

**UNIVERSITY OF RUHUNA**  
**BACHELOR OF SCIENCE (GENERAL DEGREE) LEVEL I (SEMESTER I) EXAMINATION**  
**AUGUST 2017**

**SUBJECT: BOTANY**

**Time: 1.5 hrs**

**COURSE UNIT: BOT1112 Plant Diversity, Unity and Evolution**

**Answer four questions including question no.1**

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**1.**

A) Name three domains of cellular organisms.

1.

2.

3.

(3X 01 = 03 Marks)

B) Name the kingdoms of the five kingdom classification system.

(01x5 = 05 Marks)

C) Name three important taxonomic criteria used in modern systematics.

1.

2.

3.

(02x3= 06 Marks)

D) State three reasons for 'viruses do not consider as cellular organisms'.

1.

2.

3.

(02x3=06 Marks)

E) Name four major characteristics of viruses.

- 1.
- 2.
- 3.
- 4.

(4X02 = 08 Marks)

F) Indicate the presence (+) or the absence (-) of following characteristics in the three categories of organisms given in the table.

	<b>Bacteria</b>	<b>Archaea</b>	<b>Eukarya</b>
Cellular organization			
Nuclear Envelop			
Membraned organals			
Peptidoglycon cell wall			
Histones			
Circular chromosomes			
Mitosis and Meiosis			

(1X 21 = 21 Marks)

G) What are the three vegetative forms of Blue Green Bacteria (BGB)?

- 1.
- 2.
- 3.

(3X04 = 12 Marks)

H) Name the three forms of filamentous BGB and provide an example for each?

- 1.
- 2.
- 3.

(3X03 = 09 Marks)

I) What are the common characteristics of fungi?

(10 Marks)

J) Filling the blanks of the following table.

Fungal Phylum	A Distinguishing character	Example	Asexual spore	Sexual spore

(20X01 = 20 Marks)

2.

- i) Give a comparative account on Cyanobacteria and green algae.
- ii) Name different habitats of green algae.
- iii) What are the photosynthetic pigments available in red algae?
- iv) With the aid of suitable diagrams explain the pit connection in red algae.
- v) Briefly explain the significant features in the cell wall of a diatom.

3.

i) Give an example (generic name) for each of the following;

- a) An epiphytic bryophyte
- b) A bryophyte grows in aquatic habitats
- c) A saprophytic bryophyte
- d) A bryophyte grows under xeric conditions

ii) Give five (5) similarities and five (5) differences between Bryophytes and algae.

4.

i) What are the general characters of Pteridophyta?

ii) Name three different types of steles found in Pteridophyta giving labelled diagrams.

iii) Give three common features of Order Ophioglossales.

iv) Name; (Generic name only)

- a) Two epiphytic ferns with dimorphic leaves.
- b) Two aquatic ferns with sporocarps.
- c) A fern grown well in open habitats.
- d) A live vascular plant with unicellular rhizoids.

5.

Briefly discuss the evolutionary changes of the sexual reproductive structures found in vascular plants leading for **seed habit**.

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