Roll No.....

Department of Food Technology
School of Interdisciplinary Sciences and Technology
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B.Tech. 2023 1st Sem.

End Sem Examination
April, 2023. B Tech 1st SEM
Paper Title: Applied Physics; Paper Code: BFTC – 101

Time allotted: 3Hrs. Max Marks: 60

Note: Write to the point. Before answering make sure you have mentioned the Question No.

Section-A (12 Marks, Attempt All)

Q1.What do you understand by energy gap?	CO1	(2)
Q2.Define Insulators.	CO1	(2)
Q3.What is unpolarised light	CO1	(2)
Q4.Define monochromatic light.	CO1	(2)
Q5. What is LASER?	CO1	(2)
Q6.Write down the expression for frequency of absorbed radiation.	CO1	(2)

Section- B (Attempt any 3) (6 Marks Each)

Q7.The Hall coefficient for a specimen is $3.66*10^{-4}$ m^3/C. If the resistivity of the specimen is $8.93*10^{-3}$ Ω-m. Calculate the mobility and concentration of charge carriers? CO2 (6)

Q8.When the movable mirror of Michelson's interferometer is shifted by 0.030mm,the shift of 100 fringes is observed. Calculate the wavelength of light in A^0 and state its colour? CO2 (6)

Q9.What are the characteristics of a laser beam? CO2 (6)

Q10.Write short note on the following CO2 (6)

a) Hole
b) Optic Axis

Section C (Attempt any 3) (10 Marks Each)

Q11.what do you understand by conductors and semiconductors? Differentiate between conductors, semi-conductors and insulators on the basis of band theory of solids. CO3 (10)

Q12.Explain the polarization of light with neat diagram. Also differentiate between polarised and unpolarised light? CO3 (10)

Q13.What do you understand by interference of light? Explain the principle of superposition. CO3 (10)

Q14.What do you understand by uniaxial and bi-axial crystal CO3 (10)