2018

CBCS

3rd Semester

PHYSICS

PAPER—GE3P

(Honours)

(Practical)

Full Marks : 20

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

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

General Instruction : Experiment to be selected by drawing a lot.

Division of Marks : Expt. — 15

L.N.B — 02

Viva — 03

Total — 20

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

   Theory — 3

   Expt. Table and Data — 10

   Calculation and Result — 2.

2. Measure the magnetic susceptibility of a given solid.

   Theory — 3

   Expt. Table and Data — 10

   Calculation and Result — 2.

3. Measure the variation of dielectric constant of a dielcetric material with frequency.

   Theory — 3

   Expt. Table and Data — 10

   Drawing the graph and discussion — 2.

(Continued)

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

Theory — 3

Expt. Table and Data — 10

Calculation and Result — 2.

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

Theory — 3

Expt. Set up and Data — 10

Calculation and Result — 2.

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

Theory — 3

Table and Data record — 10

Calculation and Result — 2.

7. Study the B–H curve of iron using a solenoid and determine the energy loss.

Theory — 3

(B–H) Curve analysis — 8

Calculation and energy loss — 4.