[Total No. of Questions: 09] EVENING [Total No. of Pages: 2]

Uni. Roll No. .... 02 JAN 2023

Program: B.Tech. IT (Batch 2018 onward)

Semester: 5/ (2018)

Name of Subject: Internet Of Things

Subject Code: PCIT-111

Paper ID: 16442

Time Allowed: 03 Hours   Max. Marks: 60

NOTE:

1) Parts A and B are compulsory

2) Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice

3) Any missing data may be assumed appropriately

Part – A   [Marks: 02 each]

Q1.

a) Define IoT and its vision.

b) Illustrate the IoT conceptual framework.

c) Explain the technology behind IoT.

d) Describe Logical design using python in detail.

e) Name the Need For sensors in IoT.

f) Justify how a linux Os is useful in IoT.

Part – B   [Marks: 04 each]

Q2. Distinguish among the various wired and wireless communication mediums with one another, in detail.

Q3. List the properties of constrained environments. Use examples of connected devices, such as streetlights, RFIDs, and ATMs with the Internet.

Q4. Elucidate sensor technology for sensing the real world using analog and digital sensors, and examples for sensing devices for IoT and M2M.

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Q5. Examine functions for source identity-management, identity establishment, device messages access-control, message-integrity, message non-repudiation and availability in IoT applications and services.

Q6. Explain the deployment and operational view, resources, services, virtual entities, users in an IoT system by considering a Parking lot example.

Q7. Explain the concepts involved in Raspberry Pi. Discuss in detail about Arduino with neat sketch.

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Part – C   **[Marks: 12 each]**

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Q8. Differentiate between ETSI, ITU-T and Two Domain Models with reference to the functions and capabilities of each layer along-with real-time example demonstration.

<div align="center">OR</div>

a) Define clustering. Summarize the function of Action Prediction model. Identify the purpose of Data Preprocessing.

b) When the data is called as Week Type Data? What is meant by predictive analysis? List out the various phases of CRISP-DM model and explain each with diagram.

Q9. Explain the usage of cloud platforms for IoT applications and services with examples of Xively (Pachube/COSM) and Nimbits.

<div align="center">OR</div>

a) State the function of Data Acquisition. Explain the function of Data Validation. Define Spatial Data.

b) Demonstrate Event–driven industrial IoT systems? List out the steps used in internet gateway device. Formulate the significant use of Raspberry Pi in Smart cities and Industrial appliances.

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