ZIAUDDIN UNIVERSITY EXAMINATION BOARD

Total Time 3 hours
Total Marks: 75

Class: IX **MODEL PAPER EXAMINATION 2026**
Time Allowed: 20 minutes **SUBJECT: PHYSICS**
Q1: **(SECTION "A")** **Marks: 11**

Note: Attempt **ALL** questions from section 'A'. Each question carries **ONE** mark.

1. How many significant figures are in the number 0.00705?
   A. 2 B. 3 C. 4 D. 5
2. The motion of a soccer ball on the ground is:
   A. Linear motion B. Circular motion C. Vibratory motion D. Random motion
3. Satellites are placed into orbit using:
   A. Helicopters B. Aeroplanes C. Rockets D. None of these
4. The purpose of springs in brakes and clutches is to:
   A. Restore original position B. Measure forces C. Absorb strain energy D. Absorb shocks
5. Friction opposes motion between two bodies in contact due to:
   A. Charge on bodies B. Weight of bodies C. Roughness of surfaces D. Mass of bodies
6. If a force of 6 N moves an object by 3 m in the direction of the force, the work done is:
   A. 6 Joules B. 12 Joules C. 18 Joules D. None of these
7. A spring balance is used to measure:
   A. Mass B. Weight C. Elasticity D. Density
8. Which of the following is a natural satellite?
   A. Earth B. Jupiter C. Moon D. Mars
9. The rate of change of position in a specific direction is called:
   A. Displacement B. Acceleration C. Velocity D. Speed
10. Distance is a _____ quantity:
    A. Vector B. Scalar C. Both A and B D. None of these
11. The motion of a pendulum is classified as:
    A. Circular B. Translatory C. Linear D. Vibratory

(Practical Based Assessment)

Marks: 16

12. A student determines the circumference of a golf ball. Which instrument gives this reading?
    A. Calipers B. Micrometer C. Rule D. Tape

13. The diameter and the length of a thin wire, approximately 50 cm in length, are measured as precisely as possible. What are the best instruments to use?

	Length	**Diameter**
A	Vernier Calipers	Micrometer
B	Tape	Rule
C	Rule	Vernier Calipers
D	Rule	Micrometer

14. A student drops a table-tennis ball from rest into the air. What happens to the velocity and acceleration of the ball during the first few seconds after it is released?

	Velocity	**Acceleration**
A	Increases	Increases
B	Decreases	Decreases
C	Decreases	Increases
D	Increases	Decreases

15. In which scenario does friction act in the same direction as the forward motion of the object it is affecting?

    A. A suitcase accelerating on a conveyor belt
    B. Sandpaper rubbing against a wooden block
    C. The skis of a skier accelerating downhill on smooth snow
    D. The tires of a car during braking

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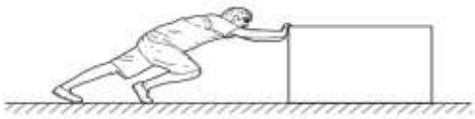
Total Time 3.5 hours
Total Marks: 75

16. Ahmed pushes a heavy box along the ground. A force acts between Ahmed's hands and the box, and a force acts between his feet and the floor. Determine the direction of these forces on Ahmed.

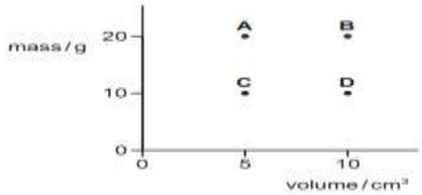


	Force on Ahmed's hands	Force on Ahmed's feet
A	Towards the left	Towards the left
B	Towards the left	Towards the right
C	Towards the right	Towards the left
D	Towards the right	Towards the right

17. If the weight of an object is measured as 12 N in air and 9 N in water, what is the density of the object? (Assume the density of water is 1000 kg/m³)
A. 1000 kg/m³ B. 1500 kg/m³ C. 3000 kg/m³ D. 6000 kg/m³

18. During summer, the temperature of rocks increases more quickly than the temperature of a nearby lake. This is because of:
A. State of matter B. Specific heat C. Evaporation D. Atmospheric pressure

19. Saima plots the mass and volume of 4 different objects. Which one has the smallest density?



Class: IX **MODEL PAPER EXAMINATION 2026**
Time: 2 hours 40 minutes **SUBJECT: PHYSICS (SECTION "B" AND SECTION "C")** **Total Marks 48**

SECTION "B" (SHORT ANSWER QUESTIONS) **24 Marks**

Q2(a): Attempt any **FOUR** questions from this part**.** **12**

i. Give definitions for the following:
a) Atomic Physics b) Plasma Physics c) Nuclear Physics
ii. What is uniform velocity? Define it.
iii. Explain translatory motion and provide an example to illustrate it.
iv. Define temperature and write the equation to convert Fahrenheit to Celsius.
v. What do you understand by centripetal force?
vi. State Newton's third law of motion and explain it briefly.
vii. Define a system and distinguish it from an isolated system.
viii. Define friction and explain its significance in everyday motion.

Q2(b): Attempt any **FOUR** questions from this part. **12**

i. A truck with a mass of 1500 kg has an engine producing an acceleration of 3 m/s². If 500 kg of cargo is added, what will the new acceleration be?
ii. If a body with a mass of 50 kg experiences a force of 400 N, what is the resulting acceleration?
iii. A stone is dropped from a height of 100 m. Calculate the time it takes to hit the ground (take g = 9.8 m/s²).
iv. A cylinder contains 25 m³ of gas at a pressure of 200,000 Pa. If the volume decreases to 15 m³, calculate the final pressure, assuming constant temperature.
v. Calculate the spring constant if a spring stretches by 4 cm under a load of 20 N.
vi. A worker applies a force of 20 N at each end of a wrench to generate a torque of 80 Nm. Determine the length of the moment arm.
vii. A machine performs 1200 J of work in 20 minutes. Calculate the power output of the machine.
viii. Find the resultant force of three forces: 20 N along the x-axis, 12 N at an angle of 45° with the x-axis, and 8 N along the y-axis.

SECTION "C" (DETAILED ANSWER QUESTIONS) **24 Marks**

Q3: Attempt any **FOUR** questions from this section. Your answer should not exceed 20 - 30 lines.

i. What is an artificial satellite? Derive the formula for the velocity of a satellite orbiting the Earth, and show that it is given by $v = \sqrt{g_h(R_E + h)}$, where g_h is the acceleration due to gravity at the satellite's altitude, R_E is the radius of the Earth, and h is the height of the satellite above the Earth's surface.
ii. Define couple.
iii. What is a hydraulic lift or jack? Explain its construction and describe how it works.
iv. State Pascal's law. Provide examples of its applications in daily life.
v. Describe Artificial gravity verity.
vi. Define linear expansion and volumetric expansion. Derive the equation $\Delta L = \alpha L \Delta T$.

END OF PAPER