



## MAC Education

## XI Biology Sample Paper I

**Very short answer type questions (Any 10) - Each 1 Marks**

- 1) Name the fungus which causes disease in wheat (i) rust (ii) Smut.
- 2) Define species.
- 3) Which substance has structural similarity to floridean starch?
- 4) Which part of opuntia is modified to form spines?
- 5) Name the arthropod which is a (i) Living fossil (ii) Gregarious pest
- 6) Which kind of roots have polyarch vascular bundles?
- 7) Name the parts of bacterial flagella.
- 8) Differentiate between tendon and ligament.
- 9) Why is mitosis called equational division?
- 10) What is the function of ATP in cell metabolism?
- 11) Mention two ways of absorption of water by root hairs in plants.
- 12) Define hydroponics.

**Short answer type questions (Any 10) - Each 2 Marks**

- 1) Why are red tides caused and why are they harmful?
- 2) Why growth and reproduction cannot be taken as defining property of all living organisms?
- 3) *Sphagnum* has a lot of economic importance. Justify
- 4) Flower is a modified shoot. Justify
- 5) Define metagenesis with a suitable example.
- 6) What are trichomes? State their functions.
- 7) Differentiate between RER and SER.
- 8) Give the location of hepatic caecae in cockroach? What is their function?
- 9) What happens during S phase of interphase?
- 10) Why do starch give blue black colour with iodine?
- 11) Xylem transport is unidirectional and phloem transport bi-directional. Why?
- 12) How does Leghemoglobin protect the enzyme nitrogenase ?

**Long answer type questions (Any 10) - Each 3 Marks**

- 1) Some symbiotic organisms are very good pollution indicators and composed of a chlorophyllous and a non-chlorophyllous member. Describe them.
- 2) Define : (a) Genus (b) Family (c) Order
- 3) The gametophytes of bryophytes and pteridophytes are different from that of gymnosperms. How?
- 4) Explain the different types of phyllotaxy. Give one example of each type.
- 5) Compare the water transport (vascular) system of poriferans and the echinoderms.
- 6) Palm is a monocotyledonous plant, yet it increases in girth. How is it possible?
- 7) Give structural details of an eukaryotic nucleus along with its diagram.
- 8) (a) What is open circulatory system ?  
(b) Explain the respiratory system of cockroach.
- 9) List the significance of mitosis.
- 10) Explain peptide bond, glycosidic bond and phosphodiester bond.
- 11) What is mycorrhiza ? How is the mycorrhiza association helpful in absorption of water and minerals in plants ?
- 12) Explain the steps in biological nitrogen fixation in brief.

**Very Long answer type questions (Any 8) - Each 5 Marks**



- 1) Some primitive relatives of animals live as predators or parasites and are divided into four major groups. Elaborate.
- 2) What are the universal rules of nomenclature? What does 'Linn' refer to in *Mangifera indica* Linn. ?
- 3) Draw the Life Cycle of an angiosperm along with a brief note on double fertilization.
- 4) Describe various stem modifications associated with food storage, climbing and protection.
- 5) Differentiate between class Chondrichthyes and class Osteichthyes.
- 6) What is secondary growth in plants? Describe various steps of secondary growth in dicot stem with the help of diagrams.
- 7) What is cell cycle? Explain the events occurring in the cycle.
- 8) List the 6 classes of enzymes alongwith their functions.
- 9) (a) Describe the pressure flow hypothesis of translocation of sugar in plants.  
(b) Explain the mechanism of closing and opening of stomata.
- 10) Describe with diagrams how roots nodules are formed in leguminous plants.

