

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

(For all sessions)

Biology (Essay Type)

Time: 2:40 Hours

Marks: 68

Section - I

2x22=44

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

2x8=16

- 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. 4+4=8
(b) Discuss various methods of asexual reproduction in Fungi.
7. (a) How bacterial walls show different colours during staining? Discuss differences between major bacterial groups based upon cell wall. 4+4=8
(b) How seed formation is important for land plants? Write any two steps of seed evolution.
8. (a) Give classification of corn plant. 3+5=8
(b) What is glycolysis? Draw its scheme of reactions and give its energy balance.
9. (a) Explain the structure and functions of Golgi apparatus 4+4=8
(b) Explain the phenomenon of digestion in Cockroach with diagram.