

CBCS SCHEME

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17CS81

Eighth Semester B.E. Degree Examination, July/August 2021 Internet of Things and Applications

Time: 3 hrs

Max. Marks: 100

Note: Answer any FIVE full questions.

1. a. What does IOT and digitization mean? Elaborate. (08 Marks)
b. Explain with neat diagram, the one M2M IOT standardized architecture. (06 Marks)
c. What are the different challenges in IOT? (06 Marks)
2. a. Discuss IOT World Forum (IOTWF) standardized architecture. (08 Marks)
b. Explain IOT Data Management and compute stack. (06 Marks)
c. Define IOT. Explain the evolutionary phases of Internet. (06 Marks)
3. a. List and explain the characteristics and attributes concerned when selecting and dealing with connecting smart object. (10 Marks)
b. What is Zigbee? Explain 802.15.4 physical layer, MAC layer and security. (10 Marks)
4. a. Explain in detail wireless sensors network, communication protocol and its limitations. (08 Marks)
b. List and explain different types of sensors. (06 Marks)
c. Write a note on LoRaWAN security. (06 Marks)
5. a. Discuss various IOT application transport methods. (10 Marks)
b. Explain 6TiSCH in detail. (10 Marks)
6. a. Discuss the need for optimization. (08 Marks)
b. Explain CoAP IOT application layer protocol. (06 Marks)
c. What are the key advantages of Internet protocol? (06 Marks)
7. a. Explain the challenges in IOT security. (10 Marks)
b. Explain different components of flexible Net Flow Architecture (FNF). (10 Marks)
8. a. Discuss Hadoop Eco-System-Lambda architecture. (08 Marks)
b. Discuss OCTAVE and FAIR formal Risk Analysis. (06 Marks)
c. Compare Big Data and Edge Analytics. (06 Marks)
9. a. Explain the following with respect to Arduino programming:
(i) Structure (ii) Function.
(iii) Variables and Data types. (iv) Digital I/O. (10 Marks)
b. Explain different layers of Smart City IOT architecture. (10 Marks)
10. a. Explain Smart City security architecture. (08 Marks)
b. Explain Smart City Traffic control architecture. (06 Marks)
c. Write short note on Raspberry Pi operating system. (06 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.