



BIOLOGY		TIME: 20 MINUTES
GROUP : FIRST	OBJECTIVE	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

DGK-1-24

- 1 Magnesium of chlorophyll is replaced in Haemoglobin by :
(A) Calcium (B) Potassium (C) Phosphorous (D) Iron
- 2 Vitamin synthesized by the bacteria in ----- the large intestine is :
(A) Vitamin A (B) Vitamin K (C) Vitamin C (D) Vitamin D
- 3 How much air, lungs can hold when they are fully inflated :
(A) 3.5 litres (B) 1.5 litres (C) 5 litres (D) 4 litres
- 4 The uncontrolled production of white blood cells result in :
(A) Asthma (B) Thalassaemia (C) Oedema (D) Leucaemia
- 5 A hormone released by mesophyll cells at high temperature is :
(A) Abscisic acid (B) Amino acid (C) HCl (D) H₂SO₄
- 6 The control of pests by some living organism is called :
(A) Pest control (B) Living control (C) Biological control (D) Organismic control
- 7 The number of carbon atoms in alkanes found in waxes are :
(A) C₅ - C₁₅ (B) C₁₅ - C₂₅ (C) C₂₅ - C₃₅ (D) C₃₅ - C₄₅
- 8 If the co-factor is loosely attached to the protein part, the enzyme is known as :
(A) Co-enzyme (B) Apoenzyme (C) Holoenzyme (D) Activator
- 9 Single membrane bound organelle among the following is :
(A) Chloroplast (B) Mitochondria (C) Nucleus (D) Lysosome
- 10 Mumps and measles are caused by :
(A) RNA naked viruses (B) RNA enveloped viruses
(C) DNA naked viruses (D) DNA enveloped viruses
- 11 Important vector in a modern genetic engineering technique is :
(A) Plasmid (B) Nucleoid (C) Ribosome (D) Mesosome
- 12 Based on molecular data, euglenoids are thought to be closely related to :
(A) Brown Algae (B) Green Algae (C) Diatom (D) Zooflagellates
- 13 Cell wall of fungi is made up of :
(A) Pectin (B) Chitin (C) Murein (D) Cellulose
- 14 Male gametophyte has two wings in :
(A) Cycas (B) Pinus (C) Taxus (D) Picea
- 15 Process of shedding off the exoskeleton in arthropods is called :
(A) Ecdysis (B) Excretion (C) Lysis (D) Splitting
- 16 Arthropods which are mostly aquatic are called :
(A) Insects (B) Arachnids (C) Crustaceans (D) Myriapods
- 17 The most abundant Photosynthetic pigment among the chlorophylls is :
(A) Chlorophyll a (B) Chlorophyll b (C) Chlorophyll c (D) Chlorophyll d



SECTION - I

DGK-1-24 16

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

- i Why are lipids considered to be high energy compounds ?
- ii In enzymes, what happen when Non – Protein part attaches and detaches from protein part ?
- iii What is the difference between prosthetic group and co-enzyme ?
- iv Differentiate the Irreversible and Reversible inhibitors.
- v What is Histoplasmosis ? How does its infection occurs ?
- vi How do the predator fungi obtain their food ?
- vii How fertilization in Reptilia differ from Amphibia ?
- viii What is metameric segmentation ? In which phylum it is present ?
- ix Why are Echinoderms placed closest to chordates ?
- x How respiration takes place in amphioxus ?
- xi Give molecular formula of chlorophyll “ a ” and chlorophyll “ b ”.
- xii Write down importance of ATP.

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

- i Define Tissue level. Give an example each of animal and plant tissue
- ii What do you know about “ Integrated Disease Management ” ?
- iii Why centrifugation is necessary for cell fractionation ?
- iv What is endocytosis ? Name its types.
- v Kingdom Protista is defined by exclusion. Why ?
- vi What do you know about choanoflagellates ?
- vii What is the role of diatoms in aquatic ecosystem ?
- viii What is the infamous role of water molds in human history ?
- ix Why a scuba diver breaths pressurized air from cylinders ?
- x Which respiratory pigment has more affinity with oxygen ? Write its function.
- xi Differentiate the open and closed circulatory system. Give an example
- xii What are causes of extracellular Oedema ?

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

- i What are mumps and measles ?
- ii Give economic importance of cyanobacteria.
- iii Compare annulus with stomium.
- iv Why bryophytes are called amphibious plants ?
- v Differentiate the microphylls and megaphylls.
- vi What is protonema ? Give its structure.
- vii Narrate the terms appendix and appendicitis.
- viii Define Dyspepsia. Give its symptoms.
- ix What are Fluid feeders ? Give two examples.

SECTION-II

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

Q.5.(A)	What are inductive and deductive reasoning ? How can a biological problem be solved through biological method ?	4
(B)	What is diving reflex ? Explain in detail.	1+3
Q.6.(A)	What is peptide bond ? Discuss primary and secondary structure of protein.	1+3
(B)	What are Lichens ? Discuss the ecological importance of Lichens and mycorrhizae.	1+3
Q.7.(A)	Write down structure and functions of endoplasmic reticulum and Golgi complex.	2+2
(B)	How would you explain digestion in small intestine ?	3+1
Q.8.(A)	Describe life cycle of Bacteriophages.	4
(B)	Describe at least light functions of Blood.	4
Q.9.(A)	Explain nutrition of bacteria.	4
(B)	Describe the respiratory chain with the help of figure.	3+1



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 marks in that question.

QUESTION NO. 1

DOK-2-24

- 1 When CO₂ enters in Calvin cycle, the immediate acceptor of CO₂ is :
 (A) 3-phosphoglycerate (B) 1-3 bisphosphoglycerate
 (C) Ribulose bisphosphate (D) Glyceraldehyde phosphate
- 2 Zymogen cells of gastric glands secrete :
 (A) Hydrochloric acid (B) Mucous (C) Maltose (D) Pepsinogen
- 3 During photorespiration, glycolate diffuses into the membrane bounded organelle is :
 (A) Golgi body (B) Peroxisome (C) Ribosome (D) Lysosome
- 4 Cerebral infraction is also known as :
 (A) Stroke (B) Haemorrhage (C) Heart attack (D) Hypertension
- 5 The uncontrolled production of white blood cells result in :
 (A) Thalassemia (B) Oedema (C) Leucaemia (D) Asthma
- 6 Triassic, Jurassic and cretaceous are periods of era :
 (A) Cenozoic (B) Mesozoic (C) Paleozoic (D) Proterozoic
- 7 Which of the following is not conjugated molecule ?
 (A) Polysaccharide (B) Glycoprotein (C) Glycolipid (D) Lipoprotein
- 8 The detachable cofactor of an enzyme is called :
 (A) Apoenzyme (B) Co-enzyme (C) Activator (D) Prosthetic group
- 9 Prokaryotic cell wall has :
 (A) Cellulose (B) Cutin (C) Lignin (D) Peptidoglycan
- 10 Which one is an insect ?
 (A) Cray fish (B) Jelly fish (C) Silver fish (D) Star fish
- 11 The thick walled reproductive cell of cyanobacteria is called :
 (A) Heterocyst (B) Akinete (C) Hormogonia (D) Trichome
- 12 Late blight of potato is caused by :
 (A) Slime mold (B) Ascomycota (C) Oomycota (D) Zygomycota
- 13 The ecologically important bio-indicator of air pollution :
 (A) Mycorrhizae (B) Lichen (C) Yeast (D) Bacteria
- 14 The earliest group of vascular plant is :
 (A) Psilopsida (B) Pteropsida (C) Lycopsida (D) Sphenopsida
- 15 The pores from which water leaves the body of sponges are called :
 (A) Mouth (B) Anus (C) Ostium (D) Osculum
- 16 The body cavity of nematoda is :
 (A) Coelom (B) Pseudocoelom (C) Blastocoel (D) Haemocoel
- 17 Yellow to orange colour pigments present in chloroplast are :
 (A) Chlorophyll 'a' (B) Carotenoids (C) Carotenes (D) Xanthophylls

QUESTION NO. 2 Write short answers to any Eight (8) of the following *DGK-2-24* 16

- i Define metabolism, name its two processes.
- ii How would you differentiate apoenzyme from holoenzyme ?
- iii What is Lock and Key model ? Who proposed it ?
- iv Enlist two conditions that destroy enzyme catalysis by disrupting bonds between atoms in an enzyme.
- v How do fungi resemble animals ?
- vi What are saprobic fungi ? Write their effect on environment.
- vii How does sac like digestive system contrast with tube like digestive system ?
- viii Define metamorphosis. Write its types.
- ix Write economic importance of Sharks.
- x What is syrinx ? Give its function.
- xi How ATP is formed during light dependent reaction ?
- xii What is net production of ATP in glycolysis ?

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

- i Differentiate chemotherapy and radiotherapy.
- ii Define biodiversity. Give percentage of different groups of organisms on the earth.
- iii What are plastids ? Give names of different types of plastids.
- iv Give any two important functions of Golgi Apparatus.
- v Write down evolutionary significance of Euglenoids.
- vi Give different types of habitats of algae.
- vii What are choanoflagellates ? Give their similarities with sponges.
- viii Give role of micronucleus and macronucleus of ciliates.
- ix Where carbonic anhydrase is present ? Give its role.
- x How does CO₂ affect oxygen carrying capacity of haemoglobin ?
- xi Differentiate symplast and apoplast pathways taken by water to reach xylem tissues.
- xii How can we avoid heart attack ?

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

- i What is Poliomyelitis ? Give its causes.
- ii Write the types of spiral shaped bacteria.
- iii Why Bryophytes are called amphibians of plants ?
- iv What are sori and false indusium ?
- v Define Double Fertilization ? Give its importance.
- vi What is protonema ? In which group of plants it is found ?
- vii Define symbiotic nutrition. Give one example.
- viii Compare antiperistalsis and peristalsis.
- ix Write functions of Lacteals.

SECTION-II

Note: Attempt any Three questions from this section

8 x 3 = 24

Q.5.(A)	Compare deductive reasoning with inductive reasoning.	2+2
(B)	How man is responsible for respiratory disorders ? Comment.	4
Q.6.(A)	Discuss the Watson and Crick Model of DNA and draw a labeled diagram.	3+1
(B)	Write different methods of Asexual reproduction in Fungi.	1+1+1+1
Q.7.(A)	What are plastids ? Describe types of plastids and functions.	1+1+2
(B)	Define a parasite. Write a note on parasitic nutrition.	1+3
Q.8.(A)	Write an account on AIDS	1+2+1
(B)	What is Transpiration ? Describe its different types.	4
Q.9.(A)	What are physical methods to control bacteria ?	1x4
(B)	Explain that chloroplasts are the sites of photosynthesis in plants ?	4

