

Roll No \_\_\_\_\_ (To be filled in by the candidate) (Academic Sessions 2019 – 2021 to 2022 – 2024)

**BIOLOGY** 223-1<sup>st</sup> Annual-(INTER PART – I) Time Allowed : 20 Minutes

Q.PAPER – I ( Objective Type ) GROUP – I Maximum Marks : 17

PAPER CODE = 6461 *CHR-11-1-23*

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	The reasoning which moves from specific to general : (A) Productive (B) Inclusive (C) Deductive (D) Inductive
2	Nucleohistones play an important role in the regulation of : (A) Assimilation (B) Nerve impulse (C) Gene expression (D) Gene replication
3	Which is active form of protein digesting enzyme : (A) Lipase (B) Pepsin (C) Pepsinogen (D) Amylase
4	Who discovered the nucleus in the cell 1 <sup>st</sup> time : (A) Robert Koch (B) F. Mischer (C) P.A Leven (D) Robert Brown
5	The major cells infected by HIV are : (A) Red blood cells (B) White blood cells (C) T-lymphocyte (D) Platelets
6	Spirochete bacteria are : (A) Thick (B) Rigid (C) Thin and flexible (D) Rigid and flexible
7	Which parasitic flagellate cause sleeping sickness : (A) Abacter (B) Trypanosoma (C) Paramecium (D) Stentor
8	The ecological aspect of fungi is : (A) Runner (B) Parasitic (C) Pathogenic (D) Recycler
9	The example of arthropyte is : (A) Equisetum (B) Lycopodium (C) Psilotum (D) Selaginella
10	The internal buds in the sponges are called : (A) Substratum (B) Osculum (C) Gemmules (D) Blastostyle
11	The most primitive and jawless fishes include the class : (A) Chondrichthyes (B) Cyclostomata (C) Osteichthyes (D) Operculata
12	Which one is energy capturing process : (A) Thermodynamics (B) Photosynthesis (C) Respiration (D) Bioenergetics
13	In which part of chloroplast dark reactions take place : (A) Grana (B) Intergrana (C) Stroma (D) Thylakoid
14	Which is the example of omnivore : (A) Earthworm (B) Parrot (C) Goat (D) Crows
15	The volume of residual air in the human lungs is : (A) 1.5 litre (B) 3.5 litre (C) 5 litre (D) 2.5 litre
16	Which type of leucocytes form pus at infection sites : (A) Basophils (B) Neutrophils (C) Oesinophils (D) Leptophils
17	Antibodies are manufactured in : (A) B lymphocytes (B) Erythrocytes (C) Leucocytes (D) Bryophytes

**SECTION – I**

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**2. Write short answers to any EIGHT (8) questions :**

16

- (i) Give the function of mRNA.
- (ii) Define reversible and irreversible inhibitors.
- (iii) Differentiate between apoenzyme and holoenzyme.
- (iv) Give the effect of temperature on the rate of enzyme action.
- (v) What is aspergillosis?
- (vi) Give two ecological importance of fungi.
- (vii) Compare bilateral symmetry and radial symmetry.
- (viii) Give two characteristics of phylum Cnidaria with example.
- (ix) What are tunicates? Give example.
- (x) Why birds have gizzard, justify.
- (xi) What are cytochromes? Give their role.
- (xii) Define Glycolysis, where it takes place?

**3. Write short answers to any EIGHT (8) questions :**

16

- (i) What is the use of chemotherapy?
- (ii) Define biodiversity. Give percentage of different groups of organisms.
- (iii) Write down functions of endoplasmic reticulum. (at least 4)
- (iv) What is cell fractionation?
- (v) Give important features of red algae.
- (vi) What are trichonymphas, give role.
- (vii) Define thallus.
- (viii) Give two features of ciliates.
- (ix) What are fronds?
- (x) Differentiate between homosporous and heterosporous.
- (xi) Why pericardium is important for heart?
- (xii) What do you know about blue babies?

**4. Write short answers to any SIX (6) questions :**

12

- (i) Write the scientific name of potato and tomato.
- (ii) How microbes are controlled by disinfectants?
- (iii) Differentiate between ingestion and egestion.
- (iv) How does absorption of fats differ from absorption of glucose?
- (v) What is the role of 'secretin' in digestion?
- (vi) How does breathing differ from cellular respiration?
- (vii) Give percentage of CO<sub>2</sub> in arterial and venous blood.
- (viii) Why photorespiration occurs in plants?
- (ix) What is epiglottis? Write its function.

**SECTION – II**

**Note : Attempt any THREE questions.**

5. (a) How scientific problem is resolved? Write its methodology. 4
- (b) Explain lymphatic system in man. 4
6. (a) Write a note on Acylglycerols. 4
- (b) Draw the life cycle of Rhizopus (Black Bread Mold). 4
7. (a) Describe chemical methods for the control of bacteria. 4
- (b) Write down characteristics of anthocerosida. 4
8. (a) Describe the infection cycle of HIV. 4
- (b) Photosynthesis is a energy producing process. Justify the statement. 4
9. (a) What are the four main differences between prokaryotes and eukaryotes? 4
- (b) Explain the phenomenon of digestion in oral cavity of human's. 4



Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	Loligo, Sepia and Octopus are examples of class : (A) Bivalvia (B) Cephalopoda (C) Oligochaeta (D) Gastropoda
2	Bacteria divide at exponential rate during : (A) Decline phase (B) Log phase (C) Lag phase (D) Stationary phase
3	The number of chloroplast in each mesophyll cell is about : (A) 10 – 100 (B) 10 – 200 (C) 20 – 100 (D) 20 – 200
4	In free state, glucose is present in : (A) Dates (B) Amylose (C) Glycogen (D) Cellulose
5	Histamine is produced by : (A) Neutrophils (B) Eosinophils (C) Basophils (D) Monocytes
6	Fungi can tolerate wide range of pH from : (A) 2 – 9 (B) 3 – 10 (C) 4 – 11 (D) 1 – 13
7	The nucleus and cytoplasm collectively form : (A) Cytosol (B) A Sol. (C) A Gel (D) Protoplasm
8	The number of species of insects in biodiversity is : (A) 17.6 (B) 53.1 (C) 19.9 (D) 9.4
9	Madreporite is related to : (A) Annelida (B) Echinodermata (C) Birds (D) Mollusca
10	The number of air sacs in birds are : (A) 6 (B) 7 (C) 8 (D) 9
11	Double fertilization occurs in : (A) Bryophyta (B) Pteridophytes (C) Angiosperms (D) Gymnosperms
12	Hepatitis “ D ” is also called : (A) Serum hepatitis (B) Infectious hepatitis (C) Delta hepatitis (D) Bacterial hepatitis
13	The left systemic disappears in : (A) Amphibians (B) Birds (C) Fishes (D) Reptiles
14	Mosquitoes inject plasmodium to human in form of : (A) Cysts (B) Sporozoites (C) Merozoites (D) Gametocytes
15	Non-protein part attached to enzyme is called : (A) Activator (B) Coenzyme (C) Co-factor (D) Substrate
16	Dark reactions take place : (A) Thylakoids (B) Grana (C) Stroma (D) Mitochondria
17	Liver secretes bile into : (A) Stomach (B) Duodenum (C) Jejunum (D) Ileum

**SECTION – I**

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**2. Write short answers to any EIGHT (8) questions :** 16

- (i) Differentiate between fibrous and globular proteins.
- (ii) How does Lock and Key model of enzymes differ from induce fit model of enzymes?
- (iii) Explain effects of PH at the activity of enzymes.
- (iv) Distinguish between irreversible and reversible inhibitors.
- (v) What do you know about active predators fungi?
- (vi) Differentiate between rusts and smuts.
- (vii) How does corals differ from coral reefs?
- (viii) Write zoological names of any two parasites belong to aschelminthes.
- (ix) Write any four characteristics of class cyclostomata.
- (x) Why varanope is important in mammals?
- (xi) Define bioenergetics.
- (xii) What is the role of RUBP for plants?

**3. Write short answers to any EIGHT (8) questions :** 16

- (i) Differentiate tissue and organ level.
- (ii) What is the effective control of a disastrous disease, write shortly?
- (iii) Define fluid mosaic model of cell membrane.
- (iv) What are ribonucleo-proteins? What are their functions?
- (v) How choanoflagellates differ from trichonymphas?
- (vi) Why the ciliates have two nuclei?
- (vii) How phylum rhodophyta is unique from the other groups of algae?
- (viii) Write a short note on amoebas.
- (ix) Differentiate class gymnospermae from angiospermae.
- (x) What are arthropytes? Write down the name of one living organism.
- (xi) What is the result of uncontrolled growth of white blood cells?
- (xii) Define the term guttation.

**4. Write short answers to any SIX (6) questions :** 12

- (i) HIV is host specific. Give reason.
- (ii) What are plasmids?
- (iii) What are gastric glands?
- (iv) Differentiate between appendix and appendicitis.
- (v) How trypsinogen is activated?
- (vi) Compare composition of inhaled and exhaled air.
- (vii) How diving mammals differ from non divers?
- (viii) What is asthma?
- (ix) Differentiate between pleura and diaphragm.

**SECTION – II**

**Note :** Attempt any THREE questions.

5. (a) Describe the conservation and protection of environment. 4
- (b) In what way transpiration is evil or beneficial for plants. 4
6. (a) What are oligosaccharides? Give example. 4
- (b) Describe land adaptation of fungi. 4
7. (a) How many groups of bacteria are present in nature on the basis of shape of bacteria? 4
- (b) Describe life cycle of pinus. 4
8. (a) Write a detailed note on Hepatitis, causes and different types. 4
- (b) What is oxidative phosphorylation? Explain respiratory ETC. 4
9. (a) Write a note on golgi apparatus. 4
- (b) Describe digestion in oral cavity in man. 4