



Inter (Part-I)-A-2022

Roll No. _____ (To be filled in by candidate)

(For all sessions)

Paper Code 6 4 6 1

Biology (Objective Type)

Time: 20 Minutes

RWP-22

Marks: 17

NOTE: Write answers to the questions on the objective answer sheet provided. Four possible answers

A, B, C and D to each question are given. Which answer you consider correct, fill the corresponding circle A, B, C or D given in front of each question with Marker or pen ink on the answer sheet provided.

- 1.1. Mammals became dominant in:
(A) Cenozoic era (B) Mesozoic era (C) Palaeozoic era (D) Proterozoic era
2. Fats are insoluble in:
(A) Ether (B) Alcohol (C) Water (D) Chloroform
3. Co-enzyme is closely related to:
(A) Minerals (B) Proteins (C) Enzymes (D) Vitamins
4. Haploid Chromosome number in *Drosophila melanogaster* is:
(A) 8 (B) 4 (C) 23 (D) 13
5. Micro-organisms which are composed of only proteins:
(A) Viroids (B) Virion (C) Prions (D) Bacteria
6. Prokaryotes that do not have peptidoglycan cell wall are:
(A) Cyanobacteria (B) Gram-Positive Bacteria (C) Archaeobacteria (D) Gram-Negative Bacteria
7. Protozoans having two kinds of Nuclei are called:
(A) Actinopods (B) Ciliates (C) Zooflagellates (D) Apicomplexans
8. Histoplasmosis is a serious infection of:
(A) Heart (B) Brain (C) Kidney (D) Lungs
9. Pteropsida is further sub-divided into:
(A) 2-classes (B) 3-classes (C) 4-classes (D) 5-classes
10. Flame cells collect waste products from body fluid, so part of:
(A) Respiratory system (B) Digestive system (C) Excretory system (D) Nervous system
11. Some fishes fill their swim bladder by gulping of air, it shows their swimmer bladder is connected with:
(A) Pharynx (B) Larynx (C) Esophagus (D) Epiglottis
12. The number of CO_2 molecules required to produce one molecule of Triose sugar are:
(A) 3 (B) 6 (C) 4 (D) 2
13. Energy is required for nerve conduction which is provided by the Phenomenon of:
(A) Photosynthesis (B) Respiration (C) Digestion (D) Excretion
14. In root nodules, nitrogen fixing bacteria convert nitrogen into:
(A) Ammonia (B) Urea (C) Nitrates (D) Uric Acid
15. In earthworm, exchange of gases mainly occurs through:
(A) Gills (B) Lungs (C) Book Lungs (D) Skin
16. Average velocity of sugar movement in Phloem is 1m/hour but rate of diffusion is 1m/eight years. It shows diffusion is:
(A) Too fast (B) Medium process (C) Slow and fast (D) Too slow
17. During day time, solute concentration in plant guard cells increases, then water potential in guard cells:
(A) Decreases (B) Increases (C) Not change (D) Increases and then Decreases

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Roll No. (to be filled in by the candidate)

(For all sessions)

Biology (Essay Type)

Time: 2:40 Hours

Rup-22
Section - I

Marks: 68

2x22=44

2x8=16

2. Write short answers of any eight parts from the following.

- i. Which type of Carbohydrate is stored in our liver and muscle cells? Give its two characteristics.
- ii. Why poisons act as inhibitors?
- iii. How can the effect of reversible inhibitors be neutralized?
- iv. Why co-factors are necessary for proper functioning of enzymes?
- v. What is Nuclear mitosis? In which organisms it occurs?
- vi. What are Conidia? How they differ from spores?
- vii. What is Pseudocoelom. In which group of organisms it is found?
- viii. Differentiate between radial and bilateral symmetry.
- ix. Name the three bones of middle ear.
- x. What is the role of Swim bladder in fishes?
- xi. What are accessory pigments? Give examples.
- xii. What is oxidative phosphorylation?

3. Write short answers of any eight parts from the following.

2x8=16

- i. Define Chemotherapy. Mention its disadvantages.
- ii. Differentiate between inductive and deductive reasoning.
- iii. In what way mitochondrial matrix is of vital importance?
- iv. Narrate any four functions of smooth endoplasmic reticulum.
- v. Do you know about flagellate who lives as symbiont?
- vi. On what basis it is accepted that green algae are ancestor of plants?
- vii. What are actinopods?
- viii. What are diatoms?
- ix. Distinguish between monocots and dicots.
- x. What is annulus and stomium?
- xi. Define bleeding.
- xii. What do you know about myocardial infarction?

4. Write short answers of any six parts from the following.

2x6=12

- i. Write down four symptoms of AIDS.
- ii. State the postulates of germ theory of disease.
- iii. What is heart burn?
- iv. How Jaundice is caused?
- v. What is omnivorous mode of nutrition in animals?
- vi. How breathing is different from cellular respiration?
- vii. What is photorespiration? How it affects the plant growth?
- viii. What is vocal cord? Write its function.
- ix. Why respiratory system of birds is most elaborated?

Section - II**NOTE: Answer any three questions from the following.**

8x3=24

5. (a) How reasoning is used to tentatively explain a set of observations? 4
(b) Define osmosis and describe different pathways adopted by water to reach xylem tissue. 4
6. (a) Compare fibrous proteins with globular proteins. (b) Discuss various methods of asexual reproduction in Fungi. 4+4=8
7. (a) How bacterial walls show different colours during staining? Discuss differences between major bacterial groups based upon cell wall. (b) How seed formation is important for land plants? Write any two steps of seed evolution. 4+4=8
8. (a) Give classification of corn plant. (b) What is glycolysis? Draw its scheme of reactions and give its energy balance. 3+5=8
9. (a) Explain the structure and functions of Golgi apparatus (b) Explain the phenomenon of digestion in Cockroach with diagram. 4+4=8