

**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**

1	The branch of biology which deals with study of ancestral history is (A) Genetics (B) Zoogeography (C) Evolution (D) Palaeontology
2	Percentage of carbohydrates in mammalian cell is (A) 1 % (B) 2 % (C) 3 % (D) 4 %
3	Covalently bonded non-protein part is called (A) Co-enzyme (B) Prosthetic group (C) Activator (D) Co-factor
4	Parenchymatous cells are specialized for (A) Store food (B) Support (C) Photosynthesis (D) Growth
5	The size of Parvovirus is (A) 100 nm (B) 20 nm (C) 250 nm (D) 75 nm
6	Which one is present in all bacteria? (A) Cell wall (B) Mesosome (C) Ribosomes (D) Plasmid
7	The example of zooflagellates is (A) Forams (B) Vorticella (C) Entamoeba (D) Trypanosoma
8	A kind of headache migraine is treated by (A) Ergotine (B) Lovastatin (C) Griseofulvin (D) Aspergillus
9	Funaria is an example of (A) Hepaticopsida (B) Bryopsida (C) Psilophyta (D) Anthocercopsida
10	Reproductive system is formed from (A) Mesoderm (B) Endoderm (C) Ectoderm (D) Hypoderm
11	In Echinodermata the larva is (A) Planula (B) Trochophore (C) Bipinnaria (D) Echino
12	Chemical link between catabolism and anabolism is (A) Bioenergetics (B) Respiration (C) Photosynthesis (D) ATP
13	In first step of citric acid cycle , acetyl Co A reacts with oxaloacetate to form (A) NADH (B) Pyruvate (C) Citrate (D) FADH
14	Common ectoparasite in non-human mammal is (A) Tics (B) Leech (C) Tapeworm (D) Flea
15	Oxygen content of fresh air is about (A) 10 ml/liter (B) 20 ml/liter (C) 2 ml/liter (D) 200 ml/liter
16	Apoplast pathway becomes discontinuous in endodermis due to (A) Pericycle (B) Casparian strip (C) Cortex (D) xylem
17	Atrioventricular valve present in left side of heart is (A) Tricuspid (B) Bicuspid (C) Pulmonary valve (D) Semilunar

DAKDI-11-19

MARKS : 68

SEMIC SESSION: 2015-2017 TO 2018 - 2020

**SECTION-I**

**QUESTION NO. 2 Write short answers any Eight (8) questions of the following 16**

- (1) What do you know about ionization of water?
- (2) Define co-factor. Write its function.
- (3) How enzyme concentration affect the rate enzyme action?
- (4) What are competitive inhibitors? Why they are called reversible inhibitors?
- (5) Define mycorrhizae. What is its effect on its partner?
- (6) What are zygomycetes? Why they are named so?
- (7) How reproduction occurs in Platyhelminthes?
- (8) Write scientific and common names of two intestinal parasites of man from Phylum Aschelminthes.
- (9) How complete metamorphosis is different from incomplete metamorphosis?
- (10) Comment on the placement of Echinodermata at the top of list of invertebrate phyla.
- (11) Define absorption spectrum along with its diagram.
- (12) Give the steps of glycolysis where NADH is formed.

**QUESTION NO. 3 Write short answers any Eight (8) questions of the following 16**

- (1) What is hydroponic culture technique?
- (2) Differentiate between chemotherapy and radiotherapy.
- (3) What are chromoplasts?
- (4) Define fluid mosaic model.
- (5) Name parasitic amoeba. What is the disease caused by it?
- (6) What are Apicomplexans ? Give example.
- (7) Why fungus like protists are not fungi ?
- (8) What is *Phytophthora infestans* ?
- (9) Define double fertilization in Angiosperm?
- (10) Differentiate between circinate venation and reticulate venation?
- (11) What are blue babies ?
- (12) Define bleeding in plants ?

**QUESTION NO. 4 Write short answers any Six (6) questions of the following 12**

- (1) Differentiate between virion and prion.
- (2) Give postulates of " Germ Theory of Disease " by Robert Koch
- (3) Can we get along without large intestine ? If not , why ?
- (4) What is dyspepsia ? Give its symptoms.
- (5) Differentiate between ingestion and Egestion.
- (6) Air is better respiratory medium than water. How ?
- (7) What is Rubisco? What is its function?
- (8) Define cutaneous and pulmonary respiration.
- (9) What are causes and symptom of pulmonary tuberculosis ?

**SECTION-II**

**Attempt any Three questions from this section 8 x 3 = 24**

- (a) Describe Biological Methods under following headings
  - (i) Deductive and Inductive reasoning
  - (ii) Theory and Law
- (b) Discuss various pathways in root followed by water to reach xylem tissue.
  - (a) What are monosaccharide? Give their characteristics.
  - (b) Describe sexual reproduction in fungi.
- (a) Describe physical and chemical methods to control bacteria.
- (b) Discuss different evolutionary steps in the evolution of mega phyll leaf.
  - (a) Write a detailed note on Hepatitis.
  - (b) What is glycolysis ? Draw its scheme of reactions.
- (a) Differentiate between Prokaryotic and Eukaryotic cells.
- (b) Write a note on four methods of nutrition in plants.

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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) Polyzyme (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**

16

- (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**

16

- (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**

12

- (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 ?

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