1st PUC Physics Important Questions List

1. Mention any of the two basic forces in nature

2. Distinguish between distance and displacement

3. What is the Doppler effect? Mention one of its applications

4. State Newton's first law of motion? Hence define force and inertia.

5. Derivation of pressure at a point inside a liquid

6. Explain Laplace's correction to Newton's formula for the Speed of a sound wave.

7. Derive the expression for maximum safe speed of a vehicle on a banked road in circular motion

8. State and explain Hooke's law. Draw Stress – strain curve with labeling the parts

9. A pump on the ground floor of a building can pump up water to fill a tank of volume 40m3 in 20minutes if the tank is 30m above the ground and the efficiency of the pump is 60%. How much electric power is consumed by the pump? Given density of water = 1000 kg/m3 and acceleration due to gravity = 9.8m/s2

10. Mention two uses of dimensional analysis

11. On an average, the human heart is found to beat 75 times in a minute. Calculate its frequency.

12. State and explain Law of triangle of vectors. When will be the resultant of two given vectors is maximum?

13. State and explain Bernoulli's theorem.

14. Derive the relation between torque and angular momentum of a particle.

15. A train standing at the outer signal of railway station blows a whistle of frequency 400Hz in still air. i) what is the frequency of the whistle for a platform observer when the train (a) approaches the platform with a speed of 10m/s. b) recedes from the platform with a speed of 10m/s? ii) what is the speed of the sound in each case. the speed of sound in still can be taken as 340m/s.

16. State and explain first law of thermodynamics.

17. Obtain an expression for time of flight of a projectile.

18. Give any three differences between progressive wave and a stationary wave.

19. What is SHM? Write its characteristics and give its graphical representation.

20. A flywheel of mass 12.5kg and diameter 0.36m rotating at 90rpm has its speed increased to 720rpm in 8s. Find the torque applied to flywheel.