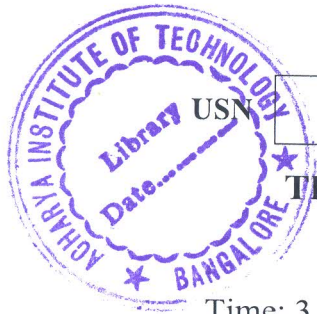


CBCS SCHEME

18ECS333



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Third Semester M.Tech. Degree Examination, Dec.2019/Jan.2020

IoT

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Briefly explain the various 'evolutionary phases' of the internet. (08 Marks)
- b. Highlight a few of the most significant challenges and problems that IoT is currently facing (IoT challenges). (06 Marks)
- c. Illustrate the impact of IoT in the smart connected building space. (06 Marks)

OR

- 2 a. Discuss each of the seven layers of IoTWF reference model. (08 Marks)
- b. Write the structure of 'Simplified IoT Architecture'. (06 Marks)
- c. What are the current challenges being addressed by 'connected roadways'? (06 Marks)

Module-2

- 3 a. Discuss with relevant examples, the classification of 'things' with respect to power, Mobility, reporting frequency, quantity of data, report range and object density per cell. (09 Marks)
- b. With figure give the comparison of last mile technologies in terms of range, cost, power and bandwidth. (05 Marks)
- c. Describe the features of Gateways and backhaul sublayer. (06 Marks)

OR

- 4 a. With relevant examples, differentiate:
(i) Analytics applications and data application
(ii) Data analytics and network analytics. (10 Marks)
- b. Highlight the features of each layer (cloud, fog and edge) of the IoT data management and compute stack. (10 Marks)

Module-3

- 5 a. Based on the type of measured physical phenomenon, give the categorization of the sensors. (08 Marks)
- b. Discuss briefly the various 'communications criteria' to be considered during selection and connection of smart objects (from range to constrained-node-networks). (12 Marks)

OR

- 6 a. Bring out the features of MEMS and SANET. (06 Marks)
- b. State the features, applications and disadvantages of IEEE 802.15.4. (05 Marks)
- c. Highlight the main features of LTE CAT O, LTE-M and NB-IoT. (09 Marks)

Module-4

- 7 a. What are the key advantages of the IP suite for the IOT? (07 Marks)
- b. Discuss the factors determining the suitability of the IP adaptation/Adoption model for last-mile connectivity. (07 Marks)
- c. List the characteristics of constrained networks. (06 Marks)

OR

- 8 a. Compare and contrast TCP with UDP. (06 Marks)
b. List and explain very briefly the important Generic web based protocols and the IoT Application Layer Protocols. (06 Marks)
c. Provide an overview of the IoT Data Analytics. (08 Marks)

Module-5

- 9 a. Discuss the IoT strategy for connected manufacturing. (08 Marks)
b. Explain the IT/OT divide in utilities. (06 Marks)
c. Explain the Siloed IoT strategy for smarter cities. (06 Marks)

OR

- 10 a. Describe the IACS reference model for the connected factory. (06 Marks)
b. Explain the CISCO grid blocks architecture of the power delivery supply chain. (06 Marks)
c. Describe briefly the four layers of the smart city IoT Architecture. (08 Marks)

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