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**PG CBCS**  
**M.SC. Semester-III Examination, 2021**  
**PHYSICS**  
**PAPER: PHS 395 (PRACTICAL)**  
**(ADVANCE PRACTICAL – II)**

**Full Marks: 50**

**Time: 3 Hours**

Candidates are required to give their answers in their own words as far as practical.  
Everyone must attempt any two questions.

**Answer any TWO questions of the following: 2 X 25=50**

1. What is quantum efficiency? Write down theory with circuit diagram to study the linearization LED characteristics and finding out quantum efficiency.
2. What is GM counter and how it works? Write down the theory with diagram to verify inverse square law using G-M counter.
3. What is LDR? How a LDR works? Describe with theory and circuit diagram how to study LDR conductivity with input LED power.
4. Explain how resistivity varies with temperature for semiconductor. Write down the theory with circuit diagram to study the variation of resistivity of semiconductor with temperature and hence to find out the band gap energy.
5. Write down the working principle with circuit diagram to determine the gamma and beta ray absorption coefficients by using a G-M counter.
6. What do you mean by photo diode? Describe the working principle of a photo diode. Draw the circuit diagram to study the characteristics of Photo Diode.

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