

08-02-2024

Standard 12BIOLOGY

Time Allowed: 3.00 Hours

Maximum Marks: 70

**PART - I [BIO-BOTANY]****Marks: 35****Part - I****Choose the best answer:****8×1=8**

- 1) In majority of plants pollen is liberated at
  - a) 1 celled stage
  - b) 2 celled stage
  - c) 3 celled stage
  - d) 4 celled stage
- 2) Who is called as "Father of Indian Green Revolution"?
  - a) P. Maheswari
  - b) M.S. Swaminathan
  - c) Mendel
  - d) Nel Jeyaraman
- 3) ECORI cleaves DNA at
  - a) GAATTC
  - b) AGGGTT
  - c) TATAGC
  - d) GTATATC
- 4) In which techniques Ethidium Bromide is used
  - a) Polymerised Chain Reaction
  - b) Southern Blotting Techniques
  - c) Agarose Gel Electrophoresis
  - d) Western Blotting Techniques
- 5) Tephrosea purpurea is a
  - a) Bio-herbicide
  - b) Bio-fertilizer
  - c) Green manure
  - d) Bio-pesticide
- 6) Cardomom belongs to the family
  - a) Solanaceae
  - b) Piperaceae
  - c) Fabaceae
  - d) Zingiberaceae
- 7) Which of the following are not regulating services of ecosystem services?
  - i) Genetic resources
  - ii) Recreation and aesthetic values
  - iii) Invasion resistances
  - iv) Climatic regulation
  - a) i and iii
  - b) ii and iv
  - c) i and ii
  - d) i and iv
- 8) **Assertion (A)** : Gamma rays are generally use to induce mutation in wheat varieties.  
**Reason (R)** : Because they carry lower energy to non-ionize electrons from atom.
  - a) A and R are correct
  - b) A is correct, R is wrong
  - c) A is wrong, R is correct
  - d) A and R are wrong

**Part - II****Answer any four of the following questions:****4×2=8**

- 9) What is mellitophily?
- 10) What are the enzymes you can use to cut terminal and internal phosphodiester bond of nucleotide sequence?
- 11) What is photosynthetic active radiation?
- 12) Differentiate primary introduction from secondary introduction.
- 13) What is phytoremediation?
- 14) What is co-evolution?

**Part - III****Answer any three of the following questions. Q.No. 19 is compulsory: 3×3=9**

- 15) Differentiate Grafting and Layering.
- 16) Write short notes on pBR322.
- 17) List any three significance of ploidy.
- 18) Differentiate habitat and Niche.
- 19) Write short notes on Biomonitoring.

**Part - IV****Answer all the questions:****2×5=10**

- 20) a) With a suitable diagram explain the structure of an ovule.  
(OR)  
b) Bring out the inheritance of chloroplast gene with example.
- 21) a) Write the applications of plant tissue culture.  
(OR)  
b) What are the King and Queen of spices? Write their uses.

**PART - II [BIO-ZOOLOGY]****Marks: 35****Section - I****Choose the correct answer:****8×1=8**

- 1) Which of the following is the correct sequence of event with reference to the Central Dogma?
  - a) Transcription, Translation, Replication
  - b) Transcription, Replication, Translation
  - c) Duplication, Translation, Transcription
  - d) Replication, Transcription, Translation
- 2) Use of Widal Test is \_\_\_\_\_.
  - a) to confirm Hepatitis - B
  - b) to confirm chicken pox
  - c) to confirm AIDS
  - d) to confirm Typhoid
- 3) The first clinical gene therapy was done for the treatment of
  - a) SCID
  - b) AIDS
  - c) Cancer
  - d) Cystic fibrosis
- 4) Animals that can move from fresh water to sea called as \_\_\_\_\_.
  - a) Stenothermal
  - b) Eurythermal
  - c) Catadromous
  - d) Anadromous
- 5) Colostrum is rich in \_\_\_\_\_.
  - a) IgE
  - b) IgA
  - c) IgD
  - d) IgM
- 6) A contraceptive pill prevents ovulation by
  - a) blocking fallopian tube
  - b) inhibiting release of FSH and LH
  - c) stimulating release of FSH and LH
  - d) causing immediate degeneration of released ovum
- 7) The first human like organism \_\_\_\_\_.
  - a) Homo sapiens
  - b) Cro. Magnon
  - c) Homo erectus
  - d) Hominids
- 8) Which is used as 'clot buster' for removing clots from the blood vessels of patients who have undergone myocardial infarction?
  - a) Streptokinase
  - b) Erythromycin
  - c) Chloromycin
  - d) Bacitracin

**Section - II****Answer any four of the followings:****4×2=8**

- 9) What is parthenogenesis? Give example.
- 10) Define Transcription.
- 11) What are Atavistic organs? Give example.
- 12) Which one is called as "queen of drugs"? Why is it called so?
- 13) What are the uses of PCR?
- 14) What is Lyonisation?

**Section - III****Answer any three of the followings:****SIVAKUMAR.M., 3×3=9****(Q.No. 19 is a compulsory question)****Sri Ram Malaric HSS  
Vallam. 627809  
Tenkasi Dist**

- 15) Write a note on Klinefelter's syndrome.
- 16) What is Apolysis? Give example.
- 17) Distinguish Vasectomy and Tubectomy.
- 18) What is Anaphylaxis?
- 19) What are the factors that drive habitat loss?

**Section - IV****Answer all the questions:****2×5=10**

- 20) Explain different types of syngamy found in organisms.

**(OR)**

Explain Urey-Miller's experimental approach to the origin of life with a diagram.

- 21) Explain how recombinant human Insulin can be produced with the help of a diagram.

**(OR)**

Explain the methods of disposal of radioactive wastes and medical wastes.

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