SAMPEL PERCUMA

Kertas Percubaan STPM Penggal 1 Fizik

Set penuh: Kertas Percubaan STPM

Sem 1 · Fizik

Sampel ini: 4 muka surat. Set penuh ada:

- 2 fail PDF
- Semester 1: kertas percubaan (trial) negeri, subjek yang dipilih + skema
- Blueprint 30 hari Semester 1 (setiap subjek)
- Semester 3: percubaan 2024, 10 subjek, banyak negeri, soalan + skema dalam satu fail

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Sampel bermula di muka surat sebelah

SMJK CHUNG HWA CONFUCIAN PULAU PINANG
STPM TRIAL EXAMINATION (2024)
SEMESTER 1
PHYSICS PAPER 1 (LOWER SIX)
1 ½ HOURS

Prepared by : Chan Phaik Ying
Checked by : Pn. Phang Li Lee
Approved by : Pn. Alyssa Low

Instructions to candidates:
DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO.
This paper consists of **11** printed pages.
Answer ***all*** questions in Section A. Marks will not be deducted for wrong answers. For each question, four suggested answers are given. Choose the correct answer and shade the answer in the answer sheet given.
Answer **all** questions in Section B. Write your answers in the spaces provided.
Answer **any two** questions in Section C. All essential working should be shown. For numerical answers, unit should be quoted wherever appropriate. Begin each answer on a fresh sheet of paper and arrange your answer in numerical order.
Tear off the cover page and answer sheet of Section B (Page **7** and **8**), and tie them together with your answer sheets of Section C.

NAME : _____ **CLASS : _____**

Section A	
Section B	
16	
17	
Section C	
Total	

Section A (*15 marks*)

Answers:

1.		**6.**		**11.**	
2.		**7.**		**12.**	
3.		**8.**		**13.**	
4.		**9.**		**14.**	
5.		**10.**		**15.**	

Section A (*15 marks*)

Answer **all** *questions in this section.*

1. The equation $P + av^2 = b$ is dimensionally homogeneous. P is the pressure of the fluid and v is the velocity of the fluid at a point. The unit of a is the same as

   A mass **B** volume **C** density **D** force

2. A ball is projected vertically upwards to reach a maximum height of 60 m. What is its velocity after 5.0 s?

   A 11 m s^{-1} upwards
   B 11 m s^{-1} downwards
   C 15 m s^{-1} upwards
   D 15 m s^{-1} downwards

3. Which of the following pairs of forces is **not** an example of Newton's third law of motion?

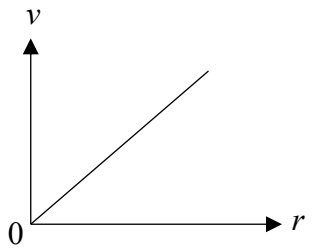
   A The gravitational force between the Earth and the Moon.
   B The weight of a book on a table and the normal reaction on it.
   C The Coulomb force between the proton and the electron in the hydrogen atom.
   D The static friction experienced by a wheel from the road and the reaction force of the wheel onto the road surface.

4. A body of mass *m* slides up a smooth inclined plane with velocity *v*. It reaches a maximum vertical height *h* up the plane. Another body of mass 2*m* moving with velocity 2*v* slides up the same inclined plane. What is the maximum vertical height the second body reaches?

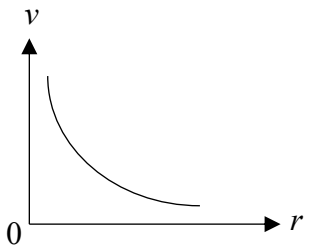
   A *h* **B** 2*h* **C** 4*h* **D** 8*h*

5. A pendulum bob is whirled round on a smooth horizontal surface by a string of length *l* at a constant rate. If the tension in the string is kept constant, which of the following graphs represents the relation between the speed *v* of the pendulum bob and the length *l* of the string?

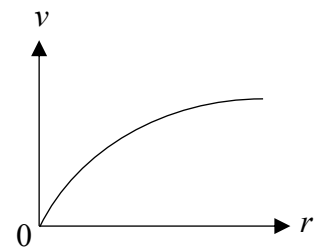
A



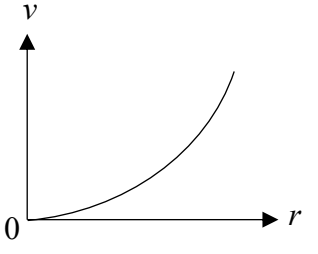
C



B



D

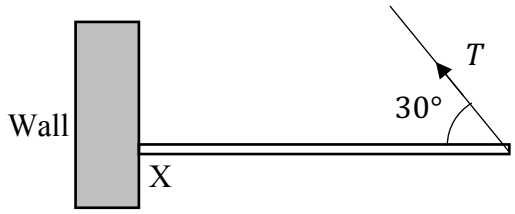


6. A car engine has to generate a power P = 100 kW to keep the car moving at a constant velocity v = 110 km h^{-1}. If the drag force is constant at any speed, what is the distance travelled by the car before it comes to stop if its engine suddenly brakes down? Given the mass of the car is 1500 kg.

A 210 m **B** 280 m **C** 350 m **D** 430 m

7. When a body explodes, the centre of mass
   A will be stationary
   B will continue to move in the same path as if the explosion has not taken place
   C can move in any direction depending on the velocities and directions of the fragments.
   D will move towards the center of the Earth.

8. A uniform rod XY of weight 10.0 N is hinged freely to a wall at X.



What is the value of tension T?
A 5.0 N **B** 5.8 N **C** 8.7 N **D** 10 N

9. The radius of the Earth is R, the gravitational field strength at the surface of the Earth is g and the universal gravitational constant is G. The mass of the Earth is
A $\frac{gR^2}{G}$ **B** $\frac{gR}{G}$ **C** $\frac{g^2R}{G}$ **D** $\frac{gG}{R^2}$

10. A satellite in a circular orbit of radius r_1 has a period T_1. Another satellite in another orbit of radius $3r_1$ has a period T_2. The ratio of $\frac{T_2}{T_1}$ is
A 5.2 **B** 4.5 **C** 2.1 **D** 0.19

11. If two gases nitrogen and argon have the same temperature, the ratio of the average kinetic energy of nitrogen molecules to that of argon molecules is
A 2.5 **B** 2.0 **C** 1.7 **D** 1.0

TAMAT SAMPEL

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