

UNIVERSITY OF RUHUNA

BACHELOR OF SCIENCE (GENERAL DEGREE) LEVEL I (SEMESTER I)
EXAMINATION – December 2020

SUBJECT: BOTANY
COURSE UNIT: BOT1131 (Plant Anatomy)

Time: One (01) hour

Answer two (02) questions including question No 1

Index No: .

Question No.	Marks
Q1	
Q2	
Q3	
Total	

Use the space given in the question paper for Q1

1. A. State main functions of subterranean part of a typical plant. (10 marks)

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B. Mention three functions of laticifers. (6 marks)

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C. "Plant tissues can be divided into two major types". What are they? (4 marks)

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D. One type of tissue mentioned above is made up of cells or group of cells that have the ability to divide. State main features of that tissue. (10 marks)

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E. The tissue mentioned in Q-D above is categorized based on the position and time of its development.
Name tissues based on the position. (7.5 marks)

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F. Name tissues based on the time of its development. (5 marks)

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G. Briefly explain the main steps in the formation of cells and tissues from a meristem of a plant? (10 marks)

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H. List major differences between monocot and dicot stems. (10 marks)

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I. What are the major cell types found in the ground tissue of a typical plant? (7.5 marks)

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J. Write the main representative cell type and its role in the ground tissue among the above cell types that you mentioned in Q- I. (10 marks)

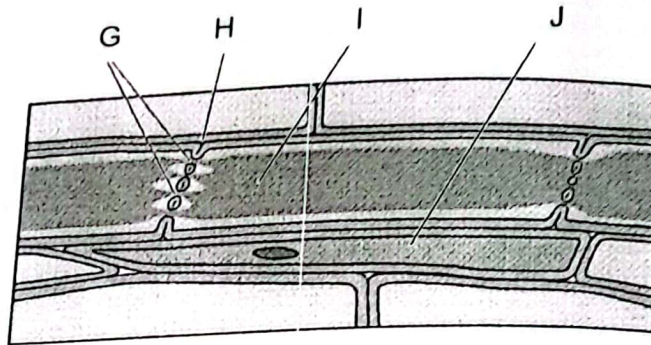
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- K.
- Identify and label the figure given below stating the anatomical features used for the identification. (10 marks)
 - Mention the main function of I and J. (10 marks)

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(100 marks)

- Based on the arrangement of neighboring epidermal cells, stomata are categorized into four major types. Explain those four types using suitable diagrams. (40 marks)
 - “Different cell types in the epidermis are adapted to face the external environment successfully”. Name the cell types except guard cells and briefly explain their anatomical adaptations for external environment. (60 marks)

(100 marks)

- List out major areas in which the knowledge in anatomy of higher plants can be applied for practical purposes. (20 marks)
 - Assume that the floor of your house is cracked due to the penetration by roots of one tree out of the two trees in your home garden. If the two trees are *Mangifera indica* and *Mangifera zeylanica*, give the non-destructive, but scientific, way you would follow to identify the tree responsible for cracks of the floor. (80 marks)

(100 marks)