

PART - I (BIO-BOTANY) SECTION - I

Note : i) Answer all the questions. ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answers.

Answer all the questions.

8x 1 = 8

- Which of the following sentences are correct?
 - The offspring exhibit only parental combinations due to incomplete linkage
 - The linked genes exhibit some crossing over in complete linkage
 - The separation of two linked genes are possible in incomplete linkage
 - Crossing over is absent in complete linkage

(a) 1 and 2 (b) 2 and 3 (c) 3 and 4 (d) 1 and 4
- Which one of the following matches is correct?
 - Palmyra - Native of Brazil
 - Saccharam - Abundant in Kanyakumari
 - Steveocide - Natural sweetener
 - Palmyra sap - Fermented to give ethanol
- Identify the correct matched pair
 - Tuber - Allium cepa
 - Sucker - Pistia
 - Rhizome - Musa
 - Stolon - Zingiber
- Crosses between the plants of the same variety are called
 - interspecific
 - inter varietal
 - intra varietal
 - inter generic
- Deforestation does not lead to
 - Quick nutrient cycling
 - soil erosion
 - alternation of weather conditions
 - Destruction of natural habitat weather conditions
- Which of the following is not a sedimentary cycle
 - Nitrogen cycle
 - phosphorus cycle
 - sulphur cycle
 - calcium cycle
- The Bt brinjal has been developed to give resistance against
 - Lepidopberaninsect
 - white flies
 - jassids
 - aphids
- Which of the following is indicators of fire
 - Riccia
 - pteris
 - chorella
 - mucor

SECTION - II

Note: Answer any four questions.

4 x 2 = 8

- Define. Codominance
- What is cybrid ?
- Write short note on Pollen kitt.
- Define. Biopiracy
- What is Green revolution?
- Draw a label diagram of Dicot seed

SECTION - III

Note: Answer any three questions. (Question No. 19 is Compulsory).

3 x 3 = 9

- How to protect the ecosystem?
- What is gene mapping? Write it's uses
- Enumerate the uses of turmeric.
- Write the effects of Global warming.
- What is thermal stratification? Mention their types.

SECTION - IV

Note: Answer all questions.

2 x 5 = 10

20. (a) What are psychoactive drugs? Add a note Marijuana and Opium. (OR)
(b) With a suitable diagram explain the structure of an ovule.
21. (a) Explain the mechanism of crossing over. (OR)
(b) What are the effects of deforestation and benefits of agroforestry.

PART II (BIOLOGY- ZOOLOGY)

I Answer ALL the questions.

(8 x 1 = 8)

- 1) In artificial parthenogenesis, the unfertilized egg is induced to develop into a complete individual by -----stimuli.
a) physical b) chemical c) a and b d) a or b.
- 2) Which of the following is not a STI?
a) candidiasis b) hepatitis-B c) shigellosis d) chlamydiasis
- 3) In the E-waste generated by the Mobile Phones, which among the following metal is most abundant?
a) Copper b) Silver c) Palladium d) Gold
- 4) In an accident there is great loss of blood and there is no time to analyse the blood group which blood can be safely transferred?
a) O and Rh negative b) O and Rh positive
c) B and Rh negative d) AB and Rh positive
- 5) Some organisms are able to maintain homeostasis by physical means ...
a) Regulate b) Conform c) Migrate d) Suspend
- 6) Lamarck's "Theory of Acquired characters" was disproved by
a) Darwin b) August Weismann c) Spencer d) Alfred Wallace
- 7) Infective stage of the parasite Entamoeba is
a) merozoite b) sporozoite c) gametocyte d) trophozoite
- 8) Which of the following pair is correctly matched for the product produced by them?
a) Acetobacter aceti -Lactic acid b) Saccharomyces cerevisiae-Human insulin
c) Penicillium notatum -Acetic acid d) Methanobacterium -Antibiotics

II. Answer any FOUR questions.

(4x2= 8)

- 9) Differentiate between the regeneration in Lizard and Planaria.
- 10) What is called ovulation? In which day is it occur?
- 11) What is surrogacy?
- 12) Differentiate mRNA from hnRNA.
- 13) What are the advantages of ELISA?
- 14) Expand (i) BOD (ii) PAN

III. Answer any THREE questions. Qn.No.19 is Compulsory .

(3x3= 9)

- 15) Mention the symptoms of Down's syndrome.
- 16) Mention any three main objections to Darwinism.
- 17) When does antibiotic resistance develop?
- 18) Differentiate between Somatic cell gene therapy and germline gene therapy.
- 19) What are the density independent and dependent factors which regulate population?

IV Answer the following questions.

(2 x 5 = 10)

- 20) Explain the process of fertilization and implantation of the fertilized ovum. (OR)
Explain Lac operon model with diagram?
- 21) Explain the structure of immunoglobulin with suitable diagram. (OR)
What are the causes of biodiversity loss?