



Standard - 12

BIOLOGY

BIO - BOTANY

Time Allowed: 3.00 Hours

Maximum Marks: 70

PART - I

Choose the correct answer:

8 × 1 = 8

- New world species of cotton.
 - Gossipium arboretum
 - G. herbaceum
 - Both a and b
 - G. barbadense
- The quickest method of plant breeding is
 - Introduction
 - Selection
 - Hybridization
 - Mutation breeding
- Depletion of which gas in the atmosphere can lead to an increased incidence of skin cancer?
 - Ammonia
 - Methane
 - Nitrous oxide
 - Ozone
- Which of the following is/are not a natural ecosystem?
 - Forest ecosystem
 - Rice field
 - Grassland ecosystem
 - Desert ecosystem
- Which of the given plant produces cardiac glycosides?
 - Calotropis
 - Acacia
 - Nepenthes
 - Utricularia
- What is the secondary metabolite that is obtained from chinchona officinalis?
 - Digoxin
 - codeine
 - Capsaicin
 - Quinine
- Algae used for the production of Single cell protein
 - Alcaligenes
 - Candida utilis
 - Spirulina
 - Saccharomyces
- Part that gets transformed into seed after fertilization
 - Ovary
 - Ovule
 - Nucellus
 - Antipodal cells

Answer any four of the following.

4 × 2 = 8

- What are clones?
- Give the names of the scientists who rediscovers Mendelism.
- What are the materials used to grow microorganism like Spirulina?
- What do you mean by Embryoids?
- What is ecological hierarchy?
- Give definitions for Organic farming.

Answer any three of the following. Question Number 19 is compulsory.

3 × 3 = 9

- Enumerate the uses of turmeric.
- Differentiate primary introduction from secondary introduction.
- Expand CCS.
- What is seed ball?
- List out the functions of tapetum

Answer the following.

2 × 5 = 10

- Explain the different modes of entry of pollen tube into the ovule.

(OR)

- Differentiate continuous variation with discontinuous variation.
- What are restriction enzymes? Mention their types with role in Biotechnology.

(OR)

- Explain the basic concepts involved in plant tissue culture.

Choose the best answer:

8×1=8

- Repeated Binary fission is seen _____
a) Ceratium b) Vorticella c) Paramecium d) Amoeba
- Albinism is due to _____
a) Autosomal recessive gene b) Autosomal dominant gene
c) Allosomal recessive gene d) Allosomal dominant gene
- Which one is correctly matched _____
a) Reptiles and Birds - Archeopterynx
b) Homologous organ - Convergent Evolution
c) Neo-Darwinism - Osborn, Packard, cope
d) Darwin's finches - ALX1 gene

Code:-

- 'A' and 'D' Only
 - 'A' and 'B' only
 - 'A' only
 - A, B and D Only
- The Duration of Erythrocytic cycle of Quartran Malaria is _____
a) 48 Hrs b) 72 Hrs c) 47 Hrs d) 36-48 Hrs
 - Cyclosporin - 'A' is an immunosuppressive drug Produced from _____
a) Aspergillus niger b) Manascus purpureus
c) Penicillium notatum d) Trichoderma polysporum
 - Transgenic animals are those which have _____
a) Foreign DNA in some of their cells b) Foreign DNA in all their cells
c) Foreign RNA in some of their cells d) Foreign RNA in all their cells
 - Which one is incorrectly matched?
a) Predation - Lion and Deer
b) Commensalism - Sucker fish and Shark
c) Steotherms - Cat, dog, Tiger
d) Phototaxis - moth
 - Assertion: Eutrophication due to nutrient enrichment. This causes a algal bloom which affect the quality of water.
Reason: Red tides, if occur, can be lethal to aquatic organisms.
a) 'A' is correct 'R' is wrong b) Both 'A' and 'R' wrong
c) 'A' wrong 'R' are correct d) Both 'A' and 'R' are correct

SECTION II

Answer any four questions.

4×2=8

- Expand the following 1. PAN 2. CFC.
- Write down any two major functions of soil.
- Any two disadvantages of cloning.
- Which one is called "queen of drug" and why?
- Name the drugs which have Hallucinogenic effects.
- What is meant by cryptochism?

SECTION III

Answer any three questions. Question Number 18 is compulsory.

3×3=9

- The Scrotum is acted as Thermo regulator. Why? Explain.
- Tabulate the causative agent, Symptoms and Incubation period of Genital warts
- Explain Turner's Syndrome.
- Taking the example of peppered moth, explain the action of natural selection. What do you call the above phenomenon?
- Any three uses of Transgenesis.

SECTION IV

Answer all :

2×5=10

- Effects and Control of Air pollution.

(OR)

Explain the various steps involved in PCR technique.

- Explain the structure of Immunoglobulin with labelled sketch.

(OR)

Explain maintenance of pregnancy and embryonic development.