

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fourth Semester B.Tech (Minor) Degree Examination July 2021 (2019 admission)

Course Code: CST286**Course Name: INTRODUCTION TO COMPUTER NETWORKS**

Max. Marks: 100

Duration: 3 Hours

PART A*(Answer all questions; each question carries 3 marks)*

Marks

- | | | |
|----|---|---|
| 1 | Differentiate between connection-oriented and connectionless service. | 3 |
| 2 | List any three design issues of layered network architecture. | 3 |
| 3 | Explain the technique of bit stuffing? Give an example. | 3 |
| 4 | Explain the protocol stack of IEEE 802.11. | 3 |
| 5 | Explain the concept of flooding? List any two uses of flooding? | 3 |
| 6 | Differentiate between static and dynamic routing. | 3 |
| 7 | What is classful IP addressing? | 3 |
| 8 | What is IP subnetting?. You have been allocated a class C network address of 211.1.1.0. If you are using the default subnet mask of 255.255.255.0. how many hosts can you have? | 3 |
| 9 | How does TCP ensure reliable service? | 3 |
| 10 | What is DNS? How it works? | 3 |

PART B*(Answer one full question from each module, each question carries 14 marks)***Module -1**

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| 11 | a) Explain the purpose of the various layers in OSI reference model with the help of a diagram. | 10 |
| | b) Discuss the commonalities and differences of OSI Reference model and TCP/IP model. | 4 |
| 12 | a) What are service primitives in network software? List the service primitives required to establish a connection oriented service. | 8 |
| | b) Compare the features of LAN, MAN and WAN. | 6 |

Module -2

- 13 a) How packet loss is detected in Go-Back- N and Selective Repeat ARQ techniques? Explain with diagrams. 8
- b) Name the networking devices working in networking layer, datalink layer and physical layer. Describe the working of each device. 6
- 14 a) List the four Carrier Sense Multiple Access Protocols in MAC sublayer and explain the working of each. 8
- b) Draw and explain various frame types in HDLC Protocol. 6

Module -3

- 15 a) Explain the different steps in link state routing algorithm. 8
- b) Illustrate the routing procedure in mobile networks. 6
- 16 a) Explain distance vector routing algorithm with an example. 8
- b) What is meant by QoS in computer networks? Discuss about any two techniques to achieve good QoS. 6

Module -4

- 17 a) Describe the working of BGP. How does it solve Count to infinity problem? 8
- b) What is the purpose of ICMP? Explain its message types. 6
- 18 a) What is DHCP used for? Explain the working of DHCP. 8
- b) Draw and explain the fields of IP header. 6

Module -5

- 19 a) Draw the format of TCP header. Describe the significance of each field. 9
- b) Explain the working of TCP congestion control mechanism. 5
- 20 a) Explain the architecture of World Wide Web with a diagram. 8
- b) Give the significance of MIME. Explain five message headers defined by MIME. 6
