

2017

Full Marks : 40

Time : 2 hours

All Question carry equal marks.

*Answer any **four** questions from any one group as per your specialization.*

Draw neat labeled diagrams wherever necessary

Group - A

(Plant Anatomy, Evolution, Embryology, Development Botany)

1. (a) What do you understand by anomalous secondary growth ? Why they happen ?
(b) Give an account of origin of live.
2. (a) Describe the principles of arrangement of mechanical tissues in plants ?
(b) Give a comparative account between sympatric and allopatric population ?
3. (a) Define apomixes ? What is its application in plant development.
(b) Explain somatic hybridization. What is its advantage ?
4. (a) Compare between the development of dicot and monocot embryo ?
(b) Describe how protoplast culture is carried out.
5. (a) Describe the role of photoperiod on flowering process?
(b) Describe the molecular mechanism of Auxin towards plants growth.

(Turn over)

(2)

Group - B

(Animal Physiology, Evolution and Taxonomy)

1. (a) Describe the mechanisms of muscle contraction.
(b) What is cardiac cycle ? Describe its mechanism of regulation.
2. (a) Define fossil and describe the process of fossilization. Comment on their significance.
(b) Write an essay on animal distribution and mention the factors affecting them.
3. (a) Describe synthetic theory of evolution.
(b) Explain "Species Concept".
4. (a) Describe different patterns of evolution.
(b) Give the brief history of Taxonomy.
5. (a) Describe the physiology of digestion of lipid.
(b) Explain the mechanism of conduction of nerve impulse.
6. (a) Give an outline classification of animals enumerating characteristic features of different phyla.
(b) Give the concepts of chemotaxonomy, cytotoxonomy and numerical taxonomy.