Government Higher Secondary School

Kollemcode

Important Five Mark Questions

1. Explain in detail the various types of errors.

2. Explain in detail the triangle law of addition.

3. Discuss the properties of scalar and vector products.

4. Derive the kinematic equations of motion for constant acceleration.

5. Prove the law of conservation of linear momentum. Use it to find the recoil velocity of a gun when a bullet is fired from it.

6. State and explain work-energy principle. Mention any three examples for it.

7. State and prove parallel axis theorem.

8. State and prove perpendicular axis theorem.

9. Explain the variation of g with latitude, altitude, depth from the Earth's surface.

10. Derive an expression for escape speed.

11. Derive the time period of satellite orbiting the Earth.

12. Derive an expression for energy of satellite.

13. Discuss the apparent weight of man standing inside the elevators.

14. State Hooke's law and verify it with the help of an experiment.

15. Explain the different types of modulus of elasticity.

16. Derive Poiseuille's formula for the volume of a liquid flowing per second through a pipe under streamlined flow.

17. State and prove Bernoulli's theorem for a flow of incompressible, non-viscous, and streamlined flow of fluid.

18. Discuss various modes of heat transfer.

19. Explain in detail Newton's law of cooling.

20. Derive the expression of pressure exerted by the gas on the walls of the container.

21. Explain in detail the Maxwell Boltzmann distribution function.

22. Derive the expression for mean free path of the gas.

23. Discuss the simple pendulum in detail.

24. Describe the vertical oscillations of a spring.

25. Explain the horizontal oscillations of a spring.

26. Write short notes on the oscillations of liquid column in U-tube.

27. Describe Newton's formula for velocity of sound waves in air and also discuss the Laplace's correction.

28. Explain how overtones are produced in a Closed organ pipe.

29. Explain how overtones are produced in a Open organ pipe.

30. Explain in detail Carnot heat engine.