

BHARATIYA VIDYA BHAVANS V.M. PUBLIC SCHOOL
SAMPLE PAPER-9
SUBJECT –BIOLOGY

The following instructions are to be read carefully

- All questions are compulsory.
- The question paper consists of 26 questions. Question no.1-5 is of 1 mark each, question no.6-10 is of 2 marks each, question no.11-22 is of 3 marks each, question no. 23 is of 4 marks and question no.24-26 is of 5 marks each.
- 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. A student has to attempt only one of the alternatives in such questions.

1. Write the name of the following
 - a) The most common species of bee suitable for apiculture.
 - b) An approved breed of chicken.
2. List two important components of poultry farm management.
3. What is elution?
4. Describe the role of CaCl_2 in the preparation of competent cell.
5. Name the source organism of Taq polymerase. Mention the specific role of this enzyme in PCR.
6. Fertilization performs two functions. What are these?
7. Give reason for the statement “An ecosystem is a self-regulatory and dynamic system”?

OR

Justify the statement “wild life acts as a gene bank”?

8. Define hybrid? Write two objectives of hybridization.
9. How do humoral and cell –mediated immune system differ from each other?
10. Why can we not take incomplete dominance in snapdragon as an evidence of blending inheritance?
11. What are antibodies? Name the different types of antibodies produced in human body.
12. What is mutational breeding? What are its limitations?
13. Briefly mention the changes in the human ovary which takes place under the influence of FSH.

OR

Why the second half of a menstrual cycle called secretory phase in human female? List the changes that occur in the uterus during this phase.

14. Write the full form of VD? Name two non-curable VD.
15. Give reason why human skin color is observed in many shades.
16. Consider a short message:

AUGGCAGUGCCA

Answer the following questions, assuming first that the code is overlapped and then it is non-overlapping.

How many codons would be represented in this oligonucleotide?

If the second G is changed to a C, how many codons would be changed?

17. What is biogeography? How Darwin succeeded to use the evidence from biogeography in favour of evolution.
18. What measures as an individual would you take to reduce environmental pollution?
Explain how do electrostatic precipitators work?
19. Create an aquatic food chain in a water body into which effluents flow from a nearby Pesticide factory. Diagrammatically represent bio magnifications in this food chain.

20. Multinational companies are trying to patent based on Indian traditional herbal medicines and other useful plants
- Why should we counter these applications immediately
 - Give one example for such an action.
21. How can insertional inactivation help in the selection of recombinants?
22. What is the cause of adenosine deaminase deficiency in a person? Why is it that even after infusion of genetically engineered lymphocytes into the patient suffering from deaminase deficiency, the cure is not permanent?
23. Teacher tried explaining students that microbes not only harmed life but also played a pivotal role in the human welfare.
- Name the microbe which helps in producing an immunosuppressant?
 - Name the microbe that produces a blood cholesterol lowering agent?
 - Name the microbe which helps in producing clot-busters?
 - How microbe improves the nutritional qualities of curd?
 - Which value is reflected in the teachers teaching?
24. a) Trace the development of embryo after syngamy in a dicot plants.
 b) Endosperm development precedes embryo development. Explain
 c) Draw a diagram of a mature dicot embryo and label cotyledons, plumule, radical and and hypocotyls in it.

OR

- Draw a labeled diagram of the microscopic structure of a human sperm. Give the function of any three parts.
 b) Where are the sperm heads found embedded to survive after spermatogenesis?
 c) How do surgical procedures prevent conception in humans Mention the way it is achieve in human males .
25. a) Why should unleaded petrol be used in automobiles fitted with catalytic convertors.
 b) What is the objective of Environment (protection) act 1986?
 c) Suggest any four measures to curb noise pollution

OR

What are the two types of desirable approaches to conserve biodiversity? Explain with examples bringing out the difference between the two types.

What is the association between the bumble bee and its favourite orchid Ophrys? How would extinction or change of one effect the other?

- 26 a) Who explained the transforming principle? How did the scientist perform the experiment to explain the principle?
 b) How was the biochemical nature of the transforming material determined? Explain.

OR

- Describe the process of synthesis of fully functional m-RNA in eukaryotic cell.
- How is this process of m-RNA synthesis different from that in prokaryotes?