Matric Model Paper 2024 – Solved Version (Physics)

Prepared by LearnWithQazi.online

Section A: Multiple Choice Questions (Answers)

Q No	Answer
1	B
2	C
3	A
4	D
5	B
6	C
7	A
8	D
9	B
10	C

Section B: Short Questions (Answers)

Q11: Define acceleration.
Acceleration is the rate of change of velocity with respect to time.

Q12: What is meant by scalar quantity?
A quantity that has only magnitude but no direction; e.g., mass.

Q13: State Newton's First Law of Motion.
An object at rest remains at rest, and an object in motion continues in motion with uniform velocity unless acted upon by an external force.

Q14: What is the difference between mass and weight?
Mass is the amount of matter in a body; weight is the force with which gravity attracts that mass.

Q15: What is meant by inertia?
The tendency of a body to resist any change in its state of motion.

Q16: Define momentum.
Momentum = mass × velocity.

Q17: What is gravitational acceleration?
The acceleration produced in a body due to the force of gravity; on Earth, it is approximately 9.8 m/s^2.

Q18: What is meant by elastic limit?
The maximum extent to which a solid can be stretched without permanent deformation.

Q19: Define force.
A push or pull which produces or tends to produce a change in the motion of an object.

Q20: What is Hooke's Law?
The extension of a spring is directly proportional to the force applied, provided the elastic limit is not exceeded.

Section C: Long Questions / Numerical (Answers)

Q21: Explain Hooke's Law.
Hooke's Law states that the deformation (extension or compression) of an elastic object is directly proportional to the applied force, as long as the elastic limit is not exceeded. Mathematically: $F = k \times x$, where k is the spring constant and x is the change in length.

Q22: Solve the numerical:
A car accelerates from rest at 2 m/s^2 for 5 seconds. Find its final velocity.

Given:
Initial velocity (u) = 0
Acceleration (a) = 2 m/s^2
Time (t) = 5 s

Final velocity (v) = $u + a \times t$
$= 0 + 2 \times 5$
= 10 m/s

End of solved version.
Compiled and prepared by LearnWithQazi.online for students' practice.