

MODEL QUESTION PAPER
BIOLOGY
XII – STANDARD (STATE BOARD)

Candidate should answer Part-I (Bio Botany) and Part II (Bio zoology) in separate answer books

PART-I (Bio-Botany)

Maximum Marks: 35

Section I

All Questions are compulsory.

8 x 1 = 8

1	Size of pollen grain in <i>Myosotis</i> is _____ micrometer. (a) 10 (b) 20 (c) 200 (d) 2000	1
2	How many different kinds of gametes will be produced by a plant having the genotype AABbCC? (a) Three (b) Four (c) Nine (d) two	1
3	EcoRI cleaves DNA at (a) AGGGTT (b) GTATAC (c) GAATTC (d) TATAGC	1
4	Photosynthetically active radiation wave length between the range of (a) 200-700nm (b) 300-700nm (c) 400-700nm (d) 500-700nm	1
5	For the given statements with respect to <i>Eichhornia</i> select the suitable answer. Statement A : It drains of oxygen from water and is seen growing in standing water. Statement B : It is an indogeneous species of our country. (a) Statement A is correct and statement B is wrong. (b) Both the statement A and B are correct. (c) Statement A is wrong and statement B is correct. (d) Both the statement A and B are wrong.	1
6	Which of the following is incorrectly paired? (a) Wheat – Himgiri (b) Milch breed - Sahiwal (c) Rice - Ratna (d) Pusa komal - Brassica	1
7	Find out the correctly matched pair: (a) Rubber - <i>Shorea robusta</i> (b) Dye - <i>Lawsonia inermis</i> (c) Timber - <i>Cyperus papyrus</i> (d) Pulp - <i>Hevea brasiliensis</i>	1
8	Which one of the following is not an advantage of micro propagation? a) Plants produced are genetically identical b) Endangered plants can be propagated c) Sometimes undesirable genetical changes occur d) Disease free plants can be produced	1

Section-II

Answer any four questions.

4 x 2 = 8

9	The endosperm of Angiosperm is different from Gymnosperm. Do you agree? Justify your answer	2
10	Who are rediscovered Mendel's experimental works?	2
11	Multiple Alleles - Define.	2
12	Differentiate somatoclonal variation, Gametes clonal variation.	2
13	What is called phytoremediation?	2
14	What is ozone hole?	2

Section-III

Answer any three questions. Question No. 19 is compulsory

3 x 3 = 9

15	Differentiate continuous variation with discontinuous variations.	3
16	What is gene mapping? Mention its uses.	3
17	Lichen is considered as a good example of an obligate mutualism. Explain.	3
18	Draw a pyramid from following details and explain. The quantities of organisms are given: Hawks 25 and plants - 500 rabbit and mouse 125 + 125 snake and lizard - 50 + 25 respectively	3
19	What do you know about the objectives of plant breeding?	3

Section-IV

Answer all the questions:

2 x 5 = 10

20	a. With a suitable diagram explain the structure of an ovule. (OR) b. What is single cell protein. Mention its application	5
21	a. Suggest a solution to water crises and explain its advantages. (OR) b. What are millets? What are its types? Give example for each type	5

PART II (BIO - ZOOLOGY)
SECTION I

Maximum Marks: 35

All Questions are compulsory.

8 x 1 = 8

1	Which among the following animals exhibit ovoviviparity? (a) Frog (b) Shark (c) Sheep (d) Hen.	1
2	21 st trisomy is observed in (a) Down's syndrome (b) Patau's syndrome (c) Turner's syndrome (d) Klinefelter's syndrome	1
3	Which among the codon codes for methionine? (a) AUG (b) UAA (c) UUU (d) AUG.	1
4	The disease caused by <i>Wuchereria bancrofti</i> is (a) Malaria (b) Filariasis (c) Kala-azar (d) Sleeping sickness.	1
5	Which of the following pair is correctly matched? (a) <i>Trichoderma polysporum</i> - Clot buster (b) <i>Aspergillus niger</i> - Butric acid (c) <i>Clostridium butyricum</i> - Cyclosporine A (d) <i>Streptococcus</i> - Citric acid.	1
6	The first clinical gene therapy was done for the treatment of (a) SCID (b) cancer (c) AIDS (d) cystic fibrosis	1
7	Given below are some examples for population interactions. Which among the following shows mutualism? (a) Lion and deer (b) Man and tape worm (c) Hermit crab and sea-anemone (d) Sucker fish and shark.	1

8	The most abundant green house gas is (a) Carbon-dioxide (b) Methane (c) Sulphur-dioxide (d) Nitrous oxide.	1
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SECTION-II

Answer any **four questions**.

4 x 2 = 8

9	Describe the structure of the head of a human sperm.	2
10	Mention any four salient features of Human Genome Project.	2
11	Name an opioid drug and its plant source. How does the drug affect Human body?	2
12	How does the transgenic cow Rosie's milk differ from normal cow's milk?	2
13	Differentiate Natality from Mortality.	2
14	What is Ozone depletion? How is it caused?.	2

SECTION-III

Answer any **three questions**

3 x 3 = 9

15	Explain multiple fission in Plasmodium with a diagram.	3
16	Write the causes and the differences between Haemophilia and Thalassemia.	3
17	Explain the secondary treatment of waste water.	3
18	Explain the steps involved in the preparation of Human insulin artificially.	3
19	Differentiate in-situ and ex-situ conservation by sighting examples for each.	3

SECTION -IV

Answer **all the questions** .

2 x 5 = 10

20	a. Explain any five techniques of Assisted Reproductive Technology (ART). (OR) b. i) Differentiate Divergent and Convergent evolution with examples. ii) What are the various objections to Darwinism?	5
21	a. Explain the life cycle of Plasmodium. (OR) b. Mention the reasons for the richness of biodiversity in the tropics.	5