

Code No: R1632051

R16**SET - 1****III B. Tech II Semester Regular Examinations, April/May - 2019****COMPUTER NETWORKS****(Common to Computer Science and Engineering and Information Technology)**

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B**

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**PART -A**

1. a) Explain about WAN. [2M]
- b) What is the difference between Broadcasting and Multicasting? [2M]
- c) Explain the functions of Data link layer. [2M]
- d) With an example explain the process of Error detection using Hamming code. [3M]
- e) Explain the concept involved in Flooding algorithm. [3M]
- f) What is the significance of DNS? [2M]

**PART -B**

2. a) Explain the functions of various layers in ISO-OSI reference model. [7M]
- b) Explain the different topologies of the network. [7M]
3. a) With neat sketch explain Twisted pair cables, connectors of twisted pair cables with neat graph explain the performance of Twisted pair cables. [7M]
- b) Compare and contrast synchronous time division multiplexing and statistical time division multiplexing. [7M]
4. a) What is the need of Flow control? Explain the common approaches for flow control in data link layer. [7M]
- b) Explain the following error detection techniques i) LRC ii) CRC [7M]
5. a) Explain the working of Multiple Access Protocols. [7M]
- b) Explain various classes of IEEE 802.X Standard Ethernet. [7M]
6. a) With an example explain the shortest path routing algorithms used in computer networks. [7M]
- b) What are the general principles of congestion control? Explain. [7M]
7. a) Write short notes on Electronic Mail. [7M]
- b) Discuss in detail about the connection establishment and release in TCP. [7M]

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**R16****SET - 2****III B. Tech II Semester Regular Examinations, April/May - 2019****COMPUTER NETWORKS****(Common to Computer Science and Engineering and Information Technology)**

Time: 3 hours

Max. Marks: 70

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PART -A

1. a) Explain about MAN. [2M]
- b) Explain the characteristics of twisted pair cable. [2M]
- c) List out the advantages and disadvantages of circuit switching. [2M]
- d) With neat sketch explain the basic concept involved in Elementary Protocol: stop and wait. [3M]
- e) Define Congestion. What are the general Principles of Congestion? [3M]
- f) Explain the WWW. [2M]

PART -B

2. a) Compare the WAN, LAN and MAN topologies. [7M]
- b) Define Encapsulation and Peer to Peer communication in the layered architecture. [7M]
3. a) Explain the frequency division multiplexing with a suitable example. [7M]
- b) Give brief explanation about copper cables with neat sketch. [7M]
4. a) Describe the stop and wait protocol with neat sketch. [7M]
- b) What is the significance of data link layer? Explain the design issues of data link layer. [7M]
5. a) Compare the throughput of pure aloha and slotted aloha. [7M]
- b) Explain about the 802.11 Architecture. [7M]
6. a) Explain Distance Vector routing algorithm with an example. [7M]
- b) What are the differences between Static Routing Algorithm and Dynamic Routing Algorithm? [7M]
7. a) Explain TCP Connection management Finite State Machine. Explain all states in it. [7M]
- b) Explain the structure of UDP Header format. [7M]

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R16**SET - 3****III B. Tech II Semester Regular Examinations, April/May - 2019****COMPUTER NETWORKS****(Common to Computer Science and Engineering and Information Technology)**

Time: 3 hours

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Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B**

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**PART -A**

1. a) Give advantages of a client server system using LAN over the big time sharing system. [2M]
- b) Discuss briefly about the multilevel multiplexing. [2M]
- c) What is Piggybacking? Explain the advantage of it. [2M]
- d) What is slotted ALOHA? Mention its advantages. [3M]
- e) What is a Choke packet? How do they help in congestion control? [3M]
- f) Write short notes on E-Mail. [2M]

**PART -B**

2. a) Differentiate OSI reference model with the TCP/IP reference model. [7M]
- b) Explain the functions of various layers in ISO-OSI reference model. [7M]
3. a) Discuss about unguided transmission media. [7M]
- b) Explain about Time division Multiplexing with example. [7M]
4. a) Explain flow control mechanism using Sliding window protocol. [7M]
- b) What are the different types of error detection methods? Explain the CRC error detection technique using generator polynomial  $x^4+x^3+1$  and data 11100011. [7M]
5. a) Explain in detail the operation of pure ALOHA and slotted ALOHA. [7M]
- b) Discuss in brief the MAC frame structure for IEEE 802.3 [7M]
6. a) Illustrate Routing of Packets within Virtual Circuit Subnet. [7M]
- b) Explain the Dijkstra's Shortest Path Routing Algorithm with an example. [7M]
7. a) Compare and Contrast the UDP header and the TCP header. [7M]
- b) How DNS service maps domain names to IP addresses. [7M]

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**R16****SET - 4****III B. Tech II Semester Regular Examinations, April/May - 2019****COMPUTER NETWORKS****(Common to Computer Science and Engineering and Information Technology)**

Time: 3 hours

Max. Marks: 70

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PART -A

1. a) What are the advantages of and draw backs of mesh topology. [2M]
- b) Write about the twisted coaxial cables. [2M]
- c) What are the design issues of Data Link layer? [2M]
- d) Differentiate the connectionless and connection oriented networks. [3M]
- e) What is the difference between Fixed framing and variable length framing? [3M]
- f) Write the application layer paradigms. [2M]

PART -B

2. a) Explain different Layers and their functionalities in TCP/IP Model. [7M]
- b) Discuss in detail about the LAN and WAN. [7M]
3. a) Explain briefly about the applications of FDM. [7M]
- b) Explain in detail about the synchronous time division multiplexing. [7M]
4. a) Explain in detail about the sliding window protocol using Selective Repeat. [7M]
- b) Explain in detail about the sliding window protocol using Go-Back-NA. [7M]
5. a) Discuss in brief the MAC frame structure for 805.11 Frame Structure-Services. [7M]
- b) Explain the fields in the 802.11 Frame Structure. [7M]
6. a) Explain in detail about the Efficiency and Delay in Datagram Networks. [7M]
- b) Differentiate the open loop congestion control and closed loop congestion control. [7M]
7. a) What is a URL and explain about its components. [7M]
- b) Write a short note on Remote Procedure Call. [7M]
