HBCSE Olympiads (Homi Bhabha Centre for Science Edu.) IOQM(Indian Olympiad Qualifier in Mathematics) Coaching Programs

🎯 154 Numeric, 0 MCQs (& PYQs) with Full Explanations (2024-2025 Exam)

Click Here to View & Get Complete Material [https://www.doorsteptutor.com/Exams/HBCSE-Olympiad/IOQM/Questions/]

Rs. 150.00

3 Year Validity (Multiple Devices)

National Standard Examination in Physics (NSEP) Solved Paper 2016 Part-8

Q: 26. Two blocks of masses m and 2m are placed on a smooth horizontal surface as shown.In the first case only a force f_1 is applied from left. Later on only a force f_2 is applied from right. If the force acting at the interface of the two blocks in the two cases is the same, then $f_1 : f_2$ is

(A) $1 : 1$

(B) $1 : 2$

(C) $2 : 1$

(D) $1 : 3$

Answer: (C)

Q: 27. A ball A of mass 1 kg moving at a speed of 5 m∕s strikes tangentially another ball B initially at rest. The ball A then moves at right angles to its initial direction at a speed of 4

m/s. If the collision is elastic, then mass (in kg) of ball B and its momentum after collision (in kg-m/s) respectively are (approximately)

(A) 1.2 and 1.8

(B) 2.2 and 3.3

(C) 4.6 and 6.4

(D) 6.2 and 9.1

Answer: (C)

Q: 28. Consider a relation connecting three physical quantities A, B and C given by $A = B^n C^m$. The dimensions of A, B and C are $[lt]$, $[L^2 T^{-1}]$ and $[lt^2]$ respectively. Therefore, the exponents n and m have values

(A) $2/3$ and $1/3$

(B) 2 and 3

(C) $4/5$ and $-1/5$

(D) $1/5$ and $3/5$

Answer: (D)

Q: 29. Two identical rooms in a house are connected by an open doorway. The temperatures in the two rooms are maintained at two different values. Therefore.

(A) The room with higher temperature contains more amount of air

(B) The room with lower temperature contains more amount of air

(C) Both the rooms contain the same amount of air

(D) The room with higher presure contains more amount of air

Answer: (B)

For detailed explanations and answers visit - NSEP Answers with detailed explanations [https://www.doorsteptutor.com/Exams/]