Section-B

Short Answer

Note: Answer any SIX of the following questions.

Q.2 What is equilibrium, state any one condition of equilibrium.

Q.3 Prove that vector product does not obey the Commutative Law.

Q.4 Find the work done in moving an object a vector $r = 3i + 2j - 5k$ if the applied force is $r = 3i + 2j - 5k$ if applied force is $F = 2i + j - k$.

Q.5 Calculate the average density of earth.

Q.6 State and prove the Law of Conservation of Energy.

Q.7 State the basic of second pendulum.

Q.8 Find the length of second pendulum.

Q.9 An object is placed at a distance of 30 cm from a convex lens of focal 10cm. Find the position of image.

Q.10 How for a part are the diffracting planes in a NaCl crystal for which x-rays of wave length 1.54°A make glancing angle of 15°C – 54°C 1th order?

Section-C

(Descriptive Answer)

Note: Answer any TWO of the following questions.

Q.11 Two unequal masses are attached to a string which passes over a frictionless pulley. If the bodies are moving vertically. Find the expression for acceleration and tension in the string.

Q.12 What is simple pendulum? Show that the motion of simple pendulum is SHM. Drive the expression for its time period.

Q.13 Write a note on any ONE of the following:

Compound Microscope

Michelson's Interferometer

Centripetal aacceleration

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