



Standard 12

BIOLOGY

PART-I (BIO-BOTANY)

SECTION-A

Time: 3.00 Hours

Marks: 70

Marks: 35

I. Choose the correct answer:

8×1=8

- 1) Identify the correctly matched pair
 - a) Tuber - Allium cepa
 - b) Sucker - Pistia
 - c) Rhizome - Musa
 - d) Stolon - Zingiber
- 2) Fruit colour in squash is an example of
 - a) Recessive epistasis
 - b) Dominant epistasis
 - c) Complementary gene
 - d) Co-dominance
- 3) Changing the codon AGC to AGA represents
 - a) missense mutation
 - b) Nonsense mutation
 - c) frameshift mutation
 - d) deletion mutation
- 4) EcoRI cleaves DNA at
 - a) AGGTTT
 - b) GTATATC
 - c) GAATTC
 - d) TATAGC
- 5) The time duration for sterilization process by using autoclaves is minutes and the temperature is
 - a) 10 to 30 and 125°C
 - b) 15 to 30 and 121°C
 - c) 15 to 20 and 121°C
 - d) 10 to 20 and 121°C
- 6) A free living nitrogen fixing cyanobacterium which can also form symbiotic association with the water fern Azolla
 - a) Nostoc
 - b) Anabaena
 - c) Chlorella
 - d) Rhizobium
- 7) Sticky glands of Boerhaavia are cleome support
 - a) Anemochory
 - b) Zoochory
 - c) Autochory
 - d) hydrochory
- 8) Statement A : Coffee contains caffeine
Statement B : Drinking coffee enhances cancer
 - a) A is correct B is wrong
 - b) A, B both are correct
 - c) A is wrong, B is correct
 - d) AB both are wrong

SECTION-B

II. Answer any 4 questions:

4×2=8

- 9) Write any two functions of Tapetum
- 10) What is back cross?
- 11) What are the materials used to grow micro organism like spirulina
- 12) What is Ozonehole
- 13) What is myrmecophily?
- 14) What is vivipary, give example

SECTION-C

III. Answer any 3 questions: (Q.No. 18 compulsory)

3×3=9

- 15) A detached leaf of Bryophyllum produces new plants. How?
- 16) Draw the structure of an ovule and label the parts
- 17) What is albedo effect?
- 18) Name the green house gases.
- 19) Write any three objectives of plant breeding.

SECTION-D

III. Answer all the questions

2×5=10

- 20) a) What is endosperm? Explain the types with diagrams
(OR)
b) Write the benefits and risks of genetically modified food.
- 21) a) Enumerate the anatomical adaptation of xerophytes
(OR)
b) Explain the Incomplete dominance with example.

SECTION-A

I. Choose the correct answer:

8×1=8

- 1) The mode of reproduction in bacteria is by
 - a) Formation of gametes
 - b) Endospore formation
 - c) Conjugation
 - d) Zoospore formation
- 2) Find the wrongly matched pair
 - a) Bleeding phase - Fall in oestrogen and Progesterone
 - b) Follicular phase - Rise in oestrogen
 - c) Luteal phase - Rise in FSH Level
 - d) Ovulatory phase - LH Surge
- 3) Which one of the following is not a cause for infertility?
 - a) Varicocele
 - b) Ingestion of cadmium
 - c) High body fat
 - d) Tight clothing in man
- 4) Patau's Syndrome is also referred to as
 - a) 13-Trisomy
 - b) 18-Trisomy
 - c) 21-Trisomy
 - d) None of these
- 5) The term gene was coined by
 - a) Mendel
 - b) Deveries
 - c) Johansen
 - d) Valteyer
- 6) Which is the correct order of human Evolution?
 - a) Homohabilis → Homo erectus → Hominids → Homo sapiens
 - b) Hominids → Homohabilis → Homo erectus → Homo sapiens
 - c) Homo erectus → Homohabilis → Hominids → Homo sapiens
 - d) Homohabilis → Hominids → Homo erectus → Homo sapiens
- 7) Choose the correctly Match pair
 - a) Amphetamines - Stimulant
 - b) LSD - Narcotic
 - c) Heroin - Psychotropic
 - d) Benzodiazepine - Pain Killer
- 8) The purpose of biological treatment of waste water is to
 - a) Reduce BOD
 - b) Increase BOD
 - c) Reduce sedimentation
 - d) Increase Sedimentation

SECTION-B

II. Answer any 4 questions:

4×2=8

- 9) What is Plasmotomy?
- 10) What is Inhibin and state its functions?
- 11) What are the advantages of DNA vaccines?
- 12) State Allen's Rule
- 13) State Alpha diversity
- 14) What is Ozone depletion? How is it caused?

SECTION-C

III. Answer any 3 questions: Q.No. 19 is compulsory.

3×3=9

- 15) Differentiate GIFT, ZIFT
- 16) What are the applications of Karyotyping?
- 17) What is known as RNA world?
- 18) Write about the two Principles of Lamarck's Theory?
- 19) What are interferons? Mention their role?

SECTION-D

IV. Answer all the questions:

2×5=10

- 20) a) Explain the anatomy of Testis with the help of a diagram
(OR)
b) What are the various objections to Darwinism?
- 21) a) Explain the structure of Immunoglobulin with suitable diagram
(OR)
b) Mention the advantages and disadvantages of cloning?
