

**Biology** (Objective Type)

RWP-21

Time: 20 Minutes

Marks: 17

NOTE: Write answers to the questions on the objective answer sheet provided. Four possible answers A,B,C and D to each question are given. Which answer you consider correct, fill the corresponding circle A,B,C or D given in front of each question with Marker or pen ink on the answer sheet provided.

- 1.1. Fruit development without fertilization is called:
  - (A) Vernalization
  - (B) Parthenogenesis
  - (C) Parthenocarpy
  - (D) Dormancy
2. Which colour cytoplasm of an ascidian fertilized egg gives rise gut\_\_\_\_:
  - (A) Clear cytoplasm
  - (B) Yellow cytoplasm
  - (C) Grey equatorial cytoplasm
  - (D) Grey vegetal cytoplasm
3. The ability to regain the lost or injured part of the body is called:
  - (A) Aging
  - (B) Regeneration
  - (C) Generation
  - (D) Degeneration
4. Which of the following is initiation codon?
  - (A) AUG
  - (B) UAA
  - (C) UGG
  - (D) UGA
5. The division of nucleus during cell division is called:
  - (A) cytokinesis
  - (B) Karyokinesis
  - (C) Parthenogenesis
  - (D) Karyotype
6. The crossing over occur in\_\_\_\_\_stage:
  - (A) Leptotene
  - (B) Zygotene
  - (C) Pachytene
  - (D) Diplotene
7. A gamete without any sex chromosome is:
  - (A) Heterogamete
  - (B) Homogamete
  - (C) Nullogamete
  - (D) Isogamete
8. The plasmid psc<sub>101</sub> has antibiotic resistance gene for:
  - (A) Tetracycline
  - (B) Ampicillin
  - (C) Penicillin
  - (D) Terramycin
9. Archaeobacteria can tolerate temperature upto:
  - (A) 118°C
  - (B) 119°C
  - (C) 120°C
  - (D) 121°C
10. The organism,which inhibit the root nodules of legume plants are:
  - (A) Fungi
  - (B) Algae
  - (C) Bacteria
  - (D) Cynobacteria
11. The grass land in tropical climate having woody trees are called:
  - (A) Prairies
  - (B) Savanna
  - (C) Tundra
  - (D) Alpine
12. Establishment of new forests where no forest existed is known as:
  - (A) Afforestation
  - (B) Reforestation
  - (C) Forestation
  - (D) Deforestation
13. The active up take of sodium in ascending limb of loop of Henle is promoted by\_\_\_\_\_hormone:
  - (A) Aldosterone
  - (B) ADH
  - (C) Testosterone
  - (D) Progesterone
14. Which one of the following is an ectotherm:
  - (A) Bird
  - (B) Huming bird
  - (C) Amphibian
  - (D) Bat
15. The active conducting portion of wood in older trees is:
  - (A) Sap wood
  - (B) Heart wood
  - (C) Bark
  - (D) Callus
16. Arthritis is an inflammatory or degenerative disease that damage:
  - (A) Muscles
  - (B) Brain
  - (C) Joints
  - (D) Kidney
17. The part of brain,which play role in the formation of long term memory is:
  - (A) Thalamus
  - (B) Hippocampus
  - (C) Amygdala
  - (D) Pons

Roll No. \_\_\_\_\_ To be filled in by the candidate

(For all sessions)

**Biology** (Essay Type)

RWP-21

Time: 2:40 Hours

**Section-I**

Marks: 68

2x8=16

**2. Write short answers of any eight parts from the following.**

- |   |                                    |
|---|------------------------------------|
| i. What is peritoneal dialysis?                                   | ii. What is panting?               |
| iii. Differentiate between Poikilotherms and Homeotherms.         | iv. What is Ecdysis?               |
| v. Differentiate between Hyaline cartilage and Elastic cartilage. | vi. What is Sciatica?              |
| vii. What is diploid parthenogenesis?                             | viii. What are fraternal twins?    |
| ix. Write the plants in temperate deciduous Forests.              | x. Write a note on profundal zone. |
| xi. Write a note on Tidal power.                                  | xii. What is reforestation?        |

2x8=16

**3. Write short answers of any eight parts from the following.**

- |   |   |
|---|---|
| i. Define gene linkage. How does gene linkage affect variations among offsprings?         |   |
| ii. How are transgenic bacteria used to improve plant health? Give two examples.          |   |
| iii. What are different types of hormones on the basis of chemical nature?                |   |
| iv. Define food web. How do pathways of food web help to maintain stability of ecosystem? |   |
| v. Enlist antibodies found in A, AB, B and O blood groups.                                | vi. How plant growth is affected by ethene?             |
| vii. Differentiate between Phenotype and genotype with examples.                          | viii. Write the structural components of limbic system. |
| ix. Define DNA finger printing. Write its significance.                                   | x. Define habitat and niche.                            |
| xi. What is the significance of Transgenic Corn and Soybean?                              | xii. Define mutualism. Give two examples.               |

2x6=12

**4. Write short answers of any six parts from the following.**

- |  |  |
|--|--|
| i. What are Okazaki fragments? Give their lengths.     |  |
| ii. What is primitive streak? How is it formed?        | iii. Define Transcription and Anticodon.         |
| iv. What is meant by Nucleosome and gene?              | v. State Regeneration and dedifferentiation.     |
| vi. Define Interphase. Name its subphases.             | viii. Characterize pachytene in Meiosis I.       |
| vii. What are vestigial organs? Give examples as well. | ix. Define genetic drift and hydrothermal vents. |

**Section - II**

8x3=24

**NOTE: Answer any three questions from the following.**

- |   |   |
|---|---|
| 5. (a) How does osmoregulation take place in terrestrial animals?               | 4 |
| (b) What are different components of ecosystem?                                 | 4 |
| 6. (a) Discuss sliding filament model of Muscle contraction.                    | 4 |
| (b) Describe the process of transcription.                                      | 4 |
| 7. (a) Explain Feedback mechanism.  | 4 |
| (b) Write a note on importance of forests.                                      | 4 |
| 8. (a) Describe the types of parthenogenesis in animals.                        | 4 |
| (b) What is dominance? Explain complete and incomplete dominance with examples. | 4 |
| 9. (a) Describe in your own words the Growth Correlations in plants.            | 4 |
| (b) Describe evidence of evolution from the Comparative Anatomy of animals.     | 4 |

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