

KARIMPUR PANNADEVI COLLEGE

Internal Assessment 2020-21, Semester – III

Sub: PHYSICS (Program)

Paper : GCC-T-3

Full Marks : 10

Answer any one questions

(10)

1. (a) What is meant by poles and branch points in complex analysis?

(b) State and prove De-Moivre's theorem.

(c) Express Dirac delta function as a Fourier Integral.

(2+2)+3+3

2. (a) Define Compton shift

(b) Calculate the de Broglie wavelength of a 100 keV electron.

(c) Write down Schrodinger's equation for a particle in a one dimensional box. Solve it to obtain normalized Eigen functions and show that eigenvalues are discrete.

2+2+(1+3+2)

3. (a) Construct a bridge rectifier and explain how it works.

(b) Briefly discuss the action of a transistor in CE configuration. Obtain the relation between β and α .

(c) Show how an OPAMP can be used as an integrator.

2+(2+3)+3