

Total No. of Questions : 8]

SEAT No. :

P3991

[Total No. of Pages : 2

[5354]-600-D

B.E. (E & TC) (Open Elective) (Semester - II)

INDUSTRIAL INTERNET OF THINGS

(2012 Pattern)

Time : 2.30 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Neat diagrams must be drawn wherever necessary.*
- 2) *Figures to the right side indicate full marks.*
- 3) *Use of Electronic Calculator is allowed.*

- Q1)** a) The ITU produced a comprehensive report on IoT from technical, economical and ethical views. It introduced a new axis in the ubiquitous networking path to complete the existing “anywhere” and “anytime” connectivity. Explain this new axis introduced by ITU. [7]
- b) Write the difference between IoT and M2M with reference to any three of following points: Communication Protocols, Machines & Things, Hardware and Software Emphasis, Data Collection and Analysis and Applications. [7]
- c) Industrial Internet Architecture Framework (IIAF) is described with reference to concerns, stakeholders and related viewpoints. Explain any two such viewpoints. [6]

OR

- Q2)** a) Draw the functional schematic of RFID reader and explain its working. Write about the role of antenna in the RFID reader. [7]
- b) What are the various enabling technologies of IoT/IIoT? Explain role of any one technology in IoT/IIoT [7]
- c) Explain the MODBUS protocol in brief. [6]
- Q3)** a) Write various features of Zigbee. Why it is suitable to use in IoT/IIoT?[8]
- b) Explain the MQTT protocol and its role in IIoT [8]

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OR

- Q4)** a) Write various features of BLE. Why it is suitable to use in IoT/IIoT? [8]
b) Explain the CoAP protocol and its role in IIoT [8]

- Q5)** a) Comment on how security in manufacturing is affected by introduction of IIoT [8]
b) Elaborate the Potential Security issues at Network level in IIoT. [8]

OR

- Q6)** a) Elaborate the Potential Security issues at system level in IIoT, [8]
b) Comment on “Security is the biggest inhibitors to adoption of Industrial Internet” [8]

- Q7)** a) What is Big Data? How Big Data is applicable to IoT or IIoT? What are the tools available for Big Data Analytics? [9]
b) Explain in detail any one application of IoT/IIoT application in the area of Healthcare [9]

OR

- Q8)** a) There are four important characteristics of Big Data which are called four Vs. What are they? Explain any two of them in detail. [9]
b) Explain in detail any one application of IoT/IIoT application in the area of Automotive Industry. [9]

