PHYSICS

BOOKS - JBD PUBLICATION

MODEL TEST PAPER -03

Exercise

1. Define angular frequency of rotating body.

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2. sound waves are ..... in nature.

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3. What is physics?

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4. Give two differences between distance and displacement.

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5. What are concurrent forces?

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6. Which of the following forces are not conservative in nature?

A. Magnetic

B. Frictional

C. Gravitational

D. Electrostatic.

Answer:

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7. A wire of length l and cross selection area a is made of material of Young's modulus Y.If the wire is stretched by an amount x,find the work done.

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8. Define the terms ,gravitational field inensity and gravitaional potential.

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9. If the earth shrinks without any change in mass,how the length of the day will be affeced?

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10. A man pushes a body of mass 10 kg placed on a rough surface of co-efficient of friction 0.3 by a distance 5 m in 10 seconds,find his power.

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11. A bend in a level road has a radius of 100 m.Find the maximum speed with which a car turning thi bend may have without skidding,if

the co-efficient of friction between the tyres and the road is 0.2.

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12. A car is moving with a speed of 30 ms^{-1} on a cricular path of radius 500 m.Its linear speed is increasing at the rate of $2ms^{-2}$ .Find the values of its net acceleration.

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13. Are the dimensions of coefficient of viscosity and coefficient of friction same?

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14. What are the characteristics of physical standard?

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15. State Polygon law of vector addition and prove it using Triangle law of vector addition.

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16. A body from rest accelerates at rate $10ms^{-2}$ for 5 seconds and then moves with constant velocity for 10 seconds .Find the total distance travelled by it.

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17. Define angle of friction.

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18. When a car moving with $36kmh^{-1}$ reaches an upward inclined road of angle 30° ,its engine is switched off.If the co-efficient of friction is 0.1,how much distance will the car move before coming to rest ?(Take $= 10ms^{-2}$).

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19. Prove that during elastic collision fo two bodeis ,the relative velocity of approach before collision is equal to relative velocity of seperation after collision.

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20. Define temperature co-efficient of sound.

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21. What is Doppler's effect?Derive a general expression for the apparent frequency when both source and observer are in relative motion.

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22. What do you mean by beats in sound?

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23. Define wave motion.What are its characteristics?

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24. State Archimedes' principle.

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25. State and prove Bernoulli's theorem for liquid having streamline flow.

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26. State and prove Bernoulli's theorem for liquid having streamline flow.

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27. Sate Pascal's law . Is it an independent law?

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28. What is surface tension? What is the effect of temperature on surface tension ?

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29. Is centre of mass a reality?

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30. Prove the theorem of parallel axes.

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31. What is physical significnce of moment of inertia?

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32. State the principle of conservation of angular momentum.

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