



QUESTION BANK

SUBJECT: PHYSICS

NAME:

ROLL NO.

I. Objective /Very Short Question

- Equation of motion can be used for a body having
 - Uniform motion
 - Non uniform motion
 - Uniform acceleration
 - Non-Uniform acceleration
- An artificial satellite is moving in a circular orbit of radius 42250km. Calculate its speed if it takes 24hrs to revolve around the earth.
 - Velocity = 2 m/s
 - Acceleration = $1/2 \text{ m/s}^2$
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 - Acceleration = 2 m/s^2
- For a body starting from rest ,the displacement in 10 sec, when its acquires 4 m/s in 2 sec is
 - 25m
 - 50m
 - 500m
 - 100m
- Bag at the top of a school van are tied using a string to avoid the effect of
 - Inertia
 - Momentum
 - Force
 - Acceleration
- State the name and type of force which is responsible for the formation of tides in the sea.
- Why law of gravitation is called a Universal law?
- Define SI unit of Work.
- Define kinetic energy.
- Define wavelength of a sound.
- What is echo?

II. Short Answer Types Questions

1. Give two properties of sound
2. A sound wave travels at a speed of 339m/s. If its wavelength is 1.5cm, what is the frequency of the wave? Will it be audible?
3. Explain how bats use ultrasound to catch a prey.
4. Does sound follow the same laws of reflection as light does? Explain.
5. A pair of bullocks exerts a force of 140N on a plough. The field being ploughed is 15m long. How much work is done in ploughing the length of the field?
6. Define G & g
7. Mass of a planet is twice of the earth and its radius is four times of the earth. Find the value of 'g' on its surface.
8. A stone of 1 kg is thrown with a velocity of 20m/s across the frozen surface of a lake and comes to rest after travelling distance of 50m. what is the force of friction between stone and the ice?
9. A bus decreases its speed from 80km/h to 60km/h in 5s. find the acceleration of the bus.
10. What is the nature of distance – time graphs for uniform and non- uniform motion of an object?

III. Long Answer Type Questions.

1. Distinguish between speed and velocity
2. Why do you fall in the forward direction when a moving bus brakes to a stop and fall backward when it accelerates from rest?
3. A hammer of mass 500g, moving at 50m/s strikes a nail. The nail stops the hammer in a very short time of 0.01s.what is the force of the nail on the hammer?
4. Calculate the force of gravitation between the earth and the sun , given that the mass of earth = 6×10^{24} kg and the sun = 2×10^{30} kg. The average distance between the two is 1.5×10^{11} m.
5. Calculate the work required to be done to stop a car of 1500kg moving at a velocity of 60km/h?
6. Write applications of ultrasound.
7. Derived an expression for kinetic energy.

IV. Very long answer Type Questions.

1. Name and define the various types of inertia .Illustrate each of them with suitable example.
2. Distinguish between displacement and distance covered by a body in a given time.
3. (a) The unit of certain parameter of a mechanical waves are given:
Name the corresponding parameter of mechanical waves and define each:
 - i. Meter
 - ii. Meter per second
 - iii. Hertz
 - iv. Second(b) Two sound A and B are of different pitch B appears to be heavier as compared to A. What can be said about their comparative frequencies?
4. (a) a moving body of mass 20 kg has 40 joules of kinetic energy. Calculate the speed.
(b) A person carrying a load of 20 kg climbs 4m in 10 sec. calculate the work done and his power.(g= 10m/s²)
- 5.State the universal law of gravitation. Explain its significance. Mass of an object is 20kg. Find its weight on earth and on moon.