ANNEXURE - I
PHYSICS
(Common Syllabus for all Diploma Holders in Engineering)

Unit-1:Units and Dimensions

Physical quantity-fundamental and derived physical quantities-units-fundamental and derived units-SI units-multiples and sub-multiples in SI units-advantages of SI units.

Unit-2: Elements of vectors

Scalar and vector quantities-examples–graphical representation of a vector-types of vectors-triangle law-parallelogram law and its cases.

Unit-3: Kinematics

Acceleration due to gravity.

Unit-4: Work, Power and Energy

Work, power and energy-definitions and units-potential and kinetic energies-examples and expressions-law of conservation of energy-problems.

Unit-5: Acoustics

Sound-musical sound and noise-noise pollution-Effects and methods of control of Noise Pollution-Beats and echo -Doppler effect–Explanation, cases and Applications - Reverberation-Sabines' formula- -problems.

Unit:6:Heat

Expansion of gases-Boyle's law-Absolute scale of temperature-charle's laws-Ideal gas equation-Universal gas constant and its value-SI Units-problems.

Unit:7 : Modern Physics

Photo electric effect–explanation and its laws-applications of photoelectric effect (photocell) – critical angle and total internal reflection – optical fibers - principle, working , types and applications-concept of super conductivity– its properties and applications.

ANNEXURE- II

Number of Questions to be Set Unit Wise (TOTAL 25)

UNITNO	TOPICS	MARKS
I	Units and Dimensions	02
II	Elements of Vectors	04
III	Kinematics	02
IV	Work, Power and Energy	04
V	Acoustics	05
VI	Heat	05
VII	Modern Physics	03
Total		25

ANNEXURE- III
MODEL QUESTIONS FOR PHYSICS

1. If young's modulus'Y', surface tension 'S' and velocity'V' are chosen as fundamental quantities, the dimensional formula for force is
   2. Y-5V-4S6
   3. $Y^{-3}V^{5}S^{5}$
   4. $Y^{-5}V^{-4}S^{5}$
   5. $Y^{-3}V^{-4}S^{6}$
2. A balloon moves up with constant velocity 10m/s. An object is dropped from it when itis at a height of 100 m above the ground. The distance between the object and the balloon after 5sec is ($g=10m/s^2$)
   1. 120 m
   2. 125 m
   3. 100 m
   4. 150 m
3. The time period of an oscillating simple pendulum is'T'.If its length is increased by 5 cm then the time period is 'T_1' and the time period is 'T_2' if the length is reduced by 5cm. The relationship amongT, T_1, T_2
   1. $T^2=T_1^2+T_2^2$
   2. $T^2/2 = T_1^2+T_2^2$
   3. $2T^2= T_1^2+T_2^2$
   4. $3T^2= T_1^2+T_2^2$
4. A gas is heated through 4 K in a closed vessel. If its pressure is increased by 0.8%, the initial temperature of the gas is
   1. 227 K
   2. 454 K
   3. 454^oC
   4. 227^oC
5. If light travels through two media with velocities 2.5×10^8m/s and 2×10^8m/s respectively,the critical angle for the combination of the two media is
   1. $Sin^{-1}(4/5)$
   2. $Sin^{-1}(3/5)$
   3. $Sin^{-1}(2/5)$
   4. $Sin^{-1}(1/5)$