

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)

Paper (II)

Group I

Sig. of Student -----

Time Allowed:- 20 minutes

PAPER CODE 4461

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. Which is not a Poikilotherm?
(A) Invertebrates (B) Reptiles (C) Amphibians (D) Birds
2. Fibrous Tissue which connects two bones is called
(A) Ligament (B) Muscle (C) Tendon (D) Connective Tissue
3. Posterior four vertebrae of pelvic region form
(A) Sacrum (B) Coccyx (C) Pelvis (D) Pubis
4. Which type of Neuron have long axon?
(A) Sensory Neuron (B) Motor Neuron (C) Associative Neuron (D) Intermediate Neuron
5. All are phases of menstrual cycle except
(A) Menstruation (B) Secretory phase (C) Proliferative phase (D) Fertilization
6. In the zone of elongation, the volume of the cells increases up to =
(A) 100 times (B) 150 times (C) 200 times (D) 250 times
7. Which neurotransmitter secreted at synapse outside the central nervous system:
(A) Dopamine (B) Adrenaline (C) Serotonin (D) Acetylcholine
8. Which of the followings is required for joining okazaki fragments during DNA Replication?
(A) DNA polymerase-I (B) DNA Ligase (C) DNA polymerase-III (D) RNA polymerase
9. Contraction of spindles occur during:
(A) Prophase (B) Metaphase (C) Anaphase (D) Telophase
10. Anticodons are present on =
(A) tRNA (B) mRNA (C) rRNA (D) DNA
11. Interaction between genes occupying different Loci is:
(A) Dominance (B) Pleiotropy (C) Gene linkage (D) Epistasis
12. pSC 101 has antibiotic resistant gene for
(A) Ampicillin (B) Streptomycin (C) Tetracycline (D) Penicillin
13. Patients of cystic fibrosis die due to numerous infections of the
(A) Respiratory tract (B) Digestive tract (C) Excretory tract (D) Reproductive tract
14. Endosymbiont Hypothesis explains origin of
(A) Bacteria (B) Prokaryotes (C) Armadillo (D) Eukaryotes
15. All the populations within an ecosystem are known as
(A) Species (B) Food Web (C) Community (D) Pioneers
16. Coniferous forest located at high latitude are called
(A) Boreal (B) Alpine (C) Taiga (D) Prairies
17. The decline in thickness of ozone layer is caused by increasing level of
(A) Hydrocarbons (B) Nitrocarbons (C) Chlorofluorocarbons (D) Nitrogen oxide

1231 -- 1223 -- 7500 (1)

Biology (Subjective)

(Group I)

Paper (II)

Time Allowed: 2.40 hours

Section ----- I

Maximum Marks: 68

$8 \times 2 = 16$

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

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|--|---|
| (i) What are the adaptations of xerophytes for Osmoregulation? | (ii) Differentiate b/w Osmoconformers and osmoregulators? |
| (iii) What is the role of ADH and aldosterone in Osmoregulation? | (iv) Differentiate b/w collenchyma and sclerenchyma. |
| (v) Write the name of Bones of Cranium. | (vi) What is the effect of exercise on Muscle? |
| (vii) How is a seed formed? | (viii) What is the role of corticosteroid in birth process? |
| (ix) What are the adaptations in plants and animals for terrestrial ecosystem? | (x) Compare the rain fall in Temperate deciduous forests and Grassland ecosystem. |
| (xi) What is the role of soil for plants and animals? | (xii) How we can save energy? |

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

$8 \times 2 = 16$

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|--|---|
| (i) Differentiate homozygous and heterozygous conditions. | (ii) Why is Pituitary anterior lobe referred to as Master gland? |
| (iii) Define Habituation in terms of animal behaviour. | (iv) What is sympathetic Nerve system? |
| (v) Define Pleiotropy. Give one example. | (vi) If recombination frequency is 20% then draw a gene map. (linkage map). |
| (vii) How is genomic library made? | (viii) Give an application of Transgenic bacteria. |
| (ix) How did scientists produce a salt-tolerant plant? | (x) Define Autecology. |
| (xi) How do root nodular bacteria give and take benefits during symbiotic association? | (xii) Differentiate Macronutrients and Micronutrients. |

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

$6 \times 2 = 12$

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|--|---|
| (i) What are teratogens? Give examples. | (ii) Lateral buds in plants can be released from the effect of Apical bud. Comment on it. |
| (iii) Discuss the bondings which hold together two strands of DNA in double helix. | (iv) How two strands of DNA get synthesized during DNA replication? |
| (v) How RNA polymerase form Transcription bubble on a gene? Discuss it. | (vi) What is Metastasis? |
| (vii) Distinguish Apoptosis from Necrosis. | (viii) What are vestigial organs? Give examples. |
| (ix) Define Endosymbiont hypothesis. | |

Section ----- II

Note: Attempt any three questions.

$(8 \times 3 = 24)$

5. (a) Draw Labelled diagram of vertebrate Nephron. State the function of each part.
(b) Define mitosis, only explain its importance.
6. (a) Highlight the types of directional responses in plants which are caused due to external stimuli.
(b) Define Xerosere. Describe the stages of Xerosere
7. (a) Explain how reflex action prevent body damage during emergency?
(b) Define endangered species. Discuss causes of extinction and conservation plan.
8. (a) What is Diabetes mellitus? Explain its genetic basis.
(b) Describe the human male reproductive system.
9. (a) Explain in detail the phenomenon of Growth Correlation with example.
Write its commercial application.
(b) Explain the process of polymerase chain reaction with the help of diagram.

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