



Standard 12

BIOLOGY

Time: 3.00 Hrs.

Marks: 70

PART - I [BIO-BOTANY]

Marks: 35

Section - I

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

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

- 1) Consider the following statements.
 - i) In protoandrous flowers pistil matures earlier.
 - ii) In protogynous flowers pistil matures earlier.
 - iii) Herkogamy is noticed in unisexual flower.
 - iv) Distyly is present in primula.
 - a) i and ii are correct
 - b) ii and iv are correct
 - c) ii and iii are correct
 - d) i and iv are correct
- 2) Which of the molecule have the ability to convert a precursor in the cell of pea plant?
 - a) Le; le
 - b) GAI
 - c) Le
 - d) le
- 3) Changing the codon AGC to AGA represents
 - a) missense mutation
 - b) non sense mutation
 - c) frame shift mutation
 - d) deletion mutation
- 4) The process of recombinant DNA technology has the following steps.
 - I. Amplification of the gene.
 - II. Insertion of recombinant DNA into the host cells.
 - III. Cutting of DNA at specific location using restriction enzyme.
 - IV. Isolation of genetic material DNA.

Pick out the correct sequence of step for recombinant DNA technology.

 - a) II, III, IV, I
 - b) IV, II, III, I
 - c) I, II, III, IV
 - d) IV, III, I, II

5) Match:

Column - I

- I. 0.2 to 2.00 mm
- II. Less than 0.002 mm
- III. 0.002 to 0.02 mm
- IV. 0.002 to 0.2 mm

Column - II

- Silt soil
- Clayey soil
- Sandy soil
- Loamy soil

- | | | | | |
|----|-----|-----|-----|----|
| | I | II | III | IV |
| a) | ii | iii | iv | i |
| c) | iii | ii | i | iv |

- | | | | | |
|----|-------------------|----|-----|----|
| | I | II | III | IV |
| b) | iv | i | iii | ii |
| d) | None of the above | | | |

- 6) The quantity of energy present in the universe is constant.
 - a) Third law of Thermodynamics
 - b) Second law of Thermodynamics
 - c) First law of Thermodynamics
 - d) Community productivity

V12Bio

- 7) **Assertion (A)** : A variety formed by pureline selection method shows more homozygosity with respect to all genes.
Reason (R) : The pure line plants are produced by asexual method or vegetative propagation method.
- a) A-correct, R-wrong
 b) A-wrong, R-correct
 c) A-correct, R-not explain A
 d) A-correct, R-explain A
- 8) Find out the wrongly matched pair.
 a) Turmeric - Erode
 b) Cardamum - King of spices
 c) Rubber - Kerala
 d) Banana - Indian National fruit

Section - II

Answer any four of the following:

4×2=8

- 9) Differentiate bio-medicines and botanical medicines.
 10) Write the effects of ozone depletion on human beings only.
 11) Write short notes on Reed - swamp stage.
 12) Differentiate Somoclonal variations and Gametoclinal variations.
 13) This is a type of chromosomal abnormality. Find it out, and give a note on it.



- 14) Differ Contharophily and Mellitophily.

Section - III

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

3×3=9

- 15) Differentiate: Incomplete dominance and Codominance.
 16) Mention the name of man-made cereal. Draw the flow chart of its production.
 17) Find out the type of following diagram. Write short note about it.



- 18) Now a days Azolla is an inevitable organism in paddy field. Why?
 19) Write the cosmetic uses of Aloe.

Section - IV

Answer all the questions:

2×5=10





- 20) a) How do Sacred groves help in the conservation of biodiversity?
 b) Explain different types of hydrophilis with examples. (OR)
- 21) a) Describe the T.S. of mature Anther.
 b) Explain polygenic inheritance with an example. (OR)

PART - II [BIO-ZOOLOGY]

Marks: 35

Section - 1

Note: i) Answer all the questions.**8×1=8****ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.**

- 1) A mRNA molecule is produced by
 - a) Duplication
 - b) Replication
 - c) Translation
 - d) Transcription
- 2) In which type of Parthenogenesis are only males produced
 - a) Arhenotoky
 - b) Thelytoky
 - c) Amphitoky
 - d) Both a and c
- 3) Which one of the following symbols and its representation, used in human pedigree analysis is correct?
 - a)  mating between relatives
 - b)  unaffected male
 - c)  unaffected female
 - d)  male affected
- 4) The thickness of stratospheric ozone layer is measured in / on
 - a) Sieverts units
 - b) Dobson units
 - c) Melson units
 - d) Beaufort scale
- 5) Which of the following is a hormone releasing Intrauterine Device (IUD)?
 - a) Multiload 375
 - b) LNG 20
 - c) Cervical cap
 - d) Vault
- 6) Porter and Edelman revealed the structure of
 - a) HIV
 - b) Immunoglobulin
 - c) Microbial fuel cell
 - d) Ecosan toilets
- 7) 'X' is a microbial product obtained from *Monascus purpureus* and it helps to reduce blood cholesterol level
 - a) X is Cyclosporin
 - b) X is Statins
 - c) X is Humulin
 - d) X is Kanamycin
- 8) In RT-PCR technique, C DNA serves as a template. In C DNA, 'C' stands for
 - a) Composite DNA
 - b) Capped DNA
 - c) Complementary DNA
 - d) Circular DNA

Section - 2

Note: Answer any four of the following questions.**4×2=8**

- 9) What are the two types of Natural Parthenogenesis? Explain.
- 10) Differentiate between divergent evolution and convergent evolution with one example for each.
- 11) Mention the major threats to biodiversity caused by human activities.
- 12) Write the salient features of mutation theory.
- 13) Write a short notes on Ecosan Toilets.
- 14) Write the symptoms of filariasis.

Section - 3

Note: Answer any three of the following questions.

3×3=9

Question number 19 is compulsory.

- 15) What are the major tasks carried out by the Reproductive child health programme?
- 16) Autoimmune disease is a misdirected immunity response - Justify.
- 17) What are DNA vaccines?
- 18) What are the layers in the walls of uterus?
- 19) In the XY chromosomal system of sex determination males have only one 'X' chromosome, whereas females have two. How does the organism compensate for the dosage differences between the sexes?

Section - 4

Note: Answer the following questions.

2×5=10

- 20) Enlist the differences between r - selected and k - selected species.

(OR)

It is established that RNA is the first genetic material - Justify giving reasons.

- 21) Describe various barrier methods of population control.

(OR)

Tabulate the major sources of solid waste.
