



**RAJARATA UNIVERSITY OF SRI LANKA  
FACULTY OF APPLIED SCIENCES**

**Bachelor of Science in Applied Sciences  
First Year – Pre-Semester Examination – February 2023**

**FDN 1203 – GENERAL BIOLOGY**

**Time: Two (02) hours**

**Answer ALL questions in section 'A' on the question paper.**

**SECTION A**

1. a) Mention the **three (03)** principles of Cell Theory.

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**(15 marks)**

- b) Give **five (05)** reasons for considering the cell as a self-contained unit.

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**(25 marks)**

- c) What is the main difference between a prokaryotic and a eukaryotic cell?

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(10 marks)

d) Write **three (03)** advantages of the capsule/ slim layer for a bacterium cell.

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(15 marks)

e) What are the differences between a plant cell and an animal cell?

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(15 marks)

f) State the main function of chloroplast in a plant cell?

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(05 marks)

g) Why does the mitochondrion called as the power house of a cell?

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(10 marks)

h) Which part of the cell commands all the metabolic activities within the cell?

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(05 marks)

2. a) What type of energy is used by green plants in photosynthesis?

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(10 marks)

- b) Name the **three (03)** groups of organisms that can carry out photosynthesis.

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(12 marks)

- c) Write down the chemical reaction of the process of oxygenic photosynthesis.

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(08 marks)

- d) What is meant by the term “cellular respiration”?

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(10 marks)

- e) Give the summarized chemical reaction of cellular respiration.

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(08 marks)

- f) What is the importance of successful reproduction for a population?

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(10 marks)

- g) Explain briefly the “binary fission”, a mode of asexual reproduction.

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(10 marks)

h) State **three (03)** characteristic features of spores.

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**(12 marks)**

j) Give **two (02)** examples of animals reproducing by parthenogenesis.

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**(10 marks)**

k) What is the advantage that sexual reproduction has over asexual reproduction?

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**(10 marks)**

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Answer **TWO (02)** questions in section 'B'.

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#### SECTION B

1. Explain briefly the reasons for the success of arthropods on land. **(100 marks)**
2. Write an essay on the "Carbon cycle". **(100 marks)**
3. Give a concise account on air pollution **(100 marks)**

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