

APRIL/MAY 2019

BAEL34 — BASIC PHYSICS – I

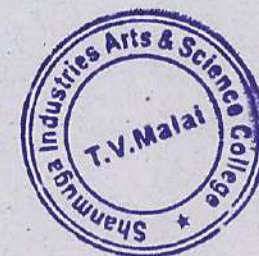
Time : Three hours

Maximum : 75 marks

SECTION A — ($10 \times 2 = 20$ marks)

Answer ALL questions.

1. What is moment of inertia?
2. What is radius of gyration?
3. Define rigidity modulus.
4. What are the three elastic constants?
5. Define – Streamlined flow.
6. Define viscosity.
7. Give the statement of second law of thermodynamics.
8. What is a irreversible process?
9. What is reverberation?
10. What is absorption coefficient?



SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions.

11. (a) Derive an expression for moment of inertia of a circular ring.

Or

- (b) Obtain an expression for the mass and mean density of earth.

12. (a) Derive an expression for torsion in a wire.

Or

- (b) Explain the measurement of Young's modulus by non-uniform bending.

13. (a) Explain the viscosity of highly viscous liquid by Stoke's method.

Or

- (b) Explain the Lubrication.

14. (a) Describe critical constants.

Or

- (b) Explain Joule-Kelvin effect.

15. (a) Explain the measurement of AC frequency by Melde's string.

Or

- (b) Explain the characters of good acoustics of buildings.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Discuss the determination of G by Boys method.

17. Explain the determination of rigidity modulus by static torsion.

18. Explain the formation of drops and bubbles and derive expression for the excess of pressure inside a soap bubble.

19. Describe the Liquefaction of gases by a suitable method.

20. Derive Sabine's formula.

