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Ranipet - DIST

## COMMON HALF YEARLY EXAMINATION - 2022

Time: 3.00 hrs.

Standard - XII

Reg.No.

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BIOLOGY

Marks: 70

BIO - BOTANY

Marks: 35

## SECTION - 1

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:

8×1=8

- "Gametes are never hybrid" This is a statement of
  - Law of dominance
  - Law of independent assortment
  - Law of segregation
  - Law of random fertilization
- Which of the following statement is correct
  - Agar is not extracted from marine algae.
  - Callus undergoes differentiation and produces somatic embryos
  - Surface Steritization of explants is done by using mercuric bromide
  - PH of the culture medium is 5.0 to 6.0.
- The dissolved oxygen and causes death of other aquatic organisms is popularly called Terror of Bengal is
  - Fracaria
  - Diascaria
  - Muraiya
  - Eichhornia Crassipes
- One green house gas contributes 14% of total global warming and another contributes 6%. These are respectively indentified as
  - N<sub>2</sub>O and CO<sub>2</sub>
  - CFCs and N<sub>2</sub>O
  - CH<sub>4</sub> and CO<sub>2</sub>
  - CH<sub>2</sub> and CFCs
- Groundnut is native of
  - Philippines
  - India
  - North America
  - Brazil
- Golden rice differs from its parental strain by the addition of \_\_\_\_\_ beta - Carotene genes.
  - 4
  - 2
  - 7
  - 3
- Ten percent Law was proposed by
  - Karl Mobius
  - Lindenman
  - Tansley
  - Wisemen
- Which of the given plant produces Cardiac glycosides?
  - Calotropis
  - Acacia
  - Nepenthes
  - Utricularia

## SECTION - 2

Answer any four questions:

4×2=8

- What are the types of style.
- What is carbon capture and storage?
- What is Polygenic inheritance?
- What is Process engineering?
- What is Cryopreservation?

14. Name the humors that are responsible for the health of human beings.

**SECTION - 3**

**Answer any three questions. Question No.19 is Compulsory:**

**3×3=9**

15. Write the advantages and disadvantages of Bt cotton.  
 16. What is pollution indicators? Give example.  
 17. Write about Pseudoheterosis.  
 18. Write the useful part and Medicinal uses of the given plants.  
 a) Holybasil b) gooseberry c) Vilvam  
 19. Draw the diagram of Mature anther and label the parts:

**SECTION - 4**

**Answer All the questions:**

**2×5=10**

20. What is endosperm. Explain the types. (OR)  
 Write the significance of Ploidy.  
 21. Explain the types of Ecosystem with example. (OR)  
 What are millets? What are its types? Give example for each type.

**BIO - ZOOLOGY****Marks: 35****PART - 1**

**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. 8×1=8**

1. XO type of sex determination and XY type of sex determination are examples of  
 a) Male heterogamety b) Femal heterogamety  
 c) Male homogamety d) Both (b) and (c)
2. DNA and RNA are similar with respect to  
 a) Thymine as a nitrogen base b) A single - standard helix shape  
 c) Nucleotide containing sugars, nitrogen bases and phosphates d) The same sequence of nucleotides for the amino acid phenyl alanine
3. Lamarck's "Theory of Acquired characters" was disproved by \_\_\_\_\_.  
 a) Charles Darwin b) Osborn c) Spencer d) August Weismann
4. Match the pathogen with respective disease caused by them and select the correct match using the codes given below.
- |                          |   |                        |
|--------------------------|---|------------------------|
| A) Leishmania donavani   | - | i) Amoebiasis          |
| B) Wuchereria bancrofti  | - | ii) Kala - agar        |
| C) Trypanosoma gambiense | - | iii) Sleeping sickness |
| D) Entamoeba histolytica | - | iv) Filariasis         |
- a) A - ii, B - iv, C - iii, D - i  
 b) A - ii, B - iv, C - i, D - iii  
 c) A - iii, B - i, C - ii, D - iv  
 d) A - i, B - iv, C - iii, D - ii

5. Which of the following microbes is used for the production of Fumaric acid  
 a) Aspergillus niger b) Acetobacter acetic c) Rhizopus Oryzae d) Lactobacillus
6. Which of the following is not a molecular Diagnostic technique?  
 a) Stem cell therapy b) Recombinant DNA technology  
 c) Polymerase chain reaction d) ELISA
7. Some organisms are able to maintain homeostasis of physical means  
 a) Conform b) Regulate c) Migrate d) Suspend
8. **Assertion (A):** The environmental conditions of the tropics are favourable for speciation and diversity of organisms.  
**Reason (R):** The climate seasons, temperature, humidity and photo period are more or less stable and congenial.
- a) Both Assertion (A) and Reason (R) are true and Reason explains Assertion correctly.  
 b) Both Assertion (A) and Reason (R) are true but Reason is not the correct explanation of Assertion  
 c) Assertion (A) is true, but Reason (R) is false.  
 d) Both Assertion (A) and Reason (R) are false.

**PART - II**

**Note : Answer any 4 of the questions. Question No. 14 is compulsory: 4×2=8**

9. What is merogamy? Give an example.  
 10. Define Hardy - Weinberg Principle.  
 11. Name the components to prepare biodiesel.  
 12. Differentiate Migration and Emigration.  
 13. List out the biodiversity hotspots in India.  
 14. Write short notes on Eutrophication.

**PART - III**

**Note: Answer any 4 of the questions. Question No.19 is Compulsory:**

**3×3=9**

15. Write short notes on Polycystic Ovary Syndrome. (PCOS)  
 16. Mention the significance of Cryopreservation.  
 17. Write down any three salient features of Human Genome Project.  
 18. Differentiate between Primary and Secondary immune responses (Any three)  
 19. What are stem cell Banks? Mention their types.

**PART - IV**

**Note: Answer All the questions:**

**2×5=10**

20. a) Explain the process of Spermatogenesis with a suitable diagram. (OR)  
 b) What are the applications of DNA finger printing.
21. a) Write short notes on i) Amoebiasis ii) African sleeping sickness (OR)  
 b) List out the various causes for biodiversity losses.