



CBCS SCHEME

USN

--	--	--	--	--	--	--	--	--	--

17CS81

Eighth Semester B.E. Degree Examination, Feb./Mar. 2022

Internet of Things and Applications

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain simplified IOT Architecture. (12 Marks)
b. What does IOT and digitization mean, elaborate on this concept? (08 Marks)

OR

- 2 a. Explain the main drivers behind new IOT Architecture. (08 Marks)
b. Discuss IOT challenges. (04 Marks)
c. Explain core IOT functional stack. (08 Marks)

Module-2

- 3 a. Explain one M2M IOT standardized architecture? (12 Marks)
b. With examples, explain 5 different types of sensor. (08 Marks)

OR

- 4 a. What is SANET? Explain some advantages and disadvantages that a wireless based solution offers? (08 Marks)
b. Write short notes on wireless sensor Networks. (06 Marks)
c. Briefly explain protocol stack utilization in IEE 802.15.4. (06 Marks)

Module-3

- 5 a. Explain with example MQTT protocol? What is the role of MQTT protocol IOT applications? (12 Marks)
b. Explain adapting SCADA for IP with DNP3 as a representative use case. (08 Marks)

OR

- 6 a. List the categories of IOT application protocols and their transport methods. (04 Marks)
b. Write short note on COAP, REST and XMPP. (12 Marks)
c. What are the differences between adaptation and adoption of the internet protocols? (04 Marks)

Module-4

- 7 a. List and explain the Comparison between Big Data, Edge Analytics and Network analytics. (12 Marks)
b. What are the common applications of machine learning in IOT? (08 Marks)

OR

- 8 a. What are the common challenges in OT security? (06 Marks)
b. Explain the Purdue model for control Hierarchy. (07 Marks)
c. Explain the functions of Edge Analytics. (07 Marks)

Module-5

- 9 a. Explain with an example a basic structure of Arduino programming. (10 Marks)
b. Write a note on DS 18B20 temperature sensor? (05 Marks)
c. Explain general commands for raspberry Pi? (05 Marks)

OR

- 10 a. With a neat sketch, explain street lighting system? (10 Marks)
b. With a neat diagram, explain smart parking system. (10 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.