

2018**2nd Semester****ELECTRONICS****(Honours)****PAPER—C3P****(Practical)***Full Marks : 20**Time : 2 Hours**The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.**Illustrate the answers wherever necessary.****Applied Physics Lab.****Answer any one question.**Select one experiment by a lucky draw method.*

- 1.** Measure the resistivity of a Si crystal using Four-probe method. Record your results at room temperature and six other temperatures upto 200°C. Plot resistivity of Si with temperature.
- 2.** Determine the value of Boltzmann constant from the I-V measurement of a P-N junction diode. Assume material constant is equal to unity.

(Turn Over)

3. Determine the threshold voltage of a light emitting diode operating in forward region. Calculate Plank's constant from this threshold voltage. Repeat this for LEDs of four different colours : RED, GREEN, YELLOW & BLUE.
4. (a) Write a programme using C to find the lowest energy eigen value for 1-D Schnodingn equation.
(b) Run the programme to verify your result.
5. (a) Write a programme using Matlab to plot tunneting probability as a function of barrier width.
(b) Run the programme and show the variation.
6. (a) Write a programme using Sci lab. to plot Energy-Band-Diagram corresponding to at least two different potential profile.
(b) Run the programme and show the corresponding variations.

Marks Distribution

Experiment :	15 marks
Laboratory Note Book :	2 marks
Viva-Voce :	3 marks
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Total	20 marks