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| Question | EXAMPLE 1 There is an elastic ball and a rigid wall. Ball is thrown towards the wall. The work done by the normal reaction exerted by the wall on the ball is - | |
| Type | multiple\_choice | |
| Option | +ve |
| Option | zero |
| Option | -ve |
| Option | None of these |
| Answer | 2 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | EXAMPLE 2 Work done by the normal reaction when a person climbs up the stairs is - | |
| Type | multiple\_choice | |
| Option | +ve |
| Option | -ve |
| Option | zero |
| Option | None of these |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.1 Mohan carries an 8.0-kg suitcase as she walks 25 m along a horizontal walkway to his room at a constant speed of 1.5 m/s. How much work does Mohan do in carrying her suitcase? | |
| Type | multiple\_choice | |
| Option | zero joules |
| Option | 200 J |
| Option | 2000 J |
| Option | 40 J |
| Answer | 1 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.2 A 2 kg mass lying on a table is displaced in the horizontal direction through 50 cm. The work done by the normal reaction will be- | |
| Type | multiple\_choice | |
| Option | 0 |
| Option | 100 joule |
| Option | 100 erg |
| Option | 10 joule |
| Answer | 1 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.3 A body moves a distance of 10 m along a straight line under the action of a force of 5 N. If the work done is 25 joules, the angle which the force makes with the direction of motion of the body is | |
| Type | multiple\_choice | |
| Option | 0° |
| Option | 30° |
| Option | 60° |
| Option | 90° |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.4 A force of magnitude 25 N directed at an angle of 37° above the horizontal moves a 10-kg crate along a horizontal surface at constant velocity. How much work is done by this force in moving the crate a distance of 15 m? | |
| Type | multiple\_choice | |
| Option | zero joules |
| Option | 40 J |
| Option | 300 J |
| Option | 1.7 J |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.5 A body, constrained to move in the Y-direction is subjected to a force given by F = (2i+15j+6k)N. What is the work done by this force in moving the body a distance 10 m along the Y-axis : ( check tb) | |
| Type | multiple\_choice | |
| Option | 20 J |
| Option | 150 J |
| Option | 160 J |
| Option | 190 J |
| Answer | 2 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.6  Figure gives the acceleration of a 2.0 kg body as it moves from rest along x axis while a variable force acts on it from x = 0m to x = 9m. The work done by the force on the body when it reaches  (i) x = 4m and  (ii) x = 7m shall be as given below | |
| Type | multiple\_choice | |
| Option | 21 J and 33 J respectively |
| Option | 21 J and 15 J respectively |
| Option | 42 J and 60 J respectively |
| Option | 42 J and 30 J respectively |
| Answer | 42 J and 30 J respectively |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.7 A force F = K \* x ^ 2 acts on a particle at an angle of 60° with the x-axis. The work done in displacing the particle from x\_{1} to x\_{2} will be : | |
| Type | multiple\_choice | |
| Option | (k x ^ 2)/2 |
| Option | k/2 (x\_{2} ^ 2 - x\_{1} ^ |
| Option | k/6 (x\_{2} ^ 3 - x\_{1} ^ |
| Option | k/3 (x\_{2} ^ 3 - x\_{1} ^ |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.8 A rope is used to lower vertically a block of mass M by a distance x with a constant downward acceleration g/ 2. The work done by the rope on the block is: | |
| Type | multiple\_choice | |
| Option | Mgx |
| Option | 1/2 Mg x ^ 2 |
| Option | - 1/2 Mgx |
| Option | Mgx ^ 2 |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.9 4 J of work is required to stretch a spring through 10 cm beyond its unstretched length. The extra work required to stretch it through additional 10 cm shall be | |
| Type | multiple\_choice | |
| Option | 4J |
| Option | 8 J |
| Option | 12 J |
| Option | 16J |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.10 An ideal spring of unstretched length 'l' and force constant 'k' is stretched by a small length 'x'. It is further stretched by another small length 'y'. The work done in second stretching is- | |
| Type | multiple\_choice | |
| Option | 1/2 ky ^ 2 |
| Option | 1/2k(x + y) ^ 2 |
| Option | 1/2ky(2x + y) |
| Option | 1/2k(y - x) ^ 2 |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.11 A block of mass 1 kg slides down on a rough inclined plane of inclination 60° starting from its top. If the coefficient of kinetic friction is 0.5 and length of the plane is 1m, then work done against friction is - | |
| Type | multiple\_choice | |
| Option | 9.82J |
| Option | 4.94 J |
| Option | 2.45 J |
| Option | 1.96 J |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.12 The work done in moving a body of mass 4 kg with uniform velocity of 5 m/sec for 10 seconds on a surface of mu = 0.4 is :- | |
| Type | multiple\_choice | |
| Option | 584 J |
| Option | 784 J |
| Option | 684 J |
| Option | 484 J |
| Answer | 2 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |

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| Question | Q.13 A force acts on a 3 gram particle such that its position x = 3t - 4t ^ 2 + t ^ 3 , where x is in metre and t is in second. The work done during first 4s is | |
| Type | multiple\_choice | |
| Option | 825 mJ |
| Option | 285 mJ |
| Option | 528 mJ |
| Option | zero |
| Answer | 3 |
| Solution |  | |
| Positive Marks | 4 | |
| Negative Marks | 1 | |