

Roll No. 

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(To be filled in by the candidate)

Biology

Inter (Part-II)-A-2021

Time : 20 Minutes

Paper : II

Objective – (II)

Marks : 17

|            |   |   |   |   |
|------------|---|---|---|---|
| Paper Code | 8 | 4 | 6 | 3 |
|------------|---|---|---|---|

 SWL-21

Note: - You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number in your answer book. Use marker or pen to fill the circles. Cutting or filling up two or more circles will result no mark.

| Q.1 | Questions   | A                | B                 | C                  | D                 |
|-----|---|------------------|-------------------|--------------------|-------------------|
| 1.  | The role a species plays in a community including behaviour and influence is: | Habitat          | Biome             | Niche              | Population        |
| 2.  | The prokaryotes may have arisen more than _____ billion years ago.            | 3.5              | 4.5               | 5.5                | 6.5               |
| 3.  | A genome is a full set of genes of:   | Community        | Population        | Individual         | Biosphere         |
| 4.  | Keeping in view the Pod colour in Pea plant, the dominant colour is:          | Green            | Yellow            | White              | Red               |
| 5.  | Crossing over occurs in:  | Leptotene        | Zygotene          | Pachytene          | Diplotene         |
| 6.  | The full cell cycle takes 90 minutes in:                                      | Human            | Yeast             | Bacteria           | Angiosperms       |
| 7.  | In fertilized egg of an ascidian Yellow cytoplasm gives rise to:              | Epidermis        | Gut               | Notochord          | Muscle cells      |
| 8.  | In E.Coli the true replicating enzyme is:                                     | DNA polymerase-I | DNA polymerase-II | DNA polymerase-III | DNA polymerase-IV |
| 9.  | The formation of rounded closely packed mass of blastomeres is called:        | Cleavage         | Morulla           | Blastula           | Gastrula          |
| 10. | In honey bee the males are:   | Haploid          | Diploid           | Triploid           | Polyploid         |
| 11. | A selective weed killer is:   | NAA              | 2,4 D             | Ethene             | Abscic acid       |
| 12. | The acid which is a cause of muscle fatigue.                                  | Lactic acid      | Sulphuric acid    | Nitric acid        | Hydrochloric acid |
| 13. | Which one of the given is paired bone in cranium?                             | Frontal          | Occipital         | Sphenoid           | Temporal          |
| 14. | The amount of water needed to excrete 1g of Ammonia nitrogen.                 | 500 ml           | 1000 ml           | 1500 ml            | 2000 ml           |
| 15. | The plants which have the adaptations for reduced rate of transpiration.      | Hydrophytes      | Mesophytes        | Xerophytes         | Bryophytes        |
| 16. | A good example of environmental buffer is:                                    | Lake             | River             | Forest             | Desert            |
| 17. | Cactus is found in the ecosystem.   | Forest           | Desert            | Grass land         | Tundra            |

**Note:** Section I is compulsory. Attempt any 3 questions from Section II.

**(SECTION-I)**

- 2. Write short answers to any Eight parts. (8 x 2 = 16)**
- i. Write two differences between cortical nephron and juxtamedullary nephron.
  - ii. Differentiate between ectotherms and endotherms.
  - iii. Define Panting and Pyrogens.
  - iv. Define Sclerenchyma. Write the types of Sclerenchyma cells.
  - v. Write four major functions of skeletal system.
  - vi. Define Cartilage. What are two types of cartilage?
  - vii. What is the significance of evolution of pollen tube in spermatophytes?
  - viii. Define Seed Dormancy. What is its significance for plants?
  - ix. Define Grassland Ecosystem. Where grasslands are found in Pakistan?
  - x. Write about animal life found in near-shore zone of a fresh water lake.
  - xi. Write the effects of acid rain.
  - xii. Define reforestation. How it can be achieved in clear-cut areas?
- 3. Write short answers to any Eight parts. (8 x 2 = 16)**
- i. Define Reflex Action and Reflex Arc.
  - ii. Draw labelled sketch of motor neuron.
  - iii. What is Epilepsy? Name the test for proper diagnosis.
  - iv. Differentiate between linkage and crossing over.
  - v. What are sex linked recessive traits? Why men are more vulnerable than women?
  - vi. What is Erythroblastosis foetalis? How it is treated after birth?
  - vii. Give three main steps of dideoxy method of gene sequencing.
  - viii. What are plasmids? How they were discovered?
  - ix. What is Hypercholesterolemia? How it is treated now a days?
  - x. Define Ecosystem. Enlist its biotic and abiotic components.
  - xi. What is assimilation in Nitrogen-cycle and how it is in contrast to nitrification?
  - xii. Give two definitions of "Niche".
- 4. Write short answers to any Six parts. (6 x 2 = 12)**
- i. What are meristems? Give two examples.
  - ii. Differentiate between maturation and differentiation.
  - iii. Define Transformation.
  - iv. Enlist types of chromosomes.
  - v. Differentiate between chromosomes and nucleosomes.
  - vi. Define Mitosis.
  - vii. Differentiate between Cytokinesis and Karyokinesis.
  - viii. What is biogeography?
  - ix. Differentiate between homologous organs and analogous organs.

**(SECTION-II)**

**(Each question carries Eight (8) Marks)**

5. (a) Describe thermoregulatory strategies in mammals including human in cold temperature. 4
- (b) Write a note on Biosphere in detail. 4
6. (a) What are skeletal muscles? Discuss their structure in detail. 4
- (b) Write a note on chemical nature of DNA. 4
7. (a) What are hormones? How are they classified? 1+3
- (b) Write a note on ozone depletion and greenhouse effect. 2+2
8. (a) Describe male reproductive system of man. (Diagram not needed) 4
- (b) Explain with example Mendel's law of segregation. 4
9. (a) What is Regeneration? Explain it with the help of examples in different groups of animals. 4
- (b) Write a short note on Neo-Darwinism. 4