

**2018**

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 )**

- (a) Differentiate between secondary and anomalous secondary growth in plants.  
(b) What is organic evolution ? How it is different from other form other form of evolution.
- (a) Give a structural account of mechanical tissue. Explain how they provide strength.  
(b) Write notes on geographical distribution of plants.
- (a) Describe the process of microsporogenesis.  
(b) Describe the methods of protoplast fusion. What are its advantages ?
- (a) Describe the process of megasporogenesis.  
(b) Explain totipotency. What makes the plant cell totipotent.
- (a) Describe the stages of seed germination.  
(b) Give a list of responses towards plant growth and development of auxin and ABA.

(2)

**Group - B**

**( Animal Physiology, Evolution and Taxonomy )**

- (a) Describe the physiology of digestion of protein.  
(b) Explain the mechanism of synaptic transmission.
- (a) Explain the physiology of excretion in mammals.  
(b) Write an essay on "Fossils and fossilization". Mention their importance in organic evolution
- (a) Explain Hardy - Weinberg's law with suitable example.  
(b) Describe the types speciation and mention their significance in evolution.
- (a) Explain the process of Ultra - filtration in mammalian kidney.  
(b) Explain "Bohr's effect".
- (a) Describe different methods for preservation and identification of animals.  
(b) Discuss the principles of Classification and procedures in Taxonomy.
- (a) Write a note on "Continental drift".  
(b) Discuss the role of ecology in Taxonomy.

*(Turn over)*