UG/3rd Sem/PHSH(H)/Pr/19

2019

UG 3rd Semester (Honours) Examination

PHYSICS

Paper - GE3P

[Practical]

Full Marks : 20

Time : 3 Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.

Perform any *one* from the following list of Practicals :

General Instruction : Experiment to be selected by drawing a lot

Division of marks :

Expt - 15

LNB - 02

Viva - 03

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Total - 20

[Turn Over]

1. Measure the susceptibility of a given paramagnetic solution by 'Quinck's tube method

    (a) Theory   3

    (b) Expt Table and Data   10

    (c) Calculation and Result   2

2. Measure the magnetic susceptibility of a given solid

    (a) Theory   3

    (b) Expt. Table and Data   10

    (c) Calculation and Result   2

3. Measure the variation of dielectric constant of a dielec tric material with Frequency.

    (a) Theory   3

    (b) Expt. Table and Data   10

    (c) Drawing the graph and discussion   2

4. Determine the coupling cofficient of a given piezoelectric crystal.

    (a) Theory   3

(b) Expt. Table and Data 10

(c) Calculatiojn and Result 2

5. Using SPR, determine the complex dielectric constant and plasma frequency of a given metal.

(a) Theory 3

(b) Expt. Set up and Data 10

(c) Calculation and Result 2

6. Using SPR determine the R. I. of a dielectric layer

(a) Theory 3

(b) Table and Data record 10

(c) Calculation and Result 2

7. Study the B-H curve for one cycle of iron using a solenoid and determine the energy loss.

(a) Theory 3

(b) (b-H) curve analysis 8

(c) Calculation and energy loss 4

[Turn Over]

8. Study the P-E hystersis 10 P of a Ferroelectric sample

   (a) Theory   3

   (b) Data for P-E curve   8

   (c) Plotting P-E curve   2

   (d) Calculations   2

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