



PHYSICS

BOOKS S CHAND PHYSICS (HINGLISH)

MODEL TEST PAPER 4

Section A

1. Why is heat energy needed to melt a solid?

What is this heat energy called ?



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2. (a) Derive the formula : $s = ut + \frac{1}{2}at^2$,

where the symbols have usual meanings.

(b) A train starting from stationary position and moving with uniform acceleration attains a speed of 36 km per hour in 10 minutes. Find its acceleration.



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3. (a) State the law of conservation of momentum.

(b) Discuss the conservation of momentum in each of the following cases :

(i) a rocket taking off from ground.

(ii) flying of a jet aeroplane.



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4. Briefly explain the terms wavelength, frequency, time period and velocity of wave

motion. Establish relation between them.



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5. (a) Define density. What is the SI unit of density ?

(b) Define relative density. What is the SI unit of relative density?



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6. (a) Define the term 'energy' of a body. What is the SI unit of energy.

(b) What are the various forms of energy?

(c) Two bodies having equal masses are moving with uniform speeds of v and $2v$ respectively. Find the ratio of their kinetic energies.



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Section B

1. A girl is wearing a pair of flat shoes. She weight 550 N. The area of contact of one shoe with the ground is 160cm^2 . What pressure will be exerted by the girl on the ground if she stands on two feet ?



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2. If the work done by a force in moving an object through a distance of 20 cm is 24.2 J, what is the magnitude of the force ?



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3. Government has recently taken series of steps to minimise cigarette smoking and tobacco chewing by people these are injurious to health.

(i) List at least three steps taken by government to aware people about harmful effects of cigarette smoking and tobacco chewing.

(ii) What is passive smoking?

(iii) List at least one chronic disease that occurs due to continuous use of tobacco.



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