

Time 2:40

Subjective

Marks 68

Q2 Give the short answers (only 8 questions) $2 \times 8 = 16$

- i) What do you mean by Phyletic Lineage?
- ii) Define population and write its attributes.
- iii) Write difference b/w deductive and inductive reasoning.
- iv) What is hydroponic culture technique?
- v) What is significance of integrated disease management?
- vi) Differentiate between Era and period give examples.
- vii) What is ester and phosphodiester bonds.
- viii) How the specific structure of proteins is determined?
- ix) What is the heat capacity of water Give its significance?
- x) Write the structural formulae of ribofuranose and glucopyranose.
- xi) Draw structures showing Peptide and glycosidic bonds.
- xii) Write note on ~~trans~~ messenger RNA (mRNA).

Q3 Give short answers (only 8 questions) $8 \times 2 = 16$.

- i) Write difference b/w Irreversible Inhibitors and Reversible Inhibitors.
- ii) Differentiate b/w competitive and non-competitive Inhibitors
- iii) What is cofactor give its significance?
- iv) ~~Def~~ Describe the effect of substrate concentration on enzyme activity.
- v) Give 4 examples of enzymes with their optimum pH.
- vi) What is enzyme to enzyme chain reaction?
- vii) What is cell theory and who discovered that?
- viii) What is endocytosis? Differentiate between Phagocytosis and Pinocytosis?

x) What is stroma? Give function in chloroplast.

x) What is lysosome? Give its functions.

xi) What are cytoplasm and nucleoplasm?

xii) Define congenital diseases. Give examples.

Q4 Give short answer to any 6 $2 \times 6 = (12)$

(i) Name 4 proteins present in the cytoskeleton.

(ii) What is centrosome? Give its role. (iii) Who discovered the Golgi apparatus?

(iv) Differentiate b/w DNA and RNA? (v) How water provides protection?

(vi) What are terpenoids? (vii) What is holoenzyme? (viii) What are prosthetic groups? (ix) What is induced fit model?

Q5 • (Attempt any three questions)

(a) How has biology improved food quality and quantity for mankind?

(b) Write importance of carbon. Why is carbon called the skeleton of life?

Q6 (a) How does biology help in protection and conservation of the environment?

(b) Write a note on glyoxysomes.

Q7 (a) What are lysosomes?

(b) Write a note on the cytoskeleton.

Q8 (a) Write a note on polysaccharides.

(b) Write the primary structure of proteins.

Q9 (a) What are conjugated molecules?

(b) What is vaccination and immunization?

Time 20 minutes

Objective

Marks: 17

Choose the correct answer and encircle it.

- (i) The most recent era is (mammals were abundant in)
(a) Proterozoic (b) Paleozoic (c) Cenozoic (d) Mesozoic
- (ii) The reasoning from the general to specific is
(a) Deductive (b) inductive (c) scientific (d) Theoretical
- (iii) Biology is short in laws because of:
(a) Exclusive nature of life (b) Less falsification
(c) Less tentation (d) Large population of human.
- (iv) Radio therapy is used for
(a) Cancer (b) AIDS (c) Hepatitis (d) Malaria
- (v) In bacterial cells the water percentage is:
(a) 70% (b) 40% (c) 60% (d) 50%
- (vi) Calories per gram vaporized is called
(a) Heat capacity (b) specific heat (c) Heat of vaporization (d) Latent heat.
- (vii) Substance which on hydrolysis yield polyhydroxy acid, aldehyde or ketone sub-units:
(a) Acylglycerols (b) Nucleic acids (c) carbohydrate (d) Polypeptides
- (viii) Monosaccharides which are rare in nature and occur in some bacteria
(a) Trioses (b) Tetroses (c) Pentoses (d) Hexoses.
- (ix) Poisons like cyanide, antibiotics and some drugs are examples of
(a) Enzymes (b) Co-Enzymes (c) Inhibitors (d) Co-factors.
- (x) The optimum pH for enzyme catalase is
(a) 2.00 (b) 9.50 (c) 7.60 (d) 9.70
- (xi) Salivary amylase acts best at pH
(a) 4.5 (b) 6.8 (c) 7.2 (d) 8.5

- xi) Enzyme Succinate dehydrogenase converts succinate into
(a) Malate (b) citrate (c) Malonic acid (d) Fumarate.
- xii) Cell wall is secreted by the _____.
(a) Nucleoplasm (b) Protoplast (c) centriole (d) Glyoxisomes.
- xiii) Palade studied:
(a) nucleus (b) Peroxisomes (c) Ribosomes (d) Mitochondria.
- xiv) The diameter of Peroxisomes is approximately:
(a) $0.2 \mu\text{m}$ (b) $0.3 \mu\text{m}$ (c) $0.4 \mu\text{m}$ (d) $0.5 \mu\text{m}$.
- xv) New ribosomes are assembled in:
(a) Cisternae (b) crista (c) Nucleolus (d) Lysosomes.
- xvi) Erythrocytes have pores per nucleus:
(a) 3000 (b) 30000 (c) 6000 (d) 30000
- xvii) Tay-sachs disease results due to accumulation in brain cells:
(a) Mg ions (b) Glucose (c) Lipids (d) RNA.