| Physics | Lahore Ninth, 2021 | Paper – I |
|---|---|---|
| Time: 1.45 Min. | Subjective Type | Marks : 48 |

## (Group-II)

**2. Write short answers to any FIVE (5) questions:** (10)

i Write any four names of base quantity.

ii What do you mean by scientific notation? Give example.

iii What is meant by vernier constant?

iv Differentiate between scalars and vecors.

v Define acceleration and write its formula.

vi Describe a vector by graphically method.

vii Define force and write its unit.

viii What is meant by coefficient of friction? Also write its symbol.

**3. Write short answers to any FIVE (5) questions:** (10)

i What is meant by resultant force?

ii Define moment arm.

iii State the principle of moments.

iv What are artificial satellites?

v What is meant by force of gravitation?

vi What are natural satellites?

vii Define kinetic energy and potential energy.

viii How can you find the efficiency of system?

**4. Write short answers to any FIVE (5) questions:** (10)

i Define density and give the density of water.

ii What is elasticity?

iii Define stress and give its unit.

iv Define internal energy.

v What is meant by latent heat of vaporization?

vi What are the three ways of transfer of heat? Write their names.

vii Define thermal conductivity.

viii Write two uses of convection currents?

## PART – II

**Note: Attempt any Two questions.**

**5.** (a) State and explain law of conservation of momentum. (4)

(b) A train starts from rest with an acceleration of 0.5 $ms^{-2}$. Find its speed in $km\,h^{-1}$, when it has moved through 100 m? (5)

**6. (a) Define equilibrium. State and explain first condition of equilibrium.** (4)

(b) A motor boat moves at a steady speed of $4ms^{-1}$. Water resistance acting on it is 4000 N. Calculate the power of its engine. (5)

**7.** (a) Sate Pascal's law and explain hydraulic press. (4)

(b) Calculate the increase in the length of an aluminium bar 2m long when heated from $0°C$ to $20°C$. The thermal coefficient of linear expansion of aluminium is $2.5 \times 10^{-5} K^{-1}$. (5)