

Roll No.

Total No. of Pages : 2

Total No. of Questions : 09

MCA (Sem.-4)
IOT & BLOCKCHAIN TECHNOLOGY

Subject Code : PGCA1967

Paper ID : 91862

Date of Examination : 18-05-23

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

1) Write short notes on :

- a) What is IoT?
- b) Name the communication protocols used in IoT architecture.
- c) What is the purpose of a functional block?
- d) Mention few domain specific applications of IoT.
- e) What is a sensor and an actuator in IoT system?
- f) Outline the characteristics of a smart contract.
- g) How transaction in bitcoin network takes place?
- h) Differentiate block propagation and block delay.
- i) What is block mining?
- j) How is blockchain used in KYC based applications?

SECTION-B

- 2) Describe the communication models and communication APIs in IoT framework.
- 3) Briefly explain the different IoT levels and deployment templates.
- 4) Discuss the protocols: MQTT, CoAP and ZigBee used in IoT communication model.
- 5) Elaborate any two application domains where use of IoT can be beneficial and how?

SECTION-C

- 6) What is a bitcoin script? Discuss Bitcoin P2P network components.
- 7) Describe various security attacks in blockchain highlighting 50% majority attack.
- 8) Explain in detail how can Distributed Consensus works on a blockchain network?
- 9) **Write short notes on the following:**
 - a) Payments and double spending problem
 - b) Public vs. Private blockchain.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.