

1124 Warning:- Please write your Roll No. in the space provided and sign. Roll No.-----

(Inter Part - I)

(Session 2020-22 to 2023-25)

Sig. of Student -----

Biology (Objective)

(Group 2nd)

SGD-2-24

Paper (I)

Time Allowed:- 20 minutes

PAPER CODE 2468

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) $CO_2 + H_2O \longrightarrow H_2CO_3 \longrightarrow HCO_3^- + H^+$ An above reaction occurs at:
(A) Lungs level (B) Alveolar Sac (C) Bronchiole level (D) Tissue level
- 2) If cell has + 600 kPa pressure potential (Ψ_p) and -800 kPa water potential (Ψ_w). Then what would be its osmotic potential (Ψ_s).
(A) -600 kPa (B) 800 kPa (C) -1400 kPa (D) -200 kPa
- 3) Which of the following cells function as multisensory hydraulic valves?
(A) Epidermal cells (B) Mesophyll cells (C) Cortex cells (D) Guard cells
- 4) In which of the following era, Mammals became dominant:
(A) Proterozoic era (B) Cenozoic era (C) Mesozoic era (D) Palaeozoic era
- 5) How many water molecules will be released to produce tripeptides?
(A) Two (B) One (C) Three (D) Four
- 6) Activated enzyme consisting of polypeptide chain and a co-factor is known as:
(A) Apoenzyme (B) Co-enzyme (C) Prosthetic group (D) Holoenzyme
- 7) A crista is chemically composed of:
(A) Nucleoprotein (B) Glycolipids (C) Ribonucleoprotein (D) Lipoprotein
- 8) Influenza virus is:
(A) RNA and Enveloped (B) DNA and Enveloped (C) RNA and non-Enveloped (D) DNA and non-Enveloped
- 9) Discoloration of teeth is caused by
(A) Pencillin (B) Ampicillin (C) Tetracycline (D) Streptomycin
- 10) All Algae form flagellated motile cells in their life cycle except:
(A) Brown Algae (B) Green Algae (C) Red Algae (D) Diatoms
- 11) Fungi have chitin, a chemical found in external skeleton of:
(A) Annelids (B) Molluscs (C) Nematodes (D) Arthropods
- 12) An egg containing female gametophyte in plants is called:
(A) Embryo Sac (B) Ovule (C) Seed (D) Embryo
- 13) Members of which phylum are asymmetrical?
(A) Cnidaria (B) Porifera (C) Nematoda (D) Annelida
- 14) Which of the following vertebrates are hermaphrodite?
(A) Hag fishes (B) Lampreys (C) Trout (D) Shark
- 15) In Alcoholic fermentation, Acetaldehyde is reduced to ethanol by:
(A) $FADH_2$ (B) $NADPH+H^+$ (C) FAD^+ (D) $NADH+H^+$
- 16) How many number of ATP molecules are required to generate one mole of Triose sugar?
(A) 9 ATP (B) 6 ATP (C) 12 ATP (D) 18 ATP
- 17) Deficiency of which element causes stunted growth of roots?
(A) Nitrogen (B) Phosphorous (C) Magnesium (D) Nitrogen and Phosphorous

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Biology (Subjective) (Session 2020-22 to 2023-25) (Group 2nd) Paper (I)
Time Allowed: 2.40 hours (Inter Part - I) Maximum Marks: 68

Section ----- I

2. Answer briefly any Eight parts from the followings:- $540-2-24 \times 2 = 16$

- (i) Differentiate between nucleotide and nucleoside.
- (ii) What is induced fit model? Who proposed it?
- (iii) Why pepsin is produced in its inactive form called pepsinogen?
- (iv) Define enzyme-substrate complex. (v) Give names of four plant diseases caused by fungi.
- (vi) Name key mutualistic symbiotic associations of fungi.
- (vii) Differentiate the Ostia and Osculum. (viii) Give two fundamental characters of chordates.
- (ix) Give the function of mantle and redula in mollusks.
- (x) What are running birds? Quote two examples. (xi) What is Rubisco? Give its function?
- (xii) What are accessory pigments? State their role.

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

$8 \times 2 = 16$

- (i) What is Bioremediation? Give one example. (ii) What is meant by Integrated disease management?
- (iii) Differentiate the phagocytosis and Pinocytosis. (iv) What are storage diseases? Give two examples.
- (v) How Algae (Plant-Like Protists) differ from plants? (vi) Write down importance of Chlorella.
- (vii) What are Choanoflagellates? Give their evolutionary link with sponges.
- (viii) Basically the kingdom Protista is defined by exclusion. How?
- (ix) Write four properties of Respiratory Surface. (x) How Respiratory Distress syndrome is caused?
- (xi) Differentiate the Thrombous formation and embolus.
- (xii) How vasodilation and vasoconstriction regulate blood flow?

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

$6 \times 2 = 12$

- (i) Fungi and animals are heterotrophs but place in separate Kingdoms. Why?
- (ii) What do you know about bacilli bacteria? Give an example.
- (iii) What is the importance of alternation of generation?
- (iv) Why anthocerospida is considered advanced than any other bryophytes?
- (v) What is the difference between Monocots and Dicots? (vi) Compare homospory and heterospory?
- (vii) What are deficiency symptoms of Magnesium and Phosphorus in plants?
- (viii) What are obligate and facultative parasites? (ix) What is the cause of diarrhoea and constipation?

Section ----- II

Note: Attempt any three questions.

$(8 \times 3 = 24)$

5. (a) What is cloning? Write down two different methods of cloning.
(b) Discuss the factors which affect the oxygen carrying capacity of haemoglobin.
6. (a) What is RNA? Give its three types with their role.
(b) Why the fungi were placed in a separate kingdom i.e., Kingdom Fungi? Explain.
7. (a) Compare prokaryotic with Eukaryotic cell.
(b) Write the structure and functions of stomach by drawing its labeled sketch.
8. (a) Discuss Hepatitis in detail.
(b) Describe cohesion-tension theory of water movement in xylem, which supplies cohesion and what is the source of tension? How does these forces interact to move water through plants.
9. (a) Describe Nutrition in bacteria.
(b) What is chemiosmosis? Describe cyclic phosphorylation by sketching it.

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