

DUMKAL COLLEGE

P.O.- Basantapur, P.S.- Dumkal, Dist.- Murshidabad, West Bengal, Pin- 742406

2nd Semester Internal Examination - 2026

Subject: Physics (SEC)

Paper: Basic Instrumentation Skills

Full Marks: 10 | Time: 1 Hour

Answer any two questions. Figures in the right-hand margin indicate full marks. [2 × 5 = 10]

- Question 1.** (a) Draw a neat, labeled block diagram of a basic Cathode Ray Oscilloscope (CRO). [5]
(b) Briefly state the function of each of the following internal components: [3]
• Electron Gun
• Deflection System (Vertical & Horizontal)
• Phosphor Screen
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- Question 2.** What is the time base in a CRO? Why is it so called? Sketch a graph showing the variation of time base voltage with time. [5]
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- Question 3.** Explain how the phase difference between two a.c. voltages of the same frequency can be measured by a CRO using Lissajous figures. [5]
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- Question 4.** Explain how the frequency of an a.c. signal can be measured by a CRO. [5]

*** END OF QUESTION PAPER ***