

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 psc₁₀₁ 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) Cyanobacteria

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.

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|---|------------------------------------|
| 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.

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| 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.

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|---|---|
| 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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