

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX EXAMINATION

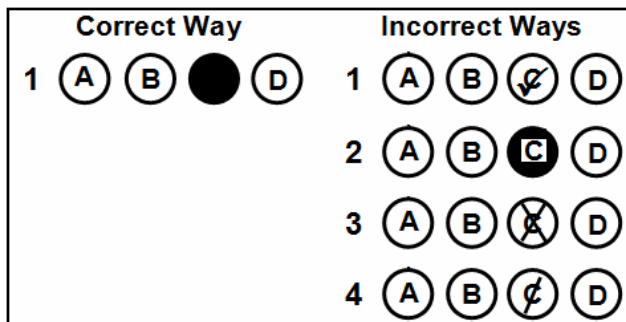
MAY 2012

Physics Paper I

Time allowed: 35 minutes Marks 25

INSTRUCTIONS

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 25 only.
4. In each question there are four choices A, B, C, D. Choose ONE. On the answer grid black out the circle for your choice with a pencil as shown below.



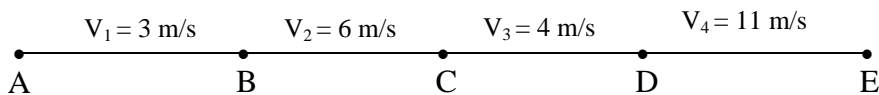
Candidate's Signature

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the circles.
7. You may use a simple calculator if you wish.

1. Which of the following sets represents fundamental quantities?

Set 1	Set 2	Set 3	Set 4
Energy	Current	Current	Length
Length	Heat	Mass	Mass
Mass	Mass	Time	Temperature
Weight	Velocity	Voltage	Time

- A. Set 1
B. Set 2
C. Set 3
D. Set 4
2. Which of the following physical quantities is measured by using a micrometer screw gauge?
- A. Time
B. Weight
C. Current
D. Diameter
3. Which of the following instruments is used to measure the internal diameter of a pipe with a single measurement?
- A. Manometer
B. Screw gauge
C. Vernier callipers
D. Measuring cylinder
4. If a body is falling freely, its motion will be
- A. linear.
B. random.
C. periodic.
D. vibratory.
5. The average velocity from A to E in the given diagram is

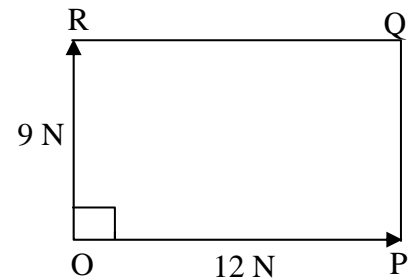


- A. 3 m/s
B. 4 m/s
C. 6 m/s
D. 12 m/s

6. Inertia of a body depends upon its
- time.
 - mass.
 - length.
 - temperature.
7. If a body of mass 2 kg is moving with an acceleration of 5 m/s^2 , then the net force exerted on the body is
- 7 N
 - 10 N
 - 15 N
 - 20 N
8. Which of the following statements correctly describes the mass of an object?
- The pull of gravitational force on the object.
 - The amount of space taken up by the object.
 - The material from which the object is made.
 - The amount of substance the object contains.

9. Two forces act at the right angle at point O, as shown in the given figure. What will be the magnitude and direction of the resultant force?

	Magnitude	Direction
A	15 N	along \overrightarrow{OQ}
B	15 N	along \overrightarrow{PR}
C	21 N	along \overrightarrow{OQ}
D	21 N	along \overrightarrow{PR}



10. It is better to use a long spanner rather than a short one to tighten a nut because
- it offers more friction.
 - it requires less turning effect.
 - more work is done by the user.
 - it requires less force to be exerted.
11. Some books are placed in four bookcases as shown in the given diagram. Which of the following shelves is most likely to fall forward if pulled a little?



Shelf A



Shelf B



Shelf C

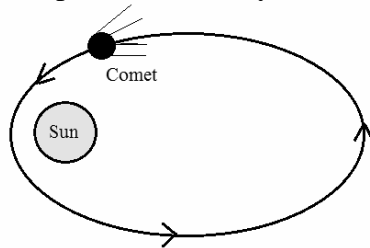


Shelf D

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12. The weight of an object on the surface of the moon is
- zero.
 - equal to that on the surface of the earth.
 - less than that on the surface of the earth.
 - more than that on the surface of the earth.
13. If the mass of the earth is 6×10^{24} kg, its radius is 6.4×10^6 m and the value of gravitational constant is 6.67×10^{-11} Nm² / kg², then the value of gravitational force acting on a 1.00 kg object will be
- 8.8 N
 - 9.8 N
 - 10.8 N
 - 11.8 N

14. The given diagram shows the path followed by a comet when it reaches close to the sun. The shape of the path is



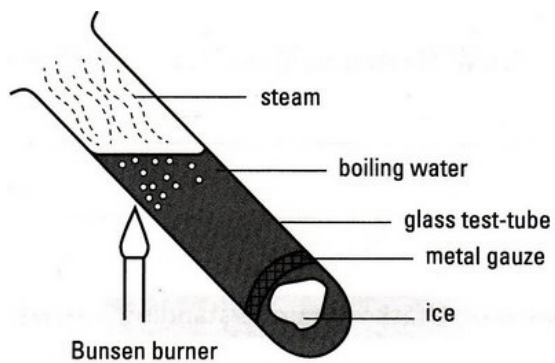
- elliptical.
 - spherical.
 - parabolic.
 - hyperbolic.
15. Which of the following is produced after a force is applied and work is done on a body?
- Density
 - Displacement
 - Increased mass
 - Decreased weight
16. If a force of 2 N acts on a body through a distance of 3 m in the direction of force, then the work done will be
- 1 J.
 - 5 J.
 - 6 J.
 - 8 J.
17. A rock of mass 20 kg is travelling in space at a speed of 6 m/s. What will be its kinetic energy?
- 60 J
 - 120 J
 - 360 J
 - 720 J

18. If all of the following objects are moving with the same speed, then which one has the highest kinetic energy?
- A. A car
 - B. A bus
 - C. A bullet
 - D. A football
19. On a frozen lake, the ice will break if the pressure exerted on it will become greater than 1.0 N / cm^2 . If four boys are standing on the ice, which of the following will fall through?

	Weight of Boy	Area of Feet
A	200 N	270 cm^2
B	300 N	250 cm^2
C	400 N	500 cm^2
D	500 N	560 cm^2

20. Which of the following is least likely to sink into soft ground?
- A. Empty lorry with six wheels
 - B. Loaded lorry with six wheels
 - C. Empty lorry with four wheels
 - D. Loaded lorry with four wheels
21. Average kinetic energy of the molecules of a substance is called
- A. heat.
 - B. entropy.
 - C. temperature.
 - D. heat capacity.
22. Heat absorbed by a cold body is equal to the heat released by a hot body. This law is known as
- A. Boyle's law.
 - B. Charles' law.
 - C. Avogadro's law.
 - D. law of heat exchange.

23. An experiment is carried out as shown in the given diagram.



The ice takes a long time to melt, even though the water at the top of the tube is boiling because

- A. ice is a poor conductor of heat.
 - B. water is a poor conductor of heat.
 - C. convection cannot occur in water.
 - D. the gauze prevents the energy reaching the ice.
24. Sometimes fans and pumps are used to speed up the natural convection. This convection is known as
- A. fast convection.
 - B. usual convection.
 - C. forced convection.
 - D. unnatural convection.
25. All of the following are factors on which rate of energy transfer from one body to another depends EXCEPT
- A. surface area.
 - B. surface temperature.
 - C. colour of the surface.
 - D. pressure on the surface.

Please use this page for rough work

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