



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

**B.Sc. in Information Technology
First Year – Pre Semester Examination – February 2023**

FDN 1205 – BASIC SCIENCE FOR NON-SCIENCE STUDENTS

Time: 1 hour and 20 minutes

Answer all questions

Use only provide space to answer the questions.

Part II

Section A – Physics

(1) (a) State Newton's Laws of motion.

i. First Law

(03 Marks)

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ii. Second Law

(03 Marks)

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Contd.

iii. Third Law

(03 Marks)

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(b) i. How can Newton's laws of motion be used to explain how rockets are launched into space? (05 Marks)

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ii. Why should we wear seatbelts – use one of Newton's Laws of motion to support your answer? (05 Marks)

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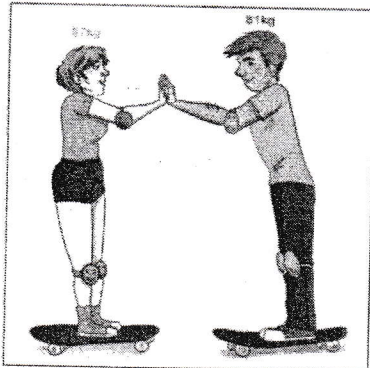
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iii. Two skateboarders stand facing each other. One skateboarder, the woman, weighing 57 kg pushes the other skateboarder the man who is 81kg with a force of 85 N. What is the acceleration of each skateboarder? (06 Marks)



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(2) (a) i. What are the four major types of Galaxies?

(04 marks)

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ii. Write down the name and the shape of the Galaxy that the Earth belongs to.

(04 Marks)

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iii. What is the meaning of Astronomical Unit?

(02 Marks)

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(b) (i) Which planet is the closest to the sun?

(01 Marks)

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Contd.

(ii) Which Planets have rings around them?

(02 Marks)

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(iii) What is the constellation that you can observe Orion Nebula?

(02 Marks)

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(3) (a) (i) What are the three main components of the Earth System?

(03 Marks)

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(ii) Using Volcanic eruption as an example, explain the coupling of Earth System.

(04 Marks)

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(iii) Discuss the difference between mineral and rock according to their origin.

(03 Marks)

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Contd.

Section B - Biology

1. Name and define the levels of organization in ecology.

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(03 marks)

2. Citing suitable examples explain the term "Natural Selection".

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Contd.

(04 marks)

Contd.

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(04 marks)

5. Write three (03) steps that can implement to stop “global warming”.

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(03 marks)

6. Name the six (06) kingdoms in nature.

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(03 marks)

7. State the importance of mRNA for protein synthesis.

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(04 marks)

-End-