Exam.Code:0915
Sub. Code: 33419

2124

B.E. (Computer Science and Engineering)

Third Semester

VAC-101: Latest trends and Technologies in Computer Science

Time allowed: 3 Hours **Max. Marks: 50**

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

x-x-x

Q1.	a)How has telecommunication architecture evolved from 1G to 5G? b)Define IoT and provide a common real-time example. c)Name two common protocols used in IoT communication. d)List two essential characteristics of cloud computing. e)Distinguish between machine learning and deep learning.	10
	Section-A	
Q2.	a) Describe architecture of a modern telecommunication network and explain how it supports diverse services. b)Discuss the various communication technologies (such as Wi-Fi, Bluetooth, and LoRa) used in IoT and how they support different types of IoT applications.	5 5
Q3.	a) Design a diagram that compares AR and VR setups side by side, including key components like headsets, sensors, controllers, and processing units. Highlight the specific challenges unique to each technology (e.g., motion tracking in VR, environmental understanding in AR) and explain how these challenges affect performance and usability. b)Discuss the various applications of VR in fields of healthcare, education, and entertainment. How does VR add value to these fields?	5 5
Q4.	a)What is ArCore? Give its fundamental components. Write steps to create an app in ArCore. b)Explain how Arduino and Raspberry Pi can be used in IoT projects to collect, process, and transmit data, and provide a real-life example for each.	5 5
	Section-B	
Q5.	a)Describe the concept of "resource pooling" in cloud computing. How does resource pooling allow cloud providers to serve multiple consumers efficiently? b)Compare and contrast Amazon Web Services (AWS), Google Cloud Platform (GCP), and Microsoft Azure in terms of basic features, pricing models, and commonly used services.	5 5
Q6.	a)Discuss the role of deep learning within AI and ML. What are neural networks, and why are they important in enabling deep learning applications? b)Compare applications of Artificial Intelligence and Data Science across different industries. Provide examples of use cases in areas like healthcare, finance, and e-commerce.	5 5
Q7.	a)What are security policies, and why are they important in an organization? Outline key components that should be included in an effective information security policy. b)Explain the fundamental concepts of blockchain technology. Describe how blockchain works, its key features such as decentralization, immutability, and transparency, and how these features contribute to its security.	5 5

x-x-x