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02/PG/3S/PHS/395/20

2020**M.Sc.****3rd Semester Examination****PHYSICS****Paper – PHS-395***Full Marks: 50**Time: 3 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.

(Advance Practical - II)**Marks Distribution:**

Experiment: 50

Total = 50

Perform any *one* from the following experiments and give answers to the corresponding questions within the scheduled time.

(Turn Over)

1. Determine Planck's constant with input light from a Tungsten (W) filament bulb and measuring photo-voltage from a solar cell.
 - (a) Theory and circuit diagram 15
 - (b) Experimental Procedure 30
 - (c) Discussions 5

2. Determine excitation energy of Argon (Ar) gas following Franck-Hertz experiment.
 - (a) Theory and circuit diagram 15
 - (b) Experimental Procedure 30
 - (c) Discussions 5

3. Study the characteristics of a photo-diode (PD) to calculate its reverse resistance.
 - (a) Theory and circuit diagram 15
 - (b) Experimental Procedure 30
 - (c) Discussions 5