RWP-2-24

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HSSC-(P-I)-A/2024
(For All Sessions)

Paper Code	6	4	6	8

Biology (Objective)

(Group-II) **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 Reserve food material in cyanobacteria is in the form of:

(A) Starch (B) Proteins (C) Sucrose (D) Glycogen

2. Malaria spreads by :

(A) Plasmodium (B) Female anopheles mosquito (C) Tsetse fly (D) Trypanosoma

3. Which of the following is unicellular but not included in protoctista?

(A) Kelps (B) Volvox (C) Yeast (D) Plasmodium

4. Most powerful Alkaloids are obtained from plants of family called:

(A) Solanaceae (B) Fabaceae (C) Rosaceae (D) Poaceae

5. Sphenodon is found in:

(A) Australia (B) Texas (C) New Zealand (D) Pakistan

6. Syrinx is an organ of voice present in:

(A) Apes (B) Parrots (C) Snakes (D) Frogs

7. Transfer of energy from antenna complex to reaction center of Photosystem occurs by phenomenon called:

(A) Oxidation (B) Reduction (C) Resonance (D) Hydrogenation

8. How many number of electrons would be needed at a time to reduce two moles of $NADP^+$?

(A) Two (B) One (C) Three (D) Four

9. Constipation is called by the excessive absorption of:

(A) CO_2 (B) Water (C) Food (D) Oxygen

10. If plasma proteins carry about 5% CO_2 / 100 ml of blood. How much CO_2 is carried by 500 ml of blood from tissue fluid to lungs?

(A) 5 ml (B) 20 ml (C) 25 ml (D) 100 ml

11. Which layer of arteries become thick due to Atheroma?

(A) Middle (B) Inner most (C) External (D) Any layer

12. If ψ_w (water potential) of a cell is – 400 KPa and pressure potential (ψ_p) is 800 KPa. What would be the solute potential (ψ_s) of cell at equilibrium:

(A) 1200 KPa (B) –400 KPa (C) –1200 KPa (D) 800 KPa

13. Which of the following element is a heavy metal?

(A) Zinc (B) Iron (C) Copper (D) Chromium

14. One strand of DNA contains ACGT nitrogenous bases and opposite strand has TGCA. How many number of hydrogen bonds would be present between these complementary nitrogenous bases?

(A) 08 (B) 12 (C) 10 (D) 14

15. Rate of reaction (catalysis) is inversely proportional to the:

(A) Activation energy (B) Enzyme concentration (C) Optimum temperature (D) Optimum pH

16. If ocular lens is of 10X and objective lense is of 40X, resolution of compound microscope would be _____of human naked eye.

(A) 100X (B) 400X (C) 500X (D) 250,000X

17. Which of the following is an organelle of symbiontic origin?

(A) Ribosomes (B) Mitochorndria (C) Centrioles (D) Lysosomes

Roll No _____

HSSC-(P-I)-A/2024

(For All Sessions)

Marks : 68

Biology (Subjective)

(GROUP-II)

Time: 2:40 Hours

RWP-2-24

SECTION-I

2. Write short answers of any eight parts from the following: (8x2=16)

i. What is the difference between fibrous proteins and globular proteins?

ii. What are inhibitors? Write their two types.

iii. Differentiate between apoenzyme & holoenzyme.

iv. The low and high temperature respectively affect an enzyme activity. How?

v. Enlist four types of asexual reproduction in fungi.

vi. What is aspergillosis? Name the fungus which causes it.

vii. Enlist four examples of sponges with their habitat.

viii. Define polymorphism. What is the generic name of 'Portuguese man of war'?

ix. Give names of any two sub-classes of mammalia.

x. What is Notochord? State its function.

xi. Differentiate between catabolism and anabolism.

xii. Which form of anaerobic respiration occurs in muscle cells of human during sprinting? Also represent it by equation.

3. Write short answers of any eight parts from the following: (8x2=16)

i. How does Phyletic Lineage extend back to the common origin of all early life?

ii. Write down attributes of population.

iii. How cell cytoplasm play role in cell physiology?

iv. What is chemical composition of bacterial (Prokaryote) cell wall?

v. How would you differentiate fungus-like protists and fungi?

vi. What are amoebas? Give their types

vii. What functions are performed by micronuclei and macronuclei in ciliates?

viii. Why Euglenoids are placed in Algae as well as in Protozoa?

ix. How does temperature affect the oxygen carrying capacity of Haemoglobin?

x. How does the skin of earthworm is kept moist for the exchange of respiratory gases?

xi. Differentiate Antigen and Antibody.

xii. What is the difference between single circuit and double circuit Heart?

4. Write short answers of any six parts from the following: (6x2=12)

i. What are the pocks? Give their cause.

ii. Write the difference between archaeo bacteria & eubacteria?

iii. Differentiate the Archegonia and Antheridia.

iv. What is circinate vernation? Give an example.

v. What do you know about annulus and stomium?

vi. How can adipose tissue is formed?

vii. Which plants are called supermatophytes?

viii. What are hunger pangs? When do they begin?

ix. Why humans develop intestinal gas from consuming milk products?

SECTION-II

Note **Attempt any three questions. Each question carries equal marks:** (8x3=24)

5. (a) What is an organ? Discuss organ and organ system level of organization. (2+2=4)

(b) How CO_2 is transported from tissues to lungs? (4)

6. (a) What is RNA? Describe its three types. (b) Give economic losses due to fungi. (1+3=4) & (4)

7. (a) What are plastids? Give three types & explain chloroplast in detail and draw its labeled diagram. (1/2+1/2+2+1=4)

(b) Explain role of pancreas and liver in digestion in human beings. (2+2=4)

8. (a) Write detailed note on AIDS. (4)

(b) Discuss symptoms and reasons of Leucaemia and thalassaemia. (2+2=4)

9. (a) Discuss nutrition in bacteria. (4)

(b) What is photophosphorylation? Discuss non-cyclic photophosphorylation in plants. (1+3=4)

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