

REG.NO.

NGM COLLEGE (AUTONOMOUS) POLLACHI
END-OF-SEMESTER EXAMINATIONS: NOVEMBER-2024
B.Sc. – PHYSICS **MAXIMUM MARKS: 50**
I SEMESTER **TIME: 2 HOURS**

PART-IV: FOUNDATION COURSE
INTRODUCTORY PHYSICS

SECTION A

ANSWER THE FOLLOWING QUESTIONS [10 x 1 =10 MARKS]

MULTIPLE CHOICE QUESTIONS:

- Find the sum of the vectors $\vec{a} = 6\vec{i} - 3\vec{j}$ and $\vec{b} = 5\vec{i} + 4\vec{j}$.
a) $11\vec{i} + \vec{j}$ b) $11\vec{i} - \vec{j}$ c) $-11\vec{i} + \vec{j}$ d) $\vec{i} + \vec{j}$
- Identify the types of kinetic friction?
a) Sliding friction, rolling friction and adhesive friction
b) Sliding friction and rolling friction
c) Rolling friction and adhesive friction
d) Sliding friction and adhesive friction
- Two bodies moving with constant velocities collide with each other. Which of the following quantities remain conserved?
a) Momentum b) Speed c) Force d) Velocity
- Bernoulli's principle is derived from which of the following?
a) Conservation of mass b) Conservation of energy
c) Newton's law of motion d) Conservation of momentum
- Current carrier in conductors is ____
a) Electron b) Proton c) Neutron d) Positron

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES. (K2)

- Write the dimensional formula for force ____
- Distinguish between cohesive and adhesive forces? (Any one)
- Write any two real life examples of alternate energy sources.
- Define wave motion.
- Mention any two properties of insulators.

SECTION- B (5X8=40MARKS)

ANSWER ANY FIVE QUESTIONS OUT OF THE EIGHT QUESTIONS. (K3)

- Classify the different types of vectors in detail –
i) addition, ii) subtraction, iii) resolution and iv) resultant vectors .
- Explain different types of forces in detail.
- State and prove law of conservation of momentum.
- Explain any five types of motion in detail.
- Discuss in detail
i) streamline and turbulent motion and ii) comparison of light and sound waves.
- Explain the process of banking of curved roads with a neat diagram.
- Define surface tension. Describe the shape of spherical drop and angle of contact.
- Write about types of materials in daily use – conductors and insulators.