

## Physics ECAT Pre Engineering Chapter 3 Motion and Force

Sr	Questions	Answers Choice
1	A typical rocket consists of fuel	A. more than 60% of launch mass B. less than 60% of launch mass C. less than 80% of launch mass D. more than 80% of launch mass
2	In the above figures, tell which set is graphs shows that a body is moving uniform velocity:	A. (i) and (ii) B. (ii) and (iii) C. (i) and (iii) D. (ii) and (iv)
3	When a force is applied on a body, several effects are possible Which of the following effect could not occur?	A. the body rotates B. the body speeds up C. the mass of the body decreases D. the body changes its direction
4	The vertical component of velocity of a projectile during its motion is minimum	A. at the time of projection B. at the highest point C. just before hitting the plane of projection D. all of them
5	When two protons are brought closer potential energy of both of them:	A. Increases B. Decreases C. Remains same D. None of these
6	The shortest distance between two points directed from its initial point to final point is called:	A. Velocity B. Displacement C. Speed D. Distance
7	When brakes are applied to a fast moving car, the passengers will be thrown:	A. Forward B. Backward C. Downward D. None of these
8	Work done along a closed path in a gravitational field is:	A. Maximum B. Minimum C. Zero D. Unity
9	A body moving with an acceleration of $5 \text{ m/sec}^2$ started with velocity of $10 \text{ m/sec}$ . What will be the distance traversed in 10 seconds?	A. 150 m B. 250 m C. 350 m D. 400 m
10	A body is moving with constant velocity of $10 \text{ m/sec}$ in the north-east direction. Then its acceleration will be:	A. $10 \text{ m/sec}^2$ B. $20 \text{ m/sec}^2$ C. $30 \text{ m/sec}^2$ D. Zero
11	If two bodies of equal masses moving in the same direction collide elastically, then their velocities.	A. Are added B. Are subtracted C. Do not change D. Are exchanged
12	Unit of impulse in	A. Newton B. Kg m C. Kg m/s D. Joule
13	The effect of applying a force on a moving body is to change	A. its direction of motion only B. its speed of motion only C. both the direction and speed of motion D. its inertia only
14	Two projectiles are fired from the same point with the same speed at angles of projection $60^\circ$ and $30^\circ$ respectively. Which one of the following is true?	A. Their range will be same B. Their maximum height will be same C. Their landing velocity will be same D. Their time of flight will be same
15	The sum of the magnitude of two forces acting at a point is 18 and the magnitude of their resultant is 12. If the resultant is at $90^\circ$ with the force of the smaller magnitude, then their magnitudes are	A. 3, 15 B. 4, 14 C. 5, 13 D. 6, 12

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- 16 Bodies falling freely under gravity provide good example of motion under
- A. non-uniform acceleration
  - B. uniform acceleration
  - C. variable acceleration
  - D. increasing acceleration
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- 17 If the acceleration of a body is not uniform, then velocity-time graph will be:
- A. Curve
  - B. Straight line
  - C. Sphere
  - D. All of these
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- 18 A body of mass 5 kg is acted upon by a total change in momentum will be:
- A. 10 NS
  - B. 100 NS
  - C. 140 NS
  - D. 200 NS
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- 19 The consumption of energy by a 1000 watt heater in half an hour is:
- A. 5 Kwh
  - B. 0.5 Kwh
  - C. 2.5 Kwh
  - D. 3.2 Kwh
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- 20 A dirty carpet is to be cleaned by heating. This is in accordance with \_\_\_\_\_ law of motion:
- A. First
  - B. Second
  - C. Third
  - D. None of these
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