

SGD-12-2-23

**Warning:- Please, do not write anything on this question paper except your Roll No.**

1223 ( Inter Part – II )

(Session 2019-21 to 2021-23)

Roll No-----

Biology (Objective) (Group 2nd)

Paper (II)

Sig. of Student -----

Time Allowed:- 20 minutes

**PAPER CODE 4462**

Maximum Marks:- 17

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. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write **PAPER CODE**, which is printed on this question paper, on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

**Q.1**

1. Fever causing substance is called.  
(A) Pyrogen (B) Pathogen (C) Poison (D) Pyrexia
2. Brain is protected by  
(A) Skull (B) Cranium (C) Orbit (D) Maxilla
3. Action of venus fly trap is:  
(A) Nyctinasty (B) Epinasty (C) Haptonasty (D) Hyponasty
4. Hormone that supresses ovulation is  
(A) Progesterone (B) Oestrogen (C) Gastrin (D) Testosterone
5. Fruit ripening is due to production of  
(A) Auxins (B) Cytokinins (C) Ethene (D) Gibberelins
6. Diploid parthenogenesis may occur in  
(A) Bees (B) Aphid (C) Wasp (D) Honey bee
7. Acetabularia is unicellular:  
(A) Alga (B) Fungus (C) Yeast (D) Protozoa
8. Initiation codes for every protein coding gene is AUG which encodes for  
(A) Leucine (B) Alanine (C) Methionine (D) Serine
9. Histone proteins combine with DNA to form a complex.  
(A) Kinetochore (B) Nucleosome (C) Chromatin (D) Chromatid
10. The S-phase of cell cycle takes  
(A) 10 hours (B) 9 hours (C) 4.5 hours (D) 1.30 hours
11. ABO blood group was discovered in:  
(A) 1903 (B) 1901 (C) 1900 (D) 1905
12. pSC 101 plasmid has antibiotic restriction gene for  
(A) Tetracycline (B) Ampiciline (C) Streptomycine (D) Penecillin
13. PCR technique was developed by  
(A) Sanger (B) Maxam (C) Kary B Mullis (D) Hamilton
14. Who Published an essay on "The principle of population"?  
(A) Malthus (B) Mendle (C) Darwin (D) Lamark
15. Lithosphere includes  
(A) Air (B) Water (C) Earth soil (D) Gases
16. In grassland ecosystem tropical climates have woody trees called.  
(A) Pampas (B) Savanna (C) Alpine (D) Prairies
17. Which of the following act as environmental buffer?  
(A) Forests (B) Oceans (C) Lakes (D) Deserts

**1231A -- 1223 -- 7500 (1)**

Section ----- I

8 × 2 = 16

2. Answer briefly any Eight parts from the followings:-

- (i) Write the metabolic waste products of amino acids and nucleic acids.
- (ii) What are heterotherms? Give two examples.
- (iv) Differentiate between Heartwood and Sapwood.
- (vi) What is ligament? Give its function.
- (viii) Give the effect of red light on internode growth and etiolation.
- (ix) Differentiate between alpine and boreal forests.
- (xi) Give the distribution percentage of water in different forms on the earth.
- (iii) Give the role of Juxtamedullary nephrons.
- (v) What is mutation.
- (vii) Define Climacteric.
- (x) What do you know about Pampas and Prairies?
- (xii) Define bioconversion

8 × 2 = 16

3. Answer briefly any Eight parts from the followings:-

- (i) What are biological Rhythms?
- (ii) Write two commercial applications of Abscissic Acid.
- (iii) How is reflex action helpful in our daily life?
- (iv) Compare Gross and Net Primary Production.
- (v) What are compound Sex chromosomes? Write an example.
- (vi) What is product rule?
- (vii) Why was test cross devised by Mendel?
- (viii) Write the use of cell suspension culture technique.
- (ix) How do genetic engineers were able to produce salt tolerant plant "Arabidopsis".
- (x) What is the role of suicide gene in transgenic bacteria?
- (xi) What is Predation? Give its importance.
- (xii) Write the significance of root nodules in plants, Give an example.

4. Answer briefly any Six parts from the followings:-

6 × 2 = 12

- (i) What role is played by gray-crescent in development?
- (ii) How gerontology is helping in increasing expected ages?
- (iii) Why DNA replication is semi-conservative?
- (iv) What do you know about benign and malignant tumors?
- (v) Why some portion of chromatin is condensed permanently and other remain condensed only during cell division?
- (vi) What is genetic code and also give its properties?
- (vii) Differentiate between apoptosis and necrosis.
- (viii) What is the theory of special creation?
- (ix) How biogeography does provide evidence for evolution?

Section ----- II

Note: Attempt any three questions.

(8 × 3 = 24)

- 5. (a) Describe the process of concentration of excretory products in Human Nephron.
- (b) In what respect can cell death be regarded beneficial.
- 6. (a) Describe a Hinge Joint and explain how it is moved by antagonistic muscles?
- (b) Describe flow of Energy in food chain of an ecosystem.
- 7. (a) Explain types and functions of hormones released from cortex of Adrenal gland.
- (b) Give detailed evidences of evolution from comparative anatomy.
- 8. (a) Describe vernalization in plants by giving its significance.
- (b) Describe the inheritance of a trait in which the phenotype of a heterozygote is intermediate between phenotypes of the two homozygotes by giving one example.
- 9. (a) Describe the impact of Nucleus on development by giving example of Acetabularia.
- (b) How Severe Combined Immunodeficiency syndrome (SCID) children are treated