



Dr. V.S. KRISHNA GOVT. DEGREE COLLEGE

(An Autonomous Institution Affiliated to Andhra University)

Reaccredited by NAAC with 'A' Grade(3rd Cycle)

District Resource Centre & Center for Research Studies
Maddilapalem, VISAKHAPATNAM 530 013, Andhra Pradesh



Programme: B.Sc. Honours in Computer Science (Major) 2023-2024

SEMESTER-I

Course Code: 23CSCM11

**Title: ESSENTIALS AND APPLICATIONS OF MATHEMATICAL,
PHYSICAL AND CHEMICAL SCIENCES**

Model Paper

Max Marks: 60

Section A

Answer any five questions from the following (4M× 5 = 20M)

1. Define vectors and discuss vector addition.
2. Define the mean, median, and mode of a given dataset.
3. Write the laws of thermodynamics and their significance.
4. Write the properties of electromagnetic waves.
5. Discuss the branches of chemistry and their significance.
6. Explain the periodic table.
7. Write a short note on vitamins.
8. Explain their importance in living organism.
9. What is Computer Network? Explain various types of Networks
10. Explain about firewalls.

Section B

Answer all the questions (8M× 5 = 40M)

11. (A) Calculate the trigonometric ratios for a given angle and discuss their relations. Provide examples.

(OR)

(B) Define vectors and discuss vector addition. Explain the Cartesian form of vectors and the scalar and vector product.

12. (A) Explain the difference between Newtonian mechanics and relativistic mechanics in the context of the motion of objects.

(OR)



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(B) Compare and contrast acoustic waves and electromagnetic waves, discussing their properties and applications.

13. (A) Define the scope of chemistry and its importance in daily life.

(OR)

(B). Describe the applications of chemistry in industry and technology, with a focus on chemical manufacturing and pharmaceuticals.

14.(A) Explain how physics is applied in various industries and technologies, such as electronics, robotics, and aerospace.

(OR)

(B). Describe the applications of chemistry in industry and technology.

15. (A) What is internet? Describe various applications of Internet.

(OR)

(B). Define Cryptography. Explain Symmetric and Asymmetric Cryptography.
