

CBCS SCHEME

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15CS81

Eighth Semester B.E. Degree Examination, Dec.2023/Jan.2024

Internet of Things Technology

Time: 3 hrs.

Max. Marks : 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is IOT? Explain in detail on Genesis of IOT. (08 Marks)
- b. What does IOT and digitalization mean? Elaborate on this concept. (04 Marks)
- c. Write a short note on "IOT impact in Real World". (04 Marks)

OR

- 2 a. Discuss IOT challenges. (08 Marks)
- b. With a neat diagram, explain architecture of IOT. (04 Marks)
- c. Explain Core IOT functional stack. (04 Marks)

Module-2

- 3 a. Mention any six sensor types are measuring physical phenomenon and summarize each of them with suitable example. (06 Marks)
- b. Identify the characteristics of smart objects and illustrate them. (06 Marks)
- c. What are trends in smart object impacting IOT? Classify those. (04 Marks)

OR

- 4 a. Explain the physical layer, MAC layer, topology and security aspects of IEEE 802.15.4. (08 Marks)
- b. Dramatize LoRaWAN Architecture. (05 Marks)
- c. What NB-IOT deployment options and explain them. (03 Marks)

Module-3

- 5 a. Explain working of IP as the IOT network layer. (08 Marks)
- b. Write note on Business case for IP. (04 Marks)
- c. Discuss need for optimization. (04 Marks)

OR

- 6 a. Describe application protocols for IOT. (08 Marks)
- b. Discuss the various methods used in IOT application transport. (08 Marks)

Module-4

- 7 a. Explain the elements of Hadoop with a neat diagram. (07 Marks)
- b. Explain neural network in machine learning with a detailed example. (05 Marks)
- c. Describe the components of FNN. (04 Marks)

OR

- 8 a. Explain Formal Risk Analysis Structures. (08 Marks)
- b. Explain the Purdue model for control hierarchy and OT network characteristics. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. Give a brief note on Arduino UNO. (04 Marks)
- b. With a neat diagram, explain Raspberry Pi board. (04 Marks)
- c. With a neat diagram, explain wireless temperature monitoring system using Raspberry Pi. (08 Marks)

OR

- 10 a. Explain in detail smart city IOT architecture. (08 Marks)
- b. With the case study explain smart and connected cities using Raspberry Pi. (08 Marks)
