☆	Roll No 10244/8

H.S.S.C (Part-II) A/2024
(For All Sessions)

Paper Code	8	4	6	1

Biology (Objective)

Group - I

RWP-24

Time:20 Minutes **Marks : 17**

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

1.1 The excretory product that requires minimum water for its elimination as compared to others is:
(A) Urea (B) Ammonia (C) Uric acid (D) Creatinin

2. Which of the following is bone of axial skeleton:
(A) Ribs (B) Shoulder girdle (C) Pelvis (D) Femur

3. Cardiac muscles are :
(A) Voluntary (B) Involuntary (C) Both (A) and (B) (D) None of these

4. Which one is not related to others is:
(A) Cretinism (B) Myxoedema (C) Exophthalmic goiter (D) Diabetes mellitus

5. Gastrin is the hormone produced by:
(A) Gut (B) Liver (C) Pancreas (D) Oral cavity

6. Reproduction is very important for the survival of:
(A) Species (B) Population (C) Individual (D) Both (A) and (B)

7. For maximum growth of plants, the optimum temperature is:
(A) 15 - 20 °C (B) 20 - 25 °C (C) 25 - 30 °C (D) 30 - 35 °C

8. Enzyme are responsible for assembly of:
(A) Nucleic acid (B) Protein (C) Carbohydrate (D) All (A),(B) and (C)

9. In Bacteria, the newly synthesized mRNA is released in:
(A) Cytoplasm (B) Nucleus (C) Mitochondria (D) Chloroplast

10. In Klinefelter's syndrome:
(A) One x. chromosome is missing (B) Additional sex-chromosome is present
(C) One autosome is missing (D) None of these

11. When a haemophilic carrier women marries a normal man, who among her offspring may be affected:
(A) All her children (B) All her daughters (C) Half of her daughters (D) Half of her sons

12. A team of Japanese scientists is attempting to introduce the C_4 photosynthetic cycle into:
(A) Rice (B) Wheat (C) Corn (D) Oat

13. It makes bacterial cell more permeable to take up recombinant plasmid:
(A) Sodium chloride (B) Potassium chloride (C) Calcium chloride (D) Cesium chloride

14. Who published an essay on "The principle of population" ?
(A) Darwin (B) Lyell (C) Malthus (D) Mendel

15. Bacteria and Fungi are examples of:
(A) Decomposer (B) Producer (C) Consumer (D) Grazer

16. The light in which zone is insufficient to support photosynthesis:
(A) Littoral (B) Limnetic (C) Profundal (D) All of these

17. Total area of world under cultivation is:
(A) 9 % (B) 10 % (C) 11 % (D) 12 %

Roll No _____

Biology (Subjective)

Time: 2:40 Hours

H.S.S.C. (Part-II) A / 2024
(For All Sessions)
Group - I

RWP-1-24

Marks : 68

Section - I

2. **Write short answers of any eight parts of the question.** [2x8=16]

(i) Why color of plant leaves turns yellow in autumn?
(ii) How plants protect their enzyme from denaturation at high temperature?
(iii) Compare hydrophytes with xerophytes.
(iv) Out of 12 pairs of ribs, why only two pairs of ribs are called free floating ribs?
(v) Describe internal structure of cilium.
(vi) How low Ca^{+2} in blood affects bones in growing children?
(vii) Differentiate between chemotactic and chemotropic movements.
(viii) Name the cells found outside seminiferous tubules. Give one main function of those cells.
(ix) Why is there no productivity in profundal zone in aquatic ecosystem?
(x) What is Tundra? Does this ecosystem exist in Pakistan?
(xi) How combusion of fossil fuels is related to stone cancer?
(xii) Write down the two impacts of ozone layer depletion on human life.

3. **Write short answers of any eight parts of the question.** [2x8=16]

(i) How do plants respond to various stimuli under stress?
(ii) Define Threshold frequency to initiate nerve impulse.
(iii) What do you know about commercial applications of Gibberellins? (at least two).
(iv) Why is blood group "O" considered universal donor?
(v) What do you know about XX - XY mechanism of sex determination?
(vi) Define product rule. Give an example.
(vii) How cancer patients are being treated by gene therapy?
(viii) Give two practical uses of DNA finger printing technology.
(ix) What are restriction endonucleases? Give example.
(x) How does length of food chain affect an ecosystem?
(xi) What is pyramid of energy?
(xii) Define Autecology. Give example.

4. **Write short answers of any six parts of the question.** [2x6=12]

(i) The plant cell size increase in number of cells and flowering are affected by light. How?
(ii) Differentiate between Gastrula and Neurula.
(iii) Compare the homologous and analogous organs.
(iv) How a particular amino acid is brought at a specific ribosomal site? Give the role of enzyme also.
(v) What is point mutation? Write one example.
(vi) Draw the structural formulae of Adenine and Guanine.
(vii) Why Anaphase is considered critical phase?
(viii) How cancer cells are different from normal cells?
(ix) Write any two points of Lamarckism.

Section - II

Note: **Attempt any three questions from the following:** (8x3=24)

5. (a) What is Renal failure? Describe its treatment. [4]
   (b) How does cytokinesis occur in animal cells? In which way does it differ from that in plant cell? [4]
6. (a) Discuss genetic and hormonal causes about deformities of skeleton. [2+2]
   (b) Explain Nitrogen cycle with the help of its sketch? [4]
7. (a) Which factors are involved in establishment of resting membrane potential? Explain. [4]
   (b) Define Hardy-Weinberg Theorem. How its equation in used to calculate allele & genotype frequency? [4]
8. (a) Discuss sex determining pattern in grass hopper and birds. [4]
   (b) Describe female reproductive cycle in human. [4]
9. (a) What is growth? Discuss its phases in plants. [4]
   (b) Write a note on transgenic animals. [4]