

MS JUNIOR COLLEGE
Hyderabad

GUESS PAPER - 1
INTERMEDIATE 1st YEAR
PHYSICS - I

Time: 3hours

Max.Marks:60

INSTRUCTIONS:

1. Q.Nos: 1 - 10 are Very Short Answer Type. Answer them in about 30 words each. Each question carries 2 marks.
2. Q. Nos: 11 - 18 are Short Answer Type. Answer them in 75 - 100 words each. Each question carries 4 marks.
3. Q.Nos: 19 - 21 are Long Answer Type. Answer them in about 300 words each. Each question carries 8 marks.

- I. Answer All Questions: (Very Short Answer Type) [10 × 2 = 20]
1. What is the discovery of C.V.Raman?
 2. Distinguish between accuracy and precision.
 3. Two forces of magnitudes 3 units and 5 units act at 60° with each other. What is the magnitude of their resultant?
 4. What is inertia? What gives the measure of inertia?
 5. Why are drops and bubbles are spherical?
 6. Why gaps are left between rails on a railway track?
 7. Can a room be cooled by leaving the door of an electric refrigerator open?
 8. Ventilators provided in rooms just below the roof. why?
 9. Define mean free path.
 10. The absolute temperature of a gas is increased by 3 times. what will be the increase in rms velocity of the gas molecule.
- II. Answer any Six : (Short Answer Type) [6 × 4 = 24]
11. A car travels the first third of a distance with a speed of 10 kmph, the second third at 20 kmph and the last third at 60 kmph. What is its mean speed over the entire distance?
 12. State parallelogram law of vectors. Derive an expression for the magnitude and direction of the resultant vector.
 13. Mention the methods used to decrease friction.
 14. Define vector product. Explain the properties of a vector product with two examples.
 15. Describe the behaviour of a wire under gradually increasing load.
 16. What is orbital velocity? Obtain an expression for it.
 17. In what way is the anomalous behaviour of water advantageous to aquatic animals.
 18. Explain conduction, convection and radiation with examples.
- III. Answer any Two : (Long Answer Type) [2 × 8 = 16]
- 19.a) State and prove law of conservation of energy in case of a freely falling body.
b) A machine gun fires 360 bullets per minute and each bullet travels with a velocity of 600 ms⁻¹. If the mass of each bullet is 5 gm, find the power of the machine gun?
 20. Define simple harmonic motion. Show that the motion of (point) projection of a particle performing uniform circular motion, on any diameter, is simple harmonic.
 21. Explain reversible and irreversible processes. or Describe the working of a Carnot engine. Obtain the expression for efficiency.

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