



**K. K. Wagh Institute of Engineering Education & Research, Nashik**  
(An Autonomous Institute From A.Y. 2022-23)

InSem Examination-II Summer 2025	
Exam Seat No.:	
Academic Year: 2024-2025	Semester: VI
Class: TY	Program: B.Tech
Branch Code: CHE	Pattern: 2022
Name of Course: Process Instrumentation	Course Code: CHE223017
Max. Marks: 30	Duration: 1.15 Hrs.

**Instructions:** Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 01 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last column indicates the Course Outcome of the Question/sub-question.

**Marks CO**

**Question No. 1**

- 1 a) Define Transducer. Explain why electrical transducers have advantages over other types. (7) CO1

**Question No. 2**

- 2 a) Explain different functional elements of measurement system with neat diagram. (8) CO1

**OR**

- 2 b) Define Transducer. What are the types of transducers? State their advantages and disadvantages. (8) CO1

**Question No. 3**

- 3 a) Explain Seebeck, Peltier and Thomson effect with neat diagram. (7) CO2

**Question No. 4**

- 4 a) Describe the working principle, construction, and operation of a Liquid in Glass (LIG) thermometer. (8) CO2

**OR**

- 4 b) Describe the working principle, construction, and operation of a Thermocouple. (8) CO2

..... End of question paper.....