

**2023**  
**B.A./B.Sc.**  
**Third Semester**  
GENERIC ELECTIVE – 3  
**BOTANY**  
*Course Code: BOG 3.11*  
(Plant Anatomy & Embryology)

*Total Mark: 70*  
*Time: 3 hours*

*Pass Mark: 28*

*Answer five questions, taking one from each unit.*

**UNIT-I**

1. (a) Differentiate between meristematic and permanent tissues. 4  
(b) Discuss the general characteristics and function of collenchyma tissue and sclerenchyma tissue. 5+5=10
2. Enumerate the general arrangements of tissues in 7×2=14  
(a) Leaves  
(b) Stem

**UNIT-II**

3. Explain how secondary growth takes place in dicot stem with diagram. 14
4. Write notes on the following: 7×2=14  
(a) Seasonal activity of cambium  
(b) Heartwood and sapwood

**UNIT-III**

5. Explain the role of epidermis as protective layer in plants. 14
6. What are xerophytes? Enumerate the morphological and physiological adaptations of xerophytes. 2+6+6=14

#### UNIT-IV

7. Describe the structure and types of ovules with diagrams.  $6+8=14$
8. Write notes on the following:  $7 \times 2=14$
- (a) Anther
  - (b) Double fertilization

#### UNIT-V

9. Define apomixis. Discuss the types of apomixis.  $2+12=14$
10. Explain the process of development of dicot embryo.  $14$
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