

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VII EXAMINATION – SUMMER 2026

Subject Code:3171930

Date:05-06-2026

Subject Name: Industrial Internet of Things

Time: 02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

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|------------|--|-----------|
| Q.1 | (a) Define: (i) IIOT (ii) Cyber Manufacturing Systems. | 03 |
| | (b) Explain Cyber Manufacturing System with a suitable example. | 04 |
| | (c) Write potential benefits of implementation of IIOT in manufacturing sector. | 07 |
| Q.2 | | |
| (a) | What is automatization? | 03 |
| (b) | Briefly explain technical dimensions of cyber physical systems. | 04 |
| (c) | Write short note on Industrial Smart Data & Smart Services. | 07 |
| OR | | |
| (c) | Briefly explain integrated cyber physical electronics production systems. | 07 |
| Q.3 | | |
| (a) | Define systems engineering. | 03 |
| (b) | Explain predictive analytics for manufacturing systems. | 04 |
| (c) | Briefly explain performance measurement for smart manufacturing. | 07 |
| OR | | |
| Q.3 | (a) What do you understand by modelling of CPS or CMS? | 03 |
| | (b) Explain synthesis-based development of coordination control for modelling of CPS. | 04 |
| | (c) Explain supervisory control development with relevant process steps. | 07 |
| Q.4 | (a) Define (i) Knowledge Base, (ii) Machine vision | 03 |
| | (b) Explain interoperability in smart automation with a suitable example. | 04 |
| | (c) Write short note on: communication and networking of IIOT. | 07 |
| OR | | |
| Q.4 | (a) Define (i) Big data, (ii) Machine learning | 03 |
| | (b) Write briefly about applications of CPS in machine tools. | 04 |
| | (c) Write short note on: Digital Production. | 07 |
| Q.5 | | |
| (a) | Explain service-oriented architecture for CPS with a suitable example. | 03 |
| (b) | Discuss the changes in skill sets required for the workers in smart factories. | 04 |
| (c) | Write short note on: User driven cyber physical systems. | 07 |
| OR | | |
| Q.5 | (a) What is smart metering? | 03 |
| | (b) Explain home automation system architecture with a suitable example. | 04 |
| | (c) Write short note on: IoT for city automation. | 07 |
