Crem(1974) Coaching Academy
Public questions - 2023 (9566424680)
+1 - physics

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"All the best"

Chapter - 1

Definition of unit - types, 25) (3M) Advantages of SI system, Triangulation method and problem, one second, one ampere, parallax method, Radar method, Accuracy, Precision, Systematic errors - types, Gross error, Eg - 1.10, 1.11, principle of Homogenity of dimensions, Application and limitations, Eg - 1.14, 1.15, 1.13 Book back - pg No. 39 - IV - 1, 3, Frame of reference

34) a) (5M) 16) (2M) Single

SI unit of physical quantities Table - 1.3

34) b) 5M & Supplimentary qn.

Chapter - 2

17) (2M) Scalar, vector, Different types, Triangular law of addition, Distance & displacement, Impulse, Average velocity, Eg - 2.20, Parallelogram law of vectors (5M), Momentum, Average acceleration, Instantaneous acceleration, Equations of motions (3M), projectile, Horizontal proj. (5M), Angular displacement, Tangential acceleration, Centripetal acceleration Eg - 2.41, Pg 102 - 16, 19, 22

Chapter - 3

Newton's I law, II law, III law - discussion, concurrent forces & Lami's theorem, law of conservation momentum, Recoil of gun, Impulse - Illustration, 1, 2, 3, 4, static vs kinetic friction, centripetal force, Vehicle - levelled surface roads, Banking of tracks, 18) (2M) Centrifugal - centripetal comparison Pg - 165 - 14, 15

22) (3M) 35) a) S.T in an inclined plane, angle of friction = angle of repose (5M) (supplimentary qn).

Chapter - 4

28) (3M) Work done - cases, Potential energy, Work - energy theorem, Momentum - Elastic potential energy, Law of conservation of energy, (5M), Motion of KE in verticle circle, Power, 1 kWH, Eg - 4.18, Relation power & velocity, Types of collision, Elastic collision in 1D (5M) - derivation. Coefficient of restitution. Pg. 205 - 1, 5

35) b) (5M)

Chapter - 5

20) (2M) Centre of mass - distributed point mass, Eg - 5.2, 5.8, precession of top, Torque & applications, $\tau = I\alpha$ (3M) $\tau = I\bar{\omega}$, conservation of angular momentum, Couple, principle of Centre of gravity, Bending of cyclist, Moment of Inertia (5M) of uniform rod, parallel axis theorem, cons. of angular momentum, - example, Slipping & Sliding - Pg 263 - 1, 5

36) a) (5M)

OPPO A54

Chapter-6

21) (2M)

Kepler's law (5M), law of gravitation, Inverse square law, gravitational field, Potential, Variation of g with altitude, depth, Escape speed, Time period, Geostationary, Helio centric System, Lunar eclipse (5M),

29) (3M)

36) b) (5M)

Chapter-7

Elasticity, Plasticity, longitudinal & Shearing stress, Hooke's law, Types of modulus (Elastic) (5M), Poisson's ratio, Pascal's law, Buyoancy, Archimedes principle, submarine, 22) (2M) Coefficient of Viscosity, streamline flow & turbulent flow, Reynolds number, Terminal velocity - expression (5M), Stoke's law, Surface tension - examples (3M), Angle of contact, capillarity, 30) (3M) surface tension by capillary rise, Bernoulli theorem & applications Equations of continuity - problem - 1, 5

37) a) (5M)

Chapter-8

Boyles, Charles law, Heat capacity & specific capacity Thermal expansion, Cofficient of thermal conductivity, Newton's law of cooling (5M), wiens displacement law, Thermal equilibrium, State variables, 23) (5M) Zeroth law, first law - quasi static, PV diagram-expans, Meyer's relation (5M), Work done in isothermal process & adiabatic, Cyclic process - I law - limitations, Eg. 8.24 (5M), carnot cycle-Working Eg - 8.12 -

37) b) (5M)

33) (3M) (compulsory) 38) a) (5M)

Chapter-9

32) (3M) Postulates of Kinetic theory & Relation between pressure and mean K.E, Rms speed, Moon has no atmosphere, Comparison, Degrees of freedom - full topic, triatomic molecules, law of equipartition of energy, Application, Mean free path, Brownian motion.

Chapter-10

SHM, proj. of uniform circular (5M) motion on a diameter of SHM, Velocity, Acceleration in SHM, (2M) Epoch in SHM, Laws of simple pendulum (5M), Pg-220-2, 6, 9, problems - 4-(ii)

31) (3M)

Chapter-11

Doppler effect, applications, Characteristics of wave motion, Terms & def. in wave motion, Velocity of transverse waves in a stretched string, Newton's for. for speed of sound waves in air, Laplace's correction (5M), Super position principle, Interference of waves, formation of beats, 38) b) (5M) Laws of transverse vibrations in stretched strings, Intensity & loudness of sound, overtones in organ pipes - closed

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