

**OBJECTIVE**

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.

**QUESTION NO. 1**

- Which of the following are being used as bio-pesticides?  
(A) Bacteria (B) Fungi (C) Viruses (D) Algae
- It is potential source of energy for cellular activities.  
(A) C - N bond (B) C - O bond (C) C - H bond (D) C - P bond
- Sacculus relates to which part of bacteria  
(A) Cell wall (B) Cell membrane (C) Ribosome (D) Chromosome
- One of the following is organelle of symbiotic origin  
(A) Chloroplast (B) Golgi complex (C) Endoplasmic reticulum (D) Ribosome
- An example of aerobic bacterium is  
(A) Campylobacter (B) E. coli (C) Spirochete (D) Pseudomonas
- All algae except one of the following have forms with flagellated motile cells in at least one stage of their life cycle  
(A) Euglenophyta (B) Pyrrophyta (C) Rhodophyta (D) Chlorophyta
- Lichens are very good bio indicators of  
(A) Air quality (B) Soil quality (C) Water quality (D) Minerals quality
- The class of seedless plants containing foliar sporangia is  
(A) Filicinae (B) Gymnospermae (C) Angiospermae (D) Algae
- An activated enzyme consisting of polypeptide chain and a cofactor is known as  
(A) Isoenzyme (B) Polyenzyme (C) Holoenzyme (D) Apoenzyme
- In sponges the food enters the spongocoel cavity through  
(A) Ostia (B) Osculum (C) Spiracles (D) Mouth
- Scientific name for Planaria is  
(A) *Taenia solium* (B) *Fasciola hepatica* (C) *Schistosoma* (D) *Dugesia*
- Correct molecular formula for chlorophyll 'a' is  
(A)  $C_{55}H_{72}O_5N_4Mg$  (B)  $C_{55}H_{70}O_5N_4Mg$  (C)  $C_{55}H_{72}O_4N_5Mg$  (D)  $C_{55}H_{70}O_5N_5Mg$
- Probably the most abundant protein on earth is  
(A) Haemoglobin (B) Myoglobin (C) Rubisco (D) Pepsin
- One of the following has no upper incisors  
(A) Deer (B) Dog (C) Bear (D) Pig
- Which is correct order of parts of air passage ways in man  
(A) Nostrils, Nasal cavity, Pharynx, Larynx (B) Nasal cavity, Nostrils, Pharynx, Larynx  
(C) Nasal cavity, Pharynx, Nostrils, Larynx (D) Nostrils, Pharynx, Larynx, Nasal cavity
- How much of the cytoplasm of red blood cells have haemoglobin  
(A) 91 % (B) 93 % (C) 95 % (D) 97 %
- Hepatic portal vein carries blood from  
(A) Liver (B) Alimentary canal (C) Kidneys (D) Lungs

**SECTION-I**

**SECTION NO. 2 Write short answers any Eight (8) questions of the following**

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- (1) What is the general formula for amino acid?
- (2) What do you know about prosthetic group?
- (3) What are two definite regions of active site?
- (4) Differentiate between competitive and non-competitive inhibitor.
- (5) Define parasexuality.
- (6) Give symptoms and cause of ergotism.
- (7) Describe two important features of mammals.
- (8) What is nymph?
- (9) What are coral reefs?
- (10) Give economic importance of sharks.
- (11) Differentiate between cyclic and non cyclic photophosphorylation.
- (12) Define glycolysis.

**SECTION NO. 3 Write short answers any Eight (8) questions of the following**

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- (1) What is hydroponic culture technique? Give its significance.
- (2) Define storage diseases. Give examples
- (3) Give any two important functions of centrioles.
- (4) Write a short note on zooflagellates.
- (5) Give two characters of Red Algae.
- (6) How green algae are similar to plants?
- (7) What is evolutionary significance of Euglenoids?
- (8) How does gymnosperms differ from angiosperms?
- (9) Define double fertilization. What is its importance?
- (10) What are biome and biosphere?
- (11) Differentiate between Apoplast pathway and Symplast pathway.
- (12) What are antigen and antibody?

**SECTION NO. 4 Write short answers any Six (6) questions of the following**

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- (1) Give biological classification of corn.
- (2) What is plasmid? Give its functions.
- (3) What is pyrosis?
- (4) Define peristalsis.
- (5) What is pleura?
- (6) What is Botulism?
- (7) What is diving reflex?
- (8) What is emphysema?
- (9) Give two properties of respiratory surface.

**SECTION-II**

**e: Attempt any three (3) questions from this section**

8 x 3 = 24

- (a) How will you define a hypothesis? Write various methods for formulating a hypothesis.
- (b) Explain Apoplast, Symplast and Vacuolar pathways of water movement in roots with the help of a diagram.
- (a) Describe Watson and Crick model of DNA.
- (b) Write a note on Economic losses due to fungi.
- (a) What are cyanobacteria? Explain structure and reproduction of Nostoc.
- (b) Elaborate evolution of seed habit in plants.
- (a) Describe structure and lytic cycle of a bacteriophage.
- (b) Draw the labeled sketch of Krebs cycle, no need of explanation.
- (a) What are lysosomes? Describe its role in cell.
- (b) What functions are performed by the oral cavity in man?