

Time: 1:45 Hours (New Course 2023 Annual)

Marks: 48

2- Write short answers to any Five Parts :-

5x2=10

i Write the use of physical balance.

Ch. # 1

ii Define screw gauge.

Ch. # 1

iii What is meant by scientific notation?

Ch. # 1

iv Define scalars and give two examples.

Ch. # 2

v Write second equation of motion for body moving under gravity.

Ch. # 2

vi Define centripetal force. Give its formula.

Ch. # 3

vii What is meant by isolated system?

Ch. # 3

viii Write SI unit of force and define it.

Ch. # 3

3- Write short answers to any Five Parts:

5x2=10

i Define like parallel forces and give an example.

Ch. # 4

ii Define torque and write its SI unit.

Ch. # 4

iii Why the height of vehicles is kept as low as possible?

Ch. # 4

iv What is meant by force of gravitation?

Ch. # 5

v Define gravitational field strength.

Ch. # 5

vi Why the communication satellites are stationed at geostationary orbit?

Ch. # 5

vii Define kinetic energy and write its equation.

Ch. # 6

viii How the solar panels are formed? Write the uses of solar panels.

Ch. # 6

4- Write shorts answers to any Five Parts:-

5x2=10

i Write principle of floatation.

Ch. # 7

ii State Hook's law.

Ch. # 7

iii What is meant by elastic limit?

Ch. # 7

iv Differentiate between heat and temperature.

Ch. # 8

v Define specific heat capacity.

Ch. # 8

vi What is meant by convection current?

Ch. # 9

vii Why does land breeze blow in the night?

Ch. # 9

viii What is the reason of glider to fly in air?

Ch. # 9

SECTION-II

Note: Attempt any two questions.

5-(a) Derive the third equation of motion with the help of speed-time graph.

Ch. # 2

(b) How much time is required to change 22NS momentum by a force of 20N?

Ch. # 3

6-(a) Determine a force when its perpendicular components are given.

Ch. # 4

(b) A stone of mass 500g strikes the ground with a velocity of $20ms^{-1}$. How much is the kinetic energy of the stone at the time it strikes the ground?

Ch. # 6

7-(a) Explain the impact of green house effect in global warming?

Ch. # 9

(b) A steel wire 1m long and cross-sectional area $5 \times 10^{-5} m^2$ is stretched through 1mm by a force of 10000N. Find the Young's modulus of the wire.

Ch. # 7