NEET Sample Paper 2 PDF for Class 11 (Physics)

1. Helium at 27°C has a volume of 8 litres. It is suddenly compressed to a volume of 1 litre. The temperature of the gas will be [γ = 5/3]
(1) 108°C (2) 9327°C
(3) 1200°C (4) 927°C

2. A mass of 10 kg is suspended vertically by a rope from the roof. When a horizontal force is applied on the rope at some point, the rope deviated at an angle of 45° at the roof point. If the suspended mass is at equilibrium, the magnitude of the force applied is;
(g = 10 ms–2)
(1) 200 N (2) 140 N
(3) 70 N (4) 100 N

3. When a sphere rolls down an inclined plane, then identify the correct statement related to the work done by friction force.
(1) The friction force does positive translational work.
(2) The friction force does negative rotational work.
(3) The net work done by friction is zero.
(4) All of the above

4. The number of possible natural oscillation of air column in a pipe closed at one end of length 85 cm whose frequencies lie below 1250 Hz are;
(velocity of sound = 340 ms–1)
(1) 7 (2) 5
(3) 6 (4) 4

5. Assertion (A): Sine and cosine functions are periodic functions.

Reason (R): Sinusoidal functions repeats it values after a definite interval of time.
(1) Both Assertion (A) and Reason (R) are the true, and Reason (R) is a correct explanation of Assertion (A).
(2) Both Assertion (A) and Reason (R) are the true, but Reason (R) is not a correct explanation of Assertion (A).
(3) Assertion (A) is true, and Reason (R) is false.
(4) Assertion (A) is false, and Reason (R) is true.

6. Assertion (A): Heat absorbed in a cyclic process is zero.
Reason (R): work done in a cyclic process is non zero.
(1) Both Assertion (A) and Reason (R) are the true, and Reason (R) is a correct explanation of Assertion (A).
(2) Both Assertion (A) and Reason (R) are the true, but Reason (R) is not a correct explanation of Assertion (A).
(3) Assertion (A) is true, and Reason (R) is false.
(4) Assertion (A) is false, and Reason (R) is true.

7. The momentum of a system is defined;
(1) as the product of mass of the system and the velocity of centre of mass.
(2) as the vector sum of the momentum of individual particles.
(3) for bodies undergoing translational, rotational and oscillatory motion.
(4) All of the above

8. The horizontal and vertical displacements of a particle moving along a curved line are given by x = 5t and y =2t
2 + t. Time after which its
velocity vector makes an angle of 45° with the horizontal is;
(1) 0.5 s (2) 1 s
(3) 2 s (4) 1.5 s

9. If there is a straight line parallel to volume axis in a P-V diagram, then it is a graph:
(1) isochoric (2) isobaric
(3) isothermal (4) none of these

10. Internal forces acting in a system of particle can change;
(1) the kinetic energy but not linear momentum of the system.
(2) neither linear momentum nor kinetic energy of the system.
(3) both kinetic energy and linear momentum of the system.
(4) the linear momentum but not the kinetic energy of system.

11. Statement I: The reflection coefficient of a black body is zero.
Statement II: Black body absorbs all the radiation incident on it.
(1) Statement I and Statement II both are correct.
(2) Statement I is correct, but Statement II is incorrect.
(3) Statement I is incorrect, but Statement II is correct.
(4) Statement I and Statement II both are incorrect.

12. Statement I: Work done by the gravitational force is positive when the two-point masses are brought from infinity to any two points in space.
Statement II: Gravitational potential energy increases during the above process.
(1) Statement I and Statement II both are correct.
(2) Statement I is correct, but Statement II is incorrect.
(3) Statement I is incorrect, but Statement II is correct.
(4) Statement I and Statement II both are incorrect

13. Statement I: Atomizer is based on the principle of Bernoulli's theorem.
Statement II: Bernoulli's theorem is not based on the conservation of energy
(1) Statement I and Statement II both are correct.
(2) Statement I is correct, but Statement II is incorrect.
(3) Statement I is incorrect, but Statement II is correct.
(4) Statement I and Statement II both are incorrect

14. A solid sphere rolls down two different inclined planes of the same height but of different inclinations;
(1) in both cases the speeds and time of descend will be same.
(2) the speeds will be same but time of descend will be different.
(3) the speeds will be different but time of descend will be same.
(4) speeds and time of descend both will be different.

15. In a stationary wave system, all the particles of the medium;
(1) have zero displacement simultaneously at some instant.
(2) have maximum displacement simultaneously at some instant.
(3) are at rest simultaneously at some instant.
(4) All of the above

16. Two stones are projected with the same speed but making different angles with the horizontal. Their horizontal ranges are equal. The angle of projection of one is /3 and the maximum height reached by it is 102 m. Then the maximum height reached by the other (in metres) is;
(1) 76 (2) 84
(3) 56 (4) 34

17. A bullet moving with a speed of 100 ms−1 can just penetrate into two planks of equal thickness. Then the number of such planks, if speed is doubled will be;
(1) 6 (2) 10
(3) 4 (4) 8

18. A spring having a spring constant ‘K’ is loaded with a mass ‘m’. The spring is cut into two equal parts and one of these is loaded again with the same mass. The new spring constant is
(1) K/2 (2) K
(3) 2K (4) K^2

19. A force F1 accelerates a particle from rest to a velocity v. Another force F2 decelerates the same particle from v to rest, then;
(1) F1 is always equal to F2.
(2) F2 is greater than F1.

(3) F2 may be smaller than, greater than or equal to F1.
(4) F2 cannot be equal to F1.

20. An electric motor creates a tension of 4500 N in a hoisting cable and reels it in at the rate of 2 m/s. What is the power of electric motor?
(1) 15 kW
(2) 9 kW
(3) 225 kW
(4) 9000 HP

21. Two sound waves of wavelength 1 m and 1.01 m in a gas produce 10 beats in 3 s. The velocity of sound in the gas is:
(1) 330 m/s (2) 337 m/s
(3) 360 m/s (4) 300 m/s
42. The average resisting force that must act

22. The average resisting force that must act on a 5 kg mass to reduce its speed from 65 ms–1 to 15 ms−1 in 2s is;
(1) 12.5 N (2) 125 N
(3) 1250 N (4) None of the above

23. In the stable equilibrium position a body has:
(1) Maximum potential energy
(2) Minimum potential energy
(3) Minimum kinetic energy
(4) Zero kinetic energy

24. Two particles are projected in air with same speed u at an angle 1 and 2 (both acute) to the vertical, respectively. If the maximum height reached by the first particle is equal to that of second, then which of the following is correct?

(T1 and T2 are time of flight of two particles respectively)
(1) 1 < 2 (2) 1 > 2
(3) T1 > T2 (4) T1 = T2

25. A car is moving at a speed of 40 m/s on a circular track of radius 400 m. The speed is increasing at the rate of 3 m/s2. The net acceleration of car is x 1/3. What is x?
(1) 124 (2) 127
(3) 125 (4) 123

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