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Total Number of Pages: 02

Course: B.Tech
Sub_Code: PCAC2012

4th Semester Regular Examination: 2024-25

SUBJECT: INTERNET OF THINGS AND CLOUD

BRANCH(S): AE, AEIE, AERO, AME, BIOTECH, C&EE, CIVIL, CSE, CSEAI, CSEDS, ECE, EEE, ELECTRICAL, ELECTRICAL & C.E, ETC, IT, MECH, METTA, MINING, MMEAM

Time: 3 Hours

Max Marks: 100

Q.Code: S279

Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 Answer the following questions: (2 x 10)

- a) Differentiate between circuit-switched and packet-switched networks.
- b) What is a peer-to-peer network? How does it differ from a broadcast network?
- c) List the major technological advancements that contributed to the rise of smartphones.
- d) What role does multimedia content play in the Internet of Things evolution?
- e) What is the purpose of version control in collaborative IoT projects?
- f) What is the function of an IDE in embedded software development?
- g) Define GPIO and its role in IoT projects.
- h) What is the role of a Linux environment in AWS IoT development?
- i) How does AWS CLI help in cloud-based IoT development?
- j) Why is MQTT commonly used in cloud-connected IoT applications?

Part-II

Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)

- a) Discuss the evolution of telephony networks and their transformation toward supporting IoT.
- b) Describe the interplay between smartphones and IoT in reshaping user experiences.
- c) Compare the role of apps and cloud services in building intelligent IoT ecosystems.
- d) How does convergence across communication, computing, and content domains drive IoT growth? Explain.
- e) Compare the DragonBoard™ 410c with other single-board computers in terms of IoT capabilities.
- f) Explain the process of setting up a development environment for the DragonBoard™.
- g) Describe how Git and GitHub support collaborative and iterative IoT project development.
- h) What are the challenges and best practices in developing embedded IoT applications? Explain.