

**BINDURA UNIVERSITY OF SCIENCE EDUCATION**  
**FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE**

NRF 202

**DEPARTMENT OF NATURAL RESOURCES**  
**BSc Part II Examination**

Forest Botany

**2 HOURS (70 Marks)**

**INSTRUCTIONS:**

Answer **THREE** questions out of the following five questions. You must answer question **ONE** from **SECTION A** and any **TWO** questions from **SECTION B**.

**SECTION A (COMPULSORY)**

1. (a) Distinguish between the following: [2 Marks]
- (i) Androecium and gynoecium [2 Marks]
  - (ii) Angiosperm and gymnosperm [2 Marks]
  - (iii) Saprogyte and gametophyte [2 Marks]
  - (iv) Phylotaxis and inflorescence [2 Marks]
  - (v) Actinomorphic and zygomorphic floral symmetry
- (b) Discuss root, stem and leaf modifications in plants. [8 Marks]
- (c) Fill in the blank spaces. [12 Marks]

Characteristic	Monocots	Dicots
Typical number of flower parts		
Vascular bundles		
Number of cotyledons		
Leaf venation		
Root system		
Seed germination		

## SECTION B

2. (a) Some plant families have very specialized structures that have their own terms to refer to them. Briefly describe the following structures and identify a family they are found in. You may supplement your description with an illustration [3 Marks]
- i. Spadix [3 Marks]
  - ii. Petaloid styles [3 Marks]
  - iii. Pseudo bulb [3 Marks]
  - iv. Column [3 Marks]
  - v. Glumes [3 Marks]
  - vi. Perigynium [3 Marks]
- (b) Explain what you understand by the term plant identification. [2 Marks]
3. (a) Name five simple leaf arrangements and sketch their appearance. [10 Marks]
- (b) Identify one tree family and describe its leaf type, floral type, fruit and seed dispersal method. [5 Marks]
- (c) State five rules under the international code of botanical Nomenclature (ICBN). [5 Marks]
4. Discuss the socio-economic importance of angiosperms giving particular examples. [20 Marks]
5. (a) Explain how herbarium specimens are collected. [10 Marks]
- (b) Differentiate between primary and secondary growth, and describe where and how each kind of growth occurs. [5 Marks]
- (c) Describe vascular tissue in plants. [5 Marks]

**END OF EXAM**