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**BACHELOR OF SCIENCE (CBCS-2018 COURSE)**  
**S. Y. B. Sc. Sem-III : WINTER- 2022**  
**SUBJECT : BOTANY : PLANT ANATOMY & EMBRYOLOGY**

Day : Saturday  
Date : 17-12-2022

**W-18353-2022**

Time : 10:00 AM-01:00 PM  
Max. Marks : 60

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**N.B.**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Draw neat and labelled diagrams **WHEREVER** necessary.
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- Q.1** Attempt any **TWO** of the following: (12)
- a) Explain mechanism of opening and closing of stomata.
  - b) Describe primary structure of Dicotyledon root.
  - c) Describe vascular cambium in secondary body of plants.
- Q.2** Attempt any **TWO** of the following: (12)
- a) Comment on permanent tissues in plants with an example.
  - b) Explain anomalous secondary growth in *Bignonia*.
  - c) What is meristem? Explain in detail root apical meristem.
- Q.3** Attempt any **TWO** of the following: (12)
- a) Explain in brief structure of typical 8-nuclear embryo sac in female gametophyte.
  - b) Comment on female gametophyte and give structure of ovule.
  - c) What is trichome? Explain its various types with suitable example.
- Q.4** Attempt any **THREE** of the following: (12)
- a) What is endosperm? Explain nuclear endosperm.
  - b) Give general characters and function of mechanical tissue.
  - c) Give classification of meristems on the basis of position.
  - d) What is ovule? Comment on orthotropus ovule.
- Q.5** Attempt any **FOUR** of the following: (12)
- a) Write note on functions of epidermal tissue.
  - b) Explain in brief polyembryonic structure.
  - c) Comment on helobial endosperm.
  - d) Write note on Histogen theory.
  - e) Explain monosporic embryo sac.
  - f) Describe in short tetrasporic embryo sac.

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