

THREE YEAR B.Sc. DEGREE EXAMINATION, DECEMBER 2023/JANUARY 2024.

FIRST SEMESTER

COURSE I – ESSENTIALS AND APPLICATIONS OF MATHEMATICAL PHYSICAL AND  
CHEMICAL SCIENCES

Time : Three hours

Maximum : 70 marks

(No additional sheet will be supplied)

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PART A — ( $5 \times 4 = 20$  marks)

Answer any FIVE questions.

Each question carries 4 marks.

1. Write short notes on general form of a complex number.
2. Define and explain Cartesian form.
3. Explain the electromagnetic interactions.
4. Write short notes on Wave – particle duality.
5. Write short notes on Biomolecules.
6. What are vitamins give examples?
7. Explain food adulteration.
8. Write short notes on application of physics in semiconductor technologies.
9. Write short notes on types of networks.
10. Discuss about Fire walls.

PART B — ( $5 \times 10 = 50$  marks)

Answer ALL the following the questions.

11. (a) Write a brief note on trigonometric ratios and relations.

Or

- (b) Give an account amplitude form and conversions with suitable examples.

12. (a) Explain Newtonian Mechanics and relative mechanics.

Or

- (b) Write a brief note on Laws of Thermodynamics and its significance.

13. (a) Write a brief note on branches of Chemistry and its significance.

Or

(b) Give an account of Periodic Table and its properties.

14. (a) Write a brief note on Quality Control and Instrumentation.

Or

(b) Write a brief note on Environmental Monitoring.

15. (a) Give a brief account of Milestone of computer evolution.

Or

(b) Write a brief note on Network and security concepts.

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