**AGA KHAN UNIVERSITY EXAMINATION BOARD**

**SECONDARY SCHOOL CERTIFICATE**

**CLASS IX EXAMINATION**

**APRIL/ MAY 2018**

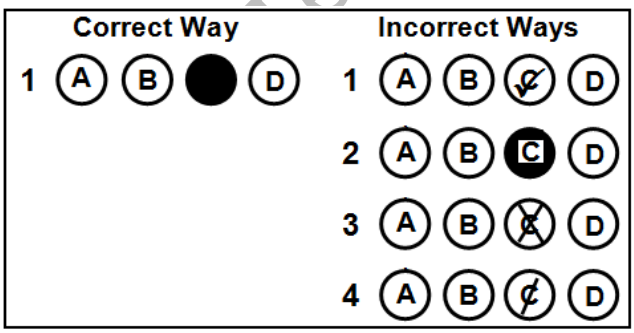
**Physics Paper I**

**Time: 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 is a derived physical quantity?

   A. Time
   B. Mass
   C. Length
   D. Volume

2. The prefix used for the multiple value of $10^{-9}$ is

   A. atto.
   B. pico.
   C. nano.
   D. femto.

3. In 0.020180, the total numbers of significant figures are

   A. four.
   B. five.
   C. six.
   D. seven.

4. The type of motion that takes place in a simple pendulum is

   A. linear.
   B. circular.
   C. random.
   D. vibratory.

5. Which of the following is a vector quantity?

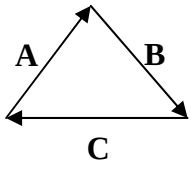
   A. Time
   B. Mass
   C. Distance
   D. Velocity

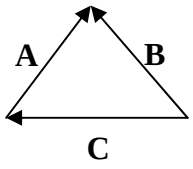
6. A ball is dropped from the top of a building. If it takes four seconds to reach the ground, then the height of the building is

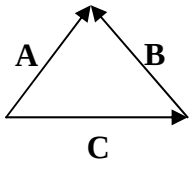
   (**Note**: Use the value of acceleration due to gravity 'g' as 10 $m/s^2$.)

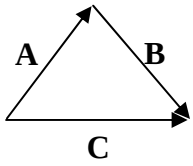
   A. 20 m
   B. 40 m
   C. 80 m
   D. 160 m

7. Using head to tail rule of vector addition, which vector diagram, represents the resultant of vectors **A** and **B** as vector **C**?

A. 

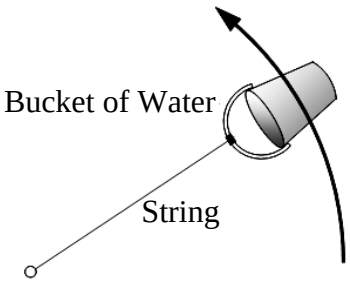

B. 


C. 


D. 


8. When a bucket full of water is rapidly whirled in a vertical circular path as shown in the given diagram, then water in the bucket

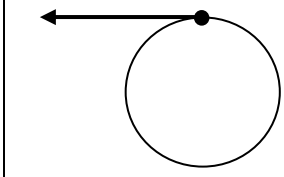
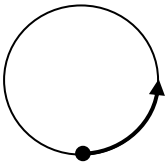
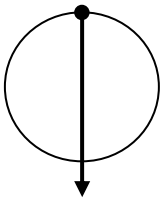
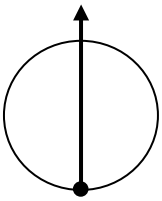
A. falls out at once.
B. remains fully in it.
C. leaks out gradually.
D. reduces to half in quantity.




9. The turning effect of a force about an axis of rotation is called

A. torque.
B. couple.
C. momentum.
D. equilibrium.

10. If the contact of a rotating stone attached with a string breaks, then in which direction will the detached stone move?

| Direction of the Detached Stone | | | |
|---|---|---|---|
| A |  | B |  |
| C |  | D |  |

11. If the position of a body is disturbed and it does not return to its original position, then the body will be in

I. stable equilibrium.
II. neutral equilibrium.
III. unstable equilibrium.

A. I only
B. III only
C. I and II
D. II and III

12. While digging, a miner moves 25 km deep down in a coal mine.

Compared to his actual weight on the surface of the Earth, his weight inside the coal mine will

A. increase.
B. decrease.
C. remain the same.
D. vary in an unpredictable manner.

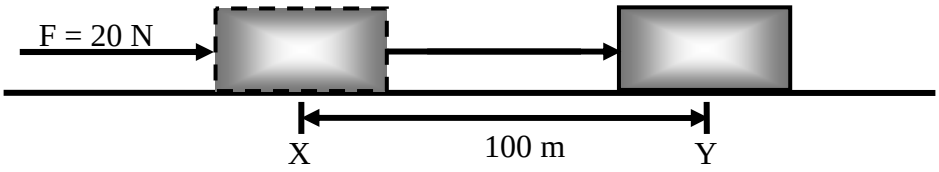
13. The value of acceleration due to gravity ‘g’ varies with the

A. distance of the Earth from the Sun.
B. change in temperature of the Earth.
C. distance from the centre of the Earth.
D. change in atmospheric pressure on Earth’s surface.

14. All the planets revolve around the Sun due to the presence of

A. cohesive force between the planets.
B. centripetal force between the planets.
C. mutual attraction between the planets.
D. gravitational attraction between planets and the Sun.

15. Force (F) is applied to move the block across a smooth surface from point (X) to point (Y) as shown in the given diagram.

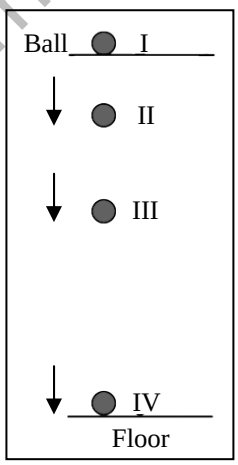



The amount of work done by the applied force (F) is

A. 2 J
B. 20 J
C. 200 J
D. 2000 J

16. A metallic ball is dropped from a certain height as shown in the given figure. Neglecting the air resistance, the total energy of the ball will be

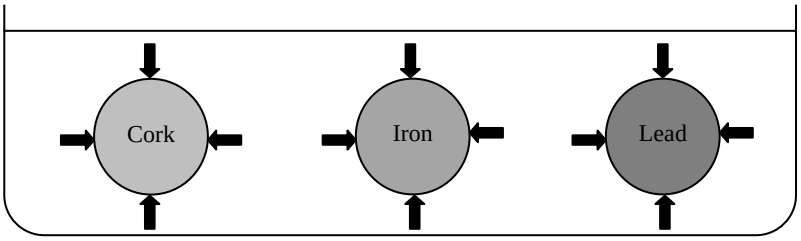
A. maximum at II and III only.
B. maximum at I and II only.
C. same at I and III only.
D. same at all positions.




17. The cycle in which conversion of energy takes place at fossil fuel power stations is

A. Heat → light → kinetic
B. Heat → light → electrical
C. Heat → kinetic → electrical
D. Heat → electrical → chemical

18. Three different balls of the same diameter are immersed in water completely. Which of the following is TRUE about the upthrust exerted by water on the balls?




A. All balls have the same upthrust.
B. Iron ball has maximum upthrust.
C. Cork ball has maximum upthrust.
D. Lead ball has maximum upthrust.

19. According to the kinetic theory of matter, particles move randomly with high velocities in

A. solids.
B. gases.
C. liquids.
D. plasma.

20. Force acting on unit area of an object causing changes in its shape and size is called

A. strain.
B. stress.
C. viscosity.
D. elasticity.

21. Mercury is commonly used in a glass thermometer because it

A. is easily available.
B. is silver in appearance.
C. has a high freezing point.
D. expands evenly with respect to temperature.

22. If the temperature of a substance is $20^{o}C$, then its temperature in Kelvin scale will be

A. –253 K
B. –6.66 K
C. 68 K
D. 293 K

23. When a small piece of red-hot iron is dropped into a vessel of boiling water, the temperature of water will

A. increase.
B. decrease.
C. remain constant.
D. become same as iron.

24. An example of a good conductor of heat is a

    A. glass door.
    B. frying pan.
    C. wooden door.
    D. leather jacket.

25. The ventilator in a room works on the principle of

    A. radiation.
    B. convection.
    C. conduction.
    D. evaporation.



END OF PAPER

# Please use this page for rough work