

Time: 2:40 Hours

SUBJECTIVE

Marks: 68

Note: Section I is compulsory, Attempt any THREE (3) questions from Section II.

(SECTION – I)**2. Write short answers to any EIGHT questions.**

(2 x 8 = 16)

- i - Define that branch of Biology which deals with study of chemicals and give its significance.
- ii - How irreversible inhibitors inhibit the activity of enzyme?
- iii - How active site of an enzyme is formed?
- iv - How the lining of digestive tract is protected by the action of pepsin?
- v - How spores are different from conidia?
- vi - What is histoplasmosis? How is it caused?
- vii - Define metamorphosis. Give example.
- viii - How osculum is different from ostia?
- ix - What are the features of archaeopterys?
- x - Why exoskeleton of echinoderms may be called endoskeleton?
- xi - Define bioenergetics.
- xii - What is oxidative phosphorylation?

3. Write short answers to any EIGHT questions.

(2 x 8 = 16)

- i - Define population and state its attributes.
- ii - Differentiate between organ and organelle.
- iii - Enlist two self replicating organelles of the cell and mention their roles.
- iv - Why food is stored in underground parts of plants?
- v - How ciliates differ from other protozoans?
- vi - Why limestone deposits are formed from foraminiferans rather than actinopods?
- vii - What is African sleeping sickness?
- viii - Write down importance of algae.
- ix - Differentiate between homospory and heterospory.
- x - What is overtopping?
- xi - Differentiate between antigen and antibodies.
- xii - Define plasmolysis.

4. Write short answers to any SIX questions.

(2 x 6 = 12)

- i - What is hepatitis? How is it caused?
- ii - Differentiate between flagellum and flagellin.
- iii - What is hunger pang? Give its reason.
- iv - How hydra captures its prey?
- v - What is hemorrhoids? Give its treatment.
- vi - How does respiration take place through cork tissues?
- vii - In hot dry season, why the level of O₂ rises inside the leaf?
- viii - Why larynx is important during the act of swallowing?
- ix - Why myoglobin pigment is required by animals in addition to haemoglobin?

(SECTION – II)

Note: Attempt any three (3) questions from Section II.

5. (a) In what ways Biology helps us to save our deteriorating surrounding? (4)
(b) Explain the structure of human heart with the help of diagram. (4)
6. (a) Explain primary and quaternary structure of proteins, each with one example. (4)
(b) Fungi are well adapted to land. Give reasons. (4)
7. (a) How antibodies affect the health of humans? Give detail. (4)
(b) Why microphylls are different from megaphylls? How evolution of leaf has taken place? (1+3)
8. (a) Describe life cycle of bacteriophage. (4)
(b) Give an account on light independent reactions of photosynthesis. (4)
9. (a) Differentiate between prokaryotic and eukaryotic cells. (4)
(b) Explain the digestion in cockroach. (4)