

BIOLOGY

GROUP : FIRST

OBJECTIVE

TIME: 20 MINUTES

MARKS: 17

DGK-11-1-23

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	Which is a copper containing protein (A) Cytochromes (B) Pq (C) Pc (D) Fd
2	The painful sensation in the chest is called (A) Piles (B) Pyrosis (C) Antiperistalsis (D) Liver
3	The breakdown of Alveoli is called (A) Tuberculosis (B) Asthma (C) Emphysema (D) Cancer
4	The normal pH of blood is (A) 2.0 (B) 6.5 (C) 6.4 (D) 7.4
5	Which is not a lymphoid mass (A) Spleen (B) Tonsils (C) Thymus (D) Liver
6	The tentative explanation of observation is (A) Deduction (B) Law (C) Theory (D) Hypothesis
7	The % age of water in human brain cell is (A) 65 % (B) 89 % (C) 85 % (D) 79 %
8	Which requires aqueous medium for its activity (A) Proteins (B) Fats (C) Activators (D) Enzymes
9	Intermediate filaments play a role in the maintenance of (A) Cell shape (B) Cell size (C) Cell turgor (D) Cell organization
10	The basic unit of classification is (A) Genus (B) Phylum (C) Class (D) Species
11	Which is anaerobic bacterium ? (A) Spirochete (B) Pseudomonas (C) E. Coli (D) Campylobacter
12	Cell wall of oomycetes contain (A) Cellulose (B) Chitin (C) Peptidoglycan (D) Glycogen
13	Citric acid is obtained from some species of fungi called (A) Agaricus (B) Aspergillus (C) Yeast (D) Penicillium
14	Heterospory is present in (A) Psilopsida (B) Selaginella (C) Lycopodium (D) Sphenopsida
15	Right Aortic arch present in (A) Amphibians (B) Reptiles (C) Birds (D) Mammals
16	The colourless blood of Arthropods is called (A) Haemocyanin (B) Haemolymph (C) Myoglobin (D) Tropomyosin
17	Light behaves as waves and as sort of (A) Radiations (B) Particles (C) Electromagnetics (D) None of these

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QUESTION NO. 2 Write short answers of any Eight (8) parts of the following

16

(i)	Define Nucleic Acids , give example
(ii)	Differentiate between activator and prosthetic group
(iii)	What is Induce Fit Model of Enzyme ?
(iv)	Differentiate between competitive and non-competitive Inhibitors
(v)	Compare Fragmentation with budding
(vi)	What is Histoplasmosis ?
(vii)	Give two characters of cyclostomata
(viii)	What is metamorphosis ?
(ix)	How platyhelminthes have adopted themselves parasitic mode of life ?
(x)	What is ecdysis , how it is beneficial for arthropods ?
(xi)	Define chemiosmosis
(xii)	What is lactic acid fermentation ?

QUESTION NO. 3 Write short answers of any Eight (8) parts of the following

16

(i)	What is use of hydroponic culture technique ?
(ii)	Define bioelements , name six elements which form 99 % of total mass in human body
(iii)	Give the function of ribosomes
(iv)	Differentiate between cisternae and cristae
(v)	How algae differ from plants ?
(vi)	Which member of zooflagelles live in gut of termite for digestion of wood ? Discuss
(vii)	What do you know about gaint Ameoba ?
(viii)	Give the role of foraminifera in formation of lime stone deposits
(ix)	Define Ovule
(x)	Describe female cone of pinus
(xi)	Differentiate between apoplast and symplast pathway
(xii)	What is imbibitions ? Give its role

QUESTION NO. 4 Write short answers of any Six (6) parts of the following

12

(i)	What are common names and their disadvantages ?
(ii)	What are amphitrichous bacteria ?
(iii)	Define nutrition
(iv)	How sundews show insectivorous activity ?
(v)	What is botulism ? Give its cause
(vi)	What are parabronchi ?
(vii)	What is the role of nasal cavity in breathing ?
(viii)	How air is better respiratory medium than water ?
(ix)	Where carbonic anhydrase enzyme is present ? Give its function

SECTION-II

Note: Attempt any Three questions from this section

8 x 3 = 24

Q.5 (A)	How vaccination , dry treatment and gene therapy helped in improving human health ?
(B)	Write a detailed account on immunity and its types
Q.6 (A)	Compare tertiary structure of proteins with quaternary structure
(B)	Describe Economic Losses due to fungi
Q.7 (A)	Describe different methods of nutrition in Bacteria
(B)	Describe life cycle of Angiosperms
Q.8 (A)	Explain the five kingdom system proposed by Robert Whittaker 1969
(B)	Describe the Oxidative phosphorylation with the help of graphic representation
Q.9 (A)	Explain the structure and function of Endoplasmic reticulum
(B)	What do you know about the heterotrophic mode of Nutrition in plants give the example of all three

BIOLOGY

GROUP : SECOND

DAK-11-2-23 OBJECTIVE

TIME: 20 MINUTES

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.

QUESTION NO. 1

- 1 Which of the following pest is biologically controlled by wasp ?
(A) Mosquito (B) House fly (C) Catterpillar (D) Aphid
- 2 In Acylglycerol , fatty acids and alcohol are linked to each other by
(A) Ester bond (B) Peptidic bond (C) Glycosidic bond (D) Hydrogen bond
- 3 An inhibitor which may physically block the active site of enzyme is called
(A) Reversible (B) Competitive (C) Non-competitive (D) Irreversible
- 4 Which of the following organelle contains the highest concentration of RNA ?
(A) SER (B) Nucleolus (C) Centriole (D) Cytoskeleton
- 5 Which of these are found in all viruses ?
(A) Envelope (B) Nucleic Acid (C) DNA and RNA (D) Proteins and Nucleic Acid
- 6 Cyanobacteria unlike other photosynthetic bacteria do
(A) Not give off oxygen (B) Not have chlorophyll (C) Give off oxygen (D) Not have cell wall
- 7 Which algal group is mismatched ?
(A) Brown Algae – Include kelps (B) Diatoms – Major producers
(C) Dinoflagellates – Two part of shell (D) Green Algae – Close relatives of land plant
- 8 Following is associated with sexual reproduction in Fungi
(A) Conidia (B) Basidiospores (C) Budding (D) Fragmentation
- 9 Gametophyte in bryophyte is
(A) Haploid (B) Triploid (C) Diploid (D) Tetraploid
- 10 Which of the following is included in grade radiata ?
(A) Nematodes (B) Flat worms (C) Cnidaria (D) Arthropods
- 11 The animals on border line between aquatic and true terrestrial animals are
(A) Amphibia (B) Fishes (C) Birds (D) Mammals
- 12 Chlorophyll is soluble in
(A) Organic solvent (B) Water (C) Water and organic solvent (D) Not in any solvent
- 13 During dark reactions , highly unstable six carbon compound is derived from
(A) CO₂ only (B) RUBP only (C) RUBP + CO₂ + PEP (D) RUBP + CO₂
- 14 Pepsinogen is activated to pepsin by
(A) HCl (B) Active pepsin + HCl (C) Active secretin (D) Active pepsin
- 15 Asthma is associated with severe paroxysm of difficult
(A) Sleeping (B) Walking (C) Breathing (D) Sneezing
- 16 Lymph returns to blood
(A) Interstitial fluid (B) Oxygen (C) White blood cells (D) CO₂
- 17 Snake bite is treated with which type of immunization
(A) Active (B) Humoral (C) Cell mediated (D) Passive

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QUESTION NO. 2 Write short answers of any Eight (8) parts of the following

16

(i)	Differentiate between nucleotide and nucleoside
(ii)	How does high temperature affects enzyme action ?
(iii)	Define inhibitors. Give examples
(iv)	What is prosthetic group ?
(v)	How would you differentiate between rust and smut ?
(vi)	Define mycorrhizae
(vii)	Write down two characters of deuterostomes
(viii)	Differentiate between coelomate and pseudocoelomate
(ix)	Give economic importance of shark
(x)	What is madreporite ? Give its functions
(xi)	Define compensation point
(xii)	Differentiate between action and absorption spectra

QUESTION NO. 3 Write short answers of any Eight (8) parts of the following

16

(i)	What is biological control , give its example
(ii)	Define biomes , how can we name them
(iii)	Write two function of cytoplasm
(iv)	Why mitochondria are power house of the cell ?
(v)	What are Giant Amoeba ? Also write its scientific name
(vi)	How slime molds reproduce ?
(vii)	How algae differ from fungi ?
(viii)	What are red tides ? How these are formed ?
(ix)	Define embryo sac , how it develops ?
(x)	What is fern prothallus ? Give its characteristics
(xi)	Write proteins of plasma with their function
(xii)	What is blue baby , write its one cause

QUESTION NO. 4 Write short answers of any Six (6) parts of the following

12

(i)	Write down the two rule of binomial nomenclature
(ii)	What are Akinetes ? Give their function
(iii)	Define Pyrosis. What are its causes ?
(iv)	What is the composition of saliva ?
(v)	What is macrophagous feeding ? Give its example
(vi)	How gaseous exchange occurs in birds at parabronchi ?
(vii)	What is meant by Residual volume of lungs ? Give residual volume of lungs in man
(viii)	Give symptoms of Emphysema
(ix)	What is pulmonary tuberculosis ? Give its causes

SECTION-II

Note: Attempt any Three questions from this section

8 x 3 = 24

Q.5 (A)	How somatic and embryonic cells are used to make clones ? Write advantages and disadvantages of cloning
(B)	Explain circulatory system of earth worm
Q.6 (A)	Discuss the structure and functions of plasma membrane
(B)	Discuss the life cycle of <i>Ustilago tritici</i> with suitable diagram
Q.7 (A)	Give different groups of bacteria on the basis of pattern of flagella
(B)	How seed evolved , describe different steps of evolution of seed
Q.8 (A)	Define binomial nomenclature and give its rules , why it is required ?
(B)	Explain Krebs cycle with the help of diagram
Q.9 (A)	Write down functions of plasma membrane
(B)	Describe digestion of food in Cockroach