2nd Unit test- (Question Bank)
Class: All branches (First Sem K scheme)
Basic Science (BSC - 311305)

UNIT II. ELECTRICITY,MAGNETISM AND SEMICONDUCTORS (CO2)

2 Marks question

1) Define the Electric field intensity and state it's units in MKS and CGS.
2) Calculate the potential at a point 20cm away from the point charge +1C.
3) State Ohm's law with mathematical equation.
4) Calculate the specific resistance of wire of length 6m in length,0.4mm in diameter having a resistance of 30 Ω.

4 Marks question

1) State Coulombs inverse square law. Solve two charges each of one coulomb are placed at a distance of 0.3 m apart in air. Calculate the force between them.
2) Define magnetic lines of force. Write any four Properties of magnetic lines of force.
3) Distinguish between N-type and P- type semiconductor
4). Define:- (i) Conduction band (ii) Forbidden band
(iii) Valence band (iv) Dopping

UNIT III. THERMOMETRY AND FIBRE OPTICS (CO3)

2 Marks question

1) Define: -(i) Absolute zero Temperature. (ii) Temperature Gradient
2) Convert the following.
i) 45^0C to …….^{0}F ii) 320^0K to …… ^{0}C
3) Write the conditions for Total Internal Reflection
4)Find the angle of incidence if angle of refraction is 30^0 for a glass having refractive index 1.5

4 Marks question

1) Comparison between Heat and Temperature.
2) State the law of thermal conductivity. Define Boyles law, Charles Law, Gay –Lussac's law.
3) A gas at17^0C and pressure of 60 cm of mercury has volume 2 litres. Find it's volume at 27^0C and pressure of 70 cm of mercury.
4) Applications of Optical fiber