necessary the diagrams drawn should be neat and properly labeled.

Section A

1. Name the embryonic stage that gets implanted in the uterine wall of a human female.
2. Name an enzyme involved in cutting of DNA stand.
3. Write the scientific name of the microbe used for making lacticacid.
4. How can the bacterial DNA be released form the bacterial cell for biotechnology experiments?
5. Give an example of codominance.

Section B

6. What does insertational inactivation mean? Explain.
7. Differentiate in between exsitu and Insitu conservation (2 points)
8. Adiploid organism is heterozygous for 4 loci, how many types of gametes will be produced.
9. Of the eight nuclei of the embryo sac in flowering plans three are at the micropylar end. How many are there at the chalazal end and how many nuclei forms the secondary polar nucleus.
10. Mention the role of ribosome in peptide bond formation. How does ATP facilitate it ?

Or

A non-haemophilic couple was informed by their doctor that there is a possibility of haemophilic child being born to them, Draw a checker board and find out the percentage of possibility of such a child among the progeny.

Section- C

11. How does Millers experiment support the theory of biochemicasl origin of life?
12. Why does a doctor administer tetanus antitoxin and not a tetanus vaccine to a child injured in a road side accident with a bleeding wound. Explain
13. How did Eli Lilly synthesize the human insulin? Mention one difference between this insulin and the one produced by the human pancreas.
14. A recombinant DNA is formed when sticky ends of vector DNA and foreign DNA join. Explain how the sticky ends are formed and get joined.
15. Justify with the help of an example where a deliberate attempt by humans has led to the extinction of a particular species.

16. How do organisms cope with stressful external environmental conditions which are localized or for short duration.

Or

Mention any four methods by which the vehicular air pollution can be controlled

17. Explain giving reasons the cause of appearance of peaks 'a' and 'b' in the graph shown below-

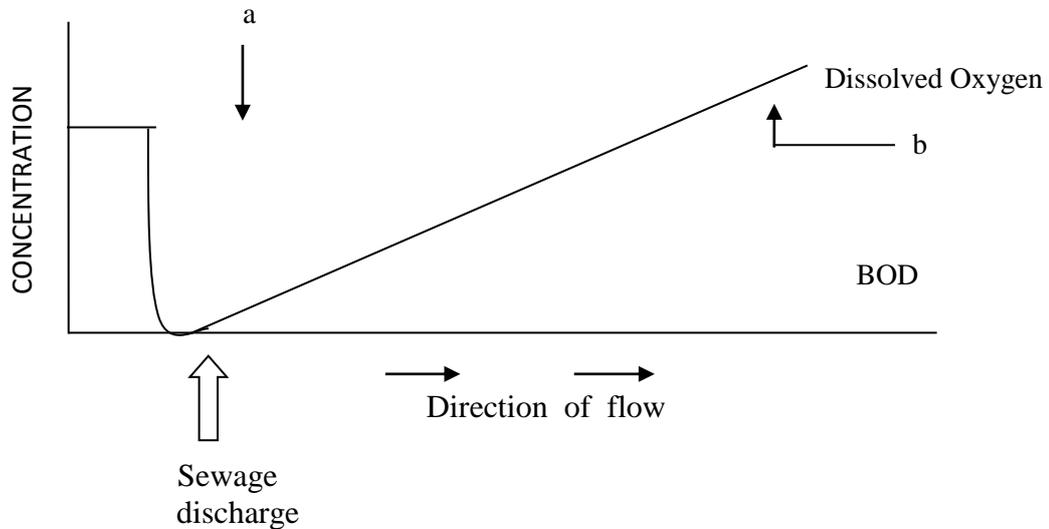


fig : Effect of sewage discharge on some important characteristics of a river

18. a) Give an example of incomplete dominance.
b) What is polygenic inheritance? Give example?
19. Draw a diagram of a male gametophyte of angiosperm. Label any four parts. Why is sporopollenin considered the most resistant organic material?
20. Expand the following
a) IVF b) IMR c) MTP d) CDRI e) ART f) ICSI.
21. a) Why Replication of DNA is said to be semi conservative? 1
b) Name two enzyme require for the process. ½
c) Draw a replication fork and show continuous, discontinuous synthesis and template DNA with direction. 1½
22. a) Mention the property that enables the explants to regenerate into a new plant.
b) A banana plant is Virus infected. Describe the method that will help in obtaining healthy banana plants form the diseased plant.

Section-D

23. A student Riya tested three water sample A,B and C where she recorded the BOD OF A- 20mg/L, B-8mg/L and C-400mg/L. The samples were taken form her area where sample- A pond water, B-tubewell water and C- River water. She then went to the area and started motivating people not to pollute water which harmful for them a) what values displayed by Riya b) what way people can make water pollution free.

Section-E

24. Name the type of interactions seen in each of the following examples :
- i) (a) Ascaris worms living in the intestine of Human.
 - (b) Wasp pollinating fig inflorescence
 - (c) Clown fish living among the tentacles of Sea-anemone
 - (d) Mycorrhizae living on the roots of higher plants
 - (e) Orchid growing on the branch of a Mango tree.
 - (f) Disappearance of smaller barnacles when Balanus dominated in the coast of Scotland.
- ii) Under what circumstances does secondary succession begins? Why does it proceed faster than primary succession?
- Or
- a) Draw the model of Phosphorous cycling in a terrestrial ecosystem
 - b) Give an example of inverted pyramid in number? Why is it inverted.
25. Write the specific location and functions of the following cells in human males :
- (a) Leydig Cells (b) Sertoli Cells (c) Primary Spermatocyte
- b. explain the role of two accessory glands in human male reproductive system
- Or
- (a) Draw typical anatropous ovule.
 - (b) Describe the stages in embryo development in a Dicot plant.
26. Explain the salient features of Hugo de Vries theory of Mutation. How is Darwin's theory of natural selection different from it? Explain.
- OR
- a) Name the Primates that lived about 15 million years ago. List their characteristic features.
 - b) (i) Where was the first man like animal found?
(ii) Write the order in which Neanderthals Homo habilis, Homo erectus appeared on the earth.
 - iii) When did modern Homo sapiens appear on this planet?