

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION – SUMMER 2025

Subject Code:3171930

Date:23-05-2025

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
Q.1 (a) Define IIoT and list the benefit of implementing IIoT.	03
(b) Explain cyber manufacturing system.	04
(c) Explain detail Architecture of IIoT.	07
Q.2 (a) Define cyber physical manufacturing.	03
(b) Distinguish between CPS and CPM.	04
(c) List down different Hybrid Models of the Uncontrolled System of AGVs. Explain any 3 models in detail.	07
OR	
(c) Discuss Evaluation model for assessments of cyber physical production systems.	07
Q.3 (a) Explain detail Architecture of CPS-based manufacturing.	03
(b) Write short note on: Machine Vision with neat sketch.	04
(c) Explain the importance of Model based System Engineering in IIoT	07
OR	
Q.3 (a) Distinguish between artificial Intelligence and Machine learning	03
(b) Explain in brief the challenges for Routing and Addressing in the IIoT	04
(c) Explain Knowledge base data base in Smart Automation.	07
Q.4 (a) Define Augmented Reality.	03
(b) Explain the relation between IIoT and Big Data.	04
(c) Explain the possible solutions for achieving CPS Autonomy in Smart Factories	07
OR	
Q.4 (a) Define Artificial intelligence.	03
(b) Explain big data and condition Monitoring.	04
(c) Discuss the requirements and challenges for Data Quality in data analytics in CPS Machine tools.	07
Q.5 (a) Discuss IIoT for Smart manufacturing.	03
(b) List down the applications of IIoT in real time world.	04
(c) Briefly explain an Application Map for Industrial Cyber-Physical Systems.	07
OR	
Q.5 (a) Explain the concept of Body Area Networks.	03
(b) Benefits of Cloud Computing.	04
(c) Explain an Real time Application of IIoT in smart metering.	07