

Total No. of Printed Pages: 2

SUBJECT CODE NO: - BNP - 2643
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. (NEP) (P-2024) F.Y Sem I
Examination November / December 2025
Physics Mechanics and Properties of matter

[Time: 1.00 Hours]

[Max. Marks: 30]

Please check whether you have got the right question paper.

N. B

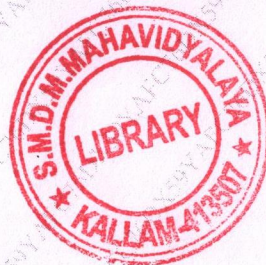
- i. Question No. 1 is multiple choice objective type and it is compulsory. It carries 10 marks
- ii. Attempt any four questions from Q.2 to Q.7. Each of these questions carries 5 marks.
- iii. Figures to the right indicate full marks.

Part A

Q1 Multiple Choice Questions

10

- 1) Shearing stress causes a change in _____
- A) Length
B) Breadth
C) Shape
D) Volume
- 2) Newton's first law of motion describes the _____
- A) Energy
B) Work
C) Moment of Inertia
D) Inertia
- 3) Which of the following statements is for Hook's Law?
- A) Stress $\propto$ Strain
B) Stress = (Strains)⁻¹
C) Stress = Strain
D) Strain > Stress
- 4) In which of the following conditions can Bernoulli equation not be used?
- A) Viscous Flow
B) Incompressible Fluid
C) Steady Flow
D) Laminar Flow
- 5) When a rope is pulled on either side, what is the stress acting on it?
- A) Compressive
B) Tensile Stress
C) Normal
D) Tangential
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Part B

- | | |
|---|-----------|
| Q2 Describe Newton's Laws of Motion. | 05 |
| Q3 Explain Streamline Flow and Turbulent Flow. | 05 |
| Q4 What is Stress? Explain its types. | 05 |

Q5 Write the gravitational field due to a solid sphere.

05

Q6 A uniform steel wire of length 3m and radius 1mm is stretched by 0.18 mm, and the diameter decreases by 3.84×10^{-8} m. Find the Poisson ratio for the material of the Wire.

05

Q7 Write a short note on application of Surface tension.

05

