



Standard 12

Time Allowed: 3.00 Hours

BIOLOGY

Maximum Marks: 70

PART - I [BIO-BOTANY]

Marks: 35

Section - 1

Note: i) Answer all the questions. 8×1=8

ii) Choose the most appropriate answer from the given four answer alternatives and write the option code and the corresponding.

1) Importing better varieties and plants from outside and acclimatising them to local environment is called _____.

- a) Cloning b) Heterosis c) Selection d) Introduction

2) Find the mismatch pair:

- a) Ti-plasmid - Agrobacterium tumefaciens
b) Plasmid - E.Coli
c) pBR322 - Reconstructed plasmid
d) Transfection - Virus

3) Which of the given plant produces cardiac glycosides?

- a) Acacia b) Calotropis c) Nepenthes d) Utricularia

4) Match the following:

- I. External fertilization - i) Pollengrain
II. Androecium - ii) Antherwall
III. Male gametophyte - iii) Algae
IV. Primary parietal layer - iv) Stamens

- a) I-(iv), II-(i), III-(ii), IV-(iii) b) I-(iii), II-(iv), III-(i), IV-(ii)
c) I-(iii), II-(iv), III-(ii), IV-(i) d) I-(iii), II-(i), III-(iv), IV-(ii)

5) With respect to Eichhornia -

Statement A : It drains off oxygen from water and is seen growing in standing water.

Statement B : It is an indigenous species of our country.

- a) Statement A is correct and Statement B is wrong.
b) Both Statement A and B are correct.
c) Statement A is wrong and Statement B is correct.
d) Both Statement A and B are wrong.

6) New world species of cotton

- a) Gossipium arboretum b) G. herbaceum
c) Both a and b d) G. barbadense

7) Which of the following ecosystem has the highest primary productivity?

- a) Pond ecosystem b) Lake ecosystem
c) Grassland ecosystem d) Forest ecosystem

8) Dwarfing gene of wheat is _____.

- a) Pal 1 b) Atomita 1 c) Norin 10 d) Pelita 2

Section - 2

Answer any four of the following questions:

4×2=8

- 9) What is Co-evolution?
10) What are the materials used to grow microorganism like spirulina?
11) What is SLF?
12) Define Parthenocarpy.
13) Pyramid of energy is always upright. Give reasons.
14) Differentiate bio-medicines and botanical medicines.

Section - 3

Answer any three of the following questions: (Q.No. 19 is compulsory) 3×3=9

- 15) What is meant by cytoplasmic inheritance?
16) What are the benefits of agroforestry?
17) What is thermal stratification? Mention their types.
18) Draw and label the structure of dicot seed.
19) What is bioremediation? Give some examples of bioremediation.

Section - 4

Answer all the questions:



- 20) a) Describe dominant epistasis with an example. 2×5=10
 b) Explain the different mode of entry of pollen tube into the ovule. (OR)
- 21) a) What are psychoactive drugs? Add a note Marijuana and Opium? (OR)
 b) What are the advantages of seed dispersal?

PART - II [BIO-ZOOLOGY]
Section - A

Marks: 35

Answer all the questions:

8×1=8

- 1) **Assertion** : Offsprings produced by asexual reproduction are genetically identical to the parent.
Reason : Asexual reproduction involves only mitosis and no meiosis.
 a) If both A and R are true and R is correct explanation for A.
 b) If both A and R are true but R is not the correct explanation for A.
 c) If A is true but R is false. d) If both A and R are false.
- 2) Mammalian egg is
 a) Mesolecithal and non cleidoic b) Microlecithal and non cleidoic
 c) Alecithal and non cleidoic d) Alecithal and cleidoic
- 3) The phenomenon of "Industrial Melanism" demonstrates
 a) Natural selection b) Induced mutation
 c) Reproductive isolation d) Geographical isolation
- 4) **Match and choose the correct sequence:**
 I. Acetic acid - a) Lactobacillus
 II. Butyric acid - b) Acetobacter aceti
 III. Citric acid - c) Clostridium butyricum
 IV. Lactic acid - d) Aspergillus niger
 a) I-d, II-c, III-a, IV-b b) I-b, II-c, III-d, IV-a
 c) I-c, II-d, III-a, IV-b d) I-b, II-d, III-c, IV-a
- 5) Reptiles and insects such as chameleons and stick insects show which type of adaptation?
 a) Conformers b) Regulate c) Crypsis and Mimicry d) Migrate
- 6)   These symbols indicates respectively
 a) Recessive parent, Monozygotic twins b) Dominant parent, Dizygotic twins
 c) Sex unspecified, Dizygotic twins d) Sex unspecified, Monozygotic twins
- 7) Which of the following forests is known as the lungs of the planet earth?
 a) Tundra forest b) Rain forest of north east India
 c) Taiga forest d) Amazon rain forest
- 8) Which among the following always decreases in a Food chain across tropic levels?
 a) Number b) Accumulated chemicals c) Energy d) Force

Section - B

Answer any four of the following:

4×2=8

- 9) What is mass extinction?
 10) Explain how "Rosie" is different from a normal cow.
 11) Classify viral diseases on the basis of the symptoms produced in the body organs.
 12) Differentiate - Leading strand and Lagging strand.
 13) What is Mayer - Rokitansky syndrome?
 14) Why is the offspring formed by asexual reproduction referred as a clone?

Section - C

Answer any three of the following: (Q.No. 19 is compulsory)

3×3=9

- 15) What are the applications of Karyotyping?
 16) What is petrification?
 17) When does antibiotic resistance develop?
 18) Give the characters of a Biome.
 19) Explain biomagnification with reference to DDT.

Section - D

Answer all the questions:

2×5=10

- 20) a) Explain the different kinds of syngamy in living organisms. (OR)
 b) What are assumptions of Hardy - Weinberg on evolution? Explain.
- 21) a) Draw and explain the structure that picks up amino acids during protein synthesis. (OR)
 b) 'Biodiversity is rich in tropics' - Give reasons.