

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer any ten of the following:-

- a) Define latency and bandwidth in telecommunication networks.
- b) Mention two features of 5G technology.
- c) What is a sensor in IoT? Give one example.
- d) List any two IoT communication protocols.
- e) Define Augmented Reality.
- f) Name any two AR development frameworks.
- g) What is virtualization in Cloud Computing?
- h) Distinguish between IaaS and SaaS.
- i) Define Machine Learning.
- j) Mention any one real-world AI application.
- k) What is a blockchain block?
- l) Define cybercrime with one example.

(10x1)

UNIT - I

- II. Explain the evolution of mobile communication networks from 1G to 5G. Highlight key features and limitations of each generation. (10)
- III. Discuss the IoT architecture with a neat diagram. Explain various components and communication technologies used in IoT. (10)
- IV. Explain the applications of AR and VR in education and healthcare. Discuss the psychological challenges in VR environments. (10)

UNIT - II

- V. Define Cloud Computing. Explain NIST definition, essential characteristics and deployment models with examples. (10)
- VI. Explain the relationship among Artificial Intelligence, Machine Learning and Data Science. Discuss their applications and challenges. (10)
- VII. What is blockchain technology? Explain its role in ensuring cyber security and data integrity with suitable examples. (10)

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