

Class : 12

Register
Number

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SECOND REVISION EXAMINATION - 2024

Time Allowed : 3.00 Hours]

BIOLOGY

[Max. Marks : 70

Part - I (Bio-Botany) (Marks : 35)

Section - I

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 corresponding answer.

- Test Cross involves
 - Crossing between two Genotypes with Recessive Trait
 - Crossing between two F₁ hybrid
 - Crossing the F₁ hybrid with a double recessive genotype
 - Crossing between two genotypes with dominant trait.
- Identify the incorrect pair
 - Sporopol Lenin - Exine of pollen grain
 - Tapetum - Nutritive tissue for developing Microspores
 - Nucellus - Nutritive tissue for developing Embryo
 - Obturator - Directs the pollen tube into Micropyle
- Trisomy were first reported by
 - Morgan
 - Blakeslee
 - Stadler
 - De Vries
- Match the following

	A	B	C	D
A	O - Horizon	i)	Parent Material	a) iii)
B	A - Horizon	ii)	Organic Horizon	b) ii)
C	B - Horizon	iii)	Leached Horizon	c) i)
D	R - Horizon	iv)	Accumulated Horizon	d) ii)

 - iii) i) iv) ii)
 - ii) i) iii) iv)
 - i) ii) iii) iv)
 - ii) iii) iv) i)
- From the following Secondary Metabolites which one used as Cardiac Tonic.
 - Capsaicin
 - Quinine
 - Codeine
 - Digoxin
- Which is wrong about Food Chain?
 - Grass → Mouse → Snake → Eagle
 - Plant → Grasshopper → Lizard → Eagle
 - Mouse → Lizard → Rabbit → Eagle
 - Detritus → Earthworm → Bird → Eagle
- Which Plant is creates a breeding habitat for disease causing Mosquito Anopheila.
 - Eichornia Crassipes
 - Lantana Camara
 - Prosopis Juliflora
 - Parthenium Hysterophorus
- Importing better varieties and Plant from outside and acclimatising them to local environment is called
 - Cloning
 - Heterosis
 - Selection
 - Introduction

SECTION - B

II. Answer any four questions.

4×2=8

- Define Green Manuring.
- Draw the diagram of L.S of Monocot Fruit (Seed) and label its parts.
- What is Explant?
- Differentiate Bio - Medicines and Botanical Medicine.
- "Green Algae are not likely to be found in the deepest strata of the Ocean" Give at least one reason.
- Write the Significance of Detritus Food Chain?

SECTION - C

III. Answer any three questions. Question No. 19 is compulsory.

3×3=9

- Write the salient features of Sutton and Boveri Concept.
- How do you the Bio Technology in modern practice? (any three)
- "Trichoderma - Bio Control" - Justify this Statement.
- "The Endosperm of Angiosperm is different from Gymnosperm". Do you agree. Justify your answer.
- What is Green House Effect? Draw the relative contribution of Green House Gases.

SECTION - D

2×5=10

IV. Answer all the following:

- (a) How will you identify a vector? (OR)
- (b) Give an account of various types of Parasitism with examples.
- (a) Explain Intergenic Interaction with an example. (OR)
- (b) Which TSM is widely practiced and Culturally accepted in Tamil Nadu? - Explain.

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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 answer. 8x1=8

1. Match Column I with Column - II and Select the correct options given below.

Column - I

- A. Copper releasing IUD
- B. Hormone releasing IUD
- C. Non Medical IUD
- D. Mini Pills

Column - II

- i) LNG - 20
- ii) Rippes loop IUD
- iii) Saheli
- iv) Multiload - 375

- a) A - iv) B - ii) C - i) D - iii)
- c) A - i) B - iv) C - ii) D - iii)

- b) A - iv) B - i) C - iii) D - ii)
- d) A - iv) B - i) C - ii) D - iii)

2. Fraternal twins are produced when the following Condition is satisfied:

- a) Two Sperms are fertilizing one egg
- c) One Sperms is fertilizing two eggs

- b) Two Sperms are fertilizing two eggs
- d) One Sperm is fertilizing one egg

3. ELISA is mainly used for

- a) Detection of Mutations
- c) Selecting animals having desired traits

- b) Detection of Pathogens
- d) Selecting plants having desired traits

4. A species is considered globally extinct when

- a) None of its members are alive anywhere in the world
- b) Individuals of a species remain alive in Captivity
- c) Both 'a' and 'b'

d) It is no longer found in an area it once inhabited but found elsewhere in the wild

5. The Difference between DNA sugars and RNA sugars is

- a) One Oxygen atom excess in Deoxyribose sugars
- b) One Oxygen atom less in Ribose sugars
- c) Two Oxygen atoms less in Ribose sugars
- d) One Oxygen atom less in Deoxyribose sugar

6. Identify the primary Lymphoid Organs

- a) Bursa of Fabricius, Adenoids, Spleen
- c) Thymus, Bone marrow, Lymph Nodes

- b) Thymus, Bone marrow, Bursa of Fabricius
- d) MALT, BALT, GALT

7. CO₂ is not released during

- a) Alcoholic Fermentation
- c) Aerobic Respiration in animals

- b) Lactate Fermentation
- d) Aerobic Respiration in Plants

8. Match

Column - I

- A. Mutualism
- B. Commensalism
- C. Parasitism
- D. Competition
- E. Predation

Column - II

- 1) Lion and Deer
- 2) Round worm and man
- 3) Birds compete with squirrel for nuts
- 4) Sea Anemone on Hermit Crab
- 5) Birds and Mammals helping in Dispersal of Seeds

- a) A - 4 B - 5 C - 2 D - 3 E - 1
- c) A - 2 B - 3 C - 1 D - 5 E - 4

- b) A - 3 B - 1 C - 4 D - 2 E - 5
- d) A - 5 B - 4 C - 2 D - 3 E - 1

SECTION - B

II. Answer any four questions.

4x2=8

9. Why is Secretory phase of the Menstrual cycle called so?

10. Mention the Symptoms of Docon's Syndrome.

11. What are Operons? How many Operon groups are present in E. Coli?

12. Write any two differences between Primary Immune Response and Secondary Immune Response

13. Pure Biodiesel is environment friendly than Petroleum based diesel fuel. How?

14. Name the sources of Stem Cells.

SECTION - C

III. Answer any 3 questions. (Question No. 18 is compulsory)

3x3=9

15. Correct the following statement.

- a) Transfer of an Ovum collected from donor into the fallopian tube is called ZIFT.
- b) Transferring of an Embryo with more than 8 blastomeres into Uterus is called GIFT.
- c) Ovum survives for about two days and sperm remains alive for about 32 hours in the female reproductive tract.

16. What is Amnion? State its functions.

17. Name the two important types of T - Cells. Write a note on their Significance.

18. What Prophylactii measure would you suggest if the mother is Rh negative and the foetus is Rh positive? When should it be carried out?

19. Gene Therapy involves two strategies. Explain them.

SECTION - D

IV. Answer in Detail.

2x5=10

20. a) Write about the Methodologies of HGP? (OR)

b) Explain Urey - Miller's Experiment.

21. a) Describe Growth Models. (OR)

b) Write short notes on: i) Smog

ii) Ozone Depletion

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