HIMACHAL PRADESH BOARD OF SCHOOL EDUCATION, DHARMSHALA

MODEL QUESTION PAPER
CLASS - 10 + 2

SUBECT - BIOLOGY(Full Syllabus)

Time : 3 hours MM - 60

- Candidate are required to give their answers in their own words as far as possible.
- Marks allotted to each question are indicated against it.

Special Instructions :

(i) While answering your questions, you must indicate on your answer book the same question number as it appears on your question paper.

(ii) All questions are compulsory. Internal choice is given in some questions.

(iII) There are four sections in question paper.

(iv) Section A consists of 12 Multiple Choice Questions of 1 mark each.

(v) Section B consists of 10 very short answer type questions of 2 marks each. Answer them in 30-40 words.

(vi) Section C consists of 6 short answer type questions of 3 marks each. Answer them in about 100-120 words.

(vii) Section D consists of 2 long answer type questions of 5 marks each. Answer them in about 150-200 words.

(viii) Draw diagrams wherever required.

SECTION - A

1. The female gametophyte of a typical dicot at the time of fertilization is (1)

   (a) 8-celled (b) 7-celled (c) 6-celled (d) 5-celled

2. The method of directly injecting a sperm into ovum in Assisted Reproductive Technology is called (1)

   (a) GIFT (b) ZIFT (c) ICSI (d) ET

3. Multiple effect of a single gene is called (1)

   (a) Multiple allelism (b) Mosaicism (c) Pleiotropy (d) Polygeny

4. Which one of the following is not a lymphoid tissue (1)

   (a) Spleen (b) Tonsils (c) Pancreas (d) Thymus

5. Amphibians were dominant during period (1)

   (a) Carboniferous (b) Silurian (c) Ordovician (d) Cambrian

6. First National Park developed in India is (1)

   (a) Gir (b) Kaziranga (b) Jim Corbett (d) None

7. The amino acid attaches to the t-RNA at its (1)

(a) 5'-end (b) 3'-end (c) Anticodon end (d) DHU Loop

8. Maximum productivity is found in (1)

(a) Grassland (b) Desert (c) Ocean (d) Tropical Rainforest

9. First form of life on earth was (1)

(a) Cyanobacterium (b) Chemoautotroph (c) Photoautotroph

(d) Chemoheterotroph

10. N2-fication in root nodules of Alnus is brought about by (1)

(a) Frankia (b) Azorhizobium (c) Anabaena (d) Clostridium

11. The powder of recycled modified plastic is called (1)

(a) Polythene (b) Polyblend (c) Polyster (d) None

12. Which is one of the following is a bird flu virus (1)

(a) H5N1 (b) HIV (c) Rhinovirus (d) Adenovirus

SECTION - B

13. Give the functions of the following:- (1+1)

(a) Acrosome (b) Fimbriae

14. Differentiate between the food chain & food web. (2)

15. Give the source and function of the following :- (1+1)

(a) Statins (b) Clot buster

16. Differentiate between Active & Passive Immunity. (2)

OR

Differentiate between Normal & Cancerous Cell.

17. Why hemophilia occurs in males only ? (2)

18. Write short note on golden rice. (2)

19. What is Allen's Rule ? (2)

20. What are Restriction Endonucleases ? Name the first Restriction Enzyme. (2)

21. Match the columns : (2)

Column A	Column B
(a) Catalytic Convertor	(i) High Noise Level
(b) Electrostatic Precipitator	(ii) Solid Waste
(c) Earmuffs	(iii) Particulate matter
(d) Landfills	(iv) Carbon Monoxide & nitrogen oxides

22. Differentiate between template and coding strand. (2)

SECTION - C

23. Name the methods employed in animal breeding. According to you which of the methods is the best. Why ? (3)

24. What is Oogenesis ? Explain the process with a suitable diagram. (3)

25. What is DNA fingerprinting ? Mention its important applications. (3)

26. Explain the Law of Independent Assortment with a suitable cross. (3)

OR

Explain Incomplete Dominance with a suitable eg.

27. Microbes can be used to decrease the use of chemical fertilizers and pesticides. Explain how this can be achieved ? (3)

28. What are sacred grooves ? What is their role in conservation ? (3)

OR

List the causes and effects of global warming. What measures need to be taken to control it?

SECTION - D

29. (a) Amniocentesis for sex-determination is banned in our country. Comment (2)

(b) Explain the structure of an angiospermic ovule. Draw diagram also. (3)

30. (a) What is PCR ? Explain its steps. (3)

(b) What are cry proteins ? Name the organism that produces it. How has man exploited this protein for his benefit ? (2)

OR

(a) What is gene therapy ? Illustrate using the example of ADA deficiency. (2)

(b) What are the different methods to introduce foreign DNA into host cells ? (3)