

Code No: RT32053

R13

SET - 1

III B. Tech II Semester Regular/Supplementary Examinations, April - 2017

COMPUTER NETWORKS

(Common to Computer Science Engineering and Information Technology)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)

2. Answering the question in **Part-A** is compulsory

3. Answer any **THREE** Questions from **Part-B**

PART -A

- | | | | |
|---|----|---------------------------------|------|
| 1 | a) | Define Arpanet | [4M] |
| | b) | What is multiplexing | [3M] |
| | c) | What is active document | [3M] |
| | d) | Define Ten-Gigabit Ethernet | [4M] |
| | e) | What is fixed size framing | [4M] |
| | f) | What is multicast and broadcast | [4M] |

PART -B

- | | | | |
|---|----|--|------|
| 2 | a) | Define different Network Topologies. | [7M] |
| | b) | Explain about WAN, LAN, MAN in details. | [9M] |
| 3 | a) | Explain different types of switching techniques along with their advantages and disadvantages. | [8M] |
| | b) | Explain the frequency division multiplexing with a suitable example. | [8M] |
| 4 | a) | Explain the frame format and transition phases of PPP. | [8M] |
| | b) | Compare various sliding window protocols of data link layer. | [8M] |
| 5 | a) | Why there is no need for CSMA/CD on a full-duplex Ethernet LAN? Explain. | [8M] |
| | b) | Explain the working of Carrier Sense Multiple Access protocol. | [8M] |
| 6 | a) | Briefly discuss about the addressing mechanism of IEEE 802.11. | [8M] |
| | b) | Discuss in detail about standard Ethernet. | [8M] |
| 7 | a) | What is a URL and explain about its components. | [9M] |
| | b) | Explain about HTML with its functionalities. | [7M] |

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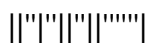
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PART -A

- | | | | |
|---|----|---|------|
| 1 | a) | What is the difference between LAN and WAN? | [5M] |
| | b) | Define virtual circuit? | [4M] |
| | c) | What is URL? | [3M] |
| | d) | Discuss about go back N protocol? | [3M] |
| | e) | What is variable size framing? | [4M] |
| | f) | What is channelization? | [3M] |

PART -B

- | | | | |
|---|----|---|------|
| 2 | a) | What is network architecture? What is layered architecture? Explain design issues for the layers? | [7M] |
| | b) | List the similarities and dissimilarities between OSI & TCP/IP reference models. ? | [9M] |
| 3 | a) | Explain how TDM works. Why statistical time division multiplexing is more efficient than TDM? | [5M] |
| | b) | What is multiplexing? In what situations it can be used? | [5M] |
| | c) | Compare and contrast TDM, STDM and FDM? | [6M] |
| 4 | a) | What is meant by PPP? Discuss about framing and transmission phase in it. ? | [8M] |
| | b) | Explain the working of stop- and- wait flow control protocol. ? | [8M] |
| 5 | a) | Explain TDMA with a suitable example? | [7M] |
| | b) | What is meant by random access method? Give examples of random access protocols. ? | [9M] |
| 6 | a) | Explain about Manchester encoding with a suitable example? | [8M] |
| | b) | Explain the Fast Ethernet MAC sub layer. ? | [8M] |
| 7 | a) | What is WEB Documents? Explain with its categories? | [9M] |
| | b) | Explain about proxy server in detail? | [7M] |



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PART -A

- | | | | |
|---|----|---|------|
| 1 | a) | Explain about BUS topology ? | [4M] |
| | b) | Define frame relay ? | [3M] |
| | c) | Define WWW? | [2M] |
| | d) | List various services provided by data link layer to network layer. ? | [4M] |
| | e) | What is ALOHA? | [5M] |
| | f) | What is addressing? | [4M] |

PART -B

- | | | | |
|---|----|--|-------|
| 2 | a) | What is internet? Explain birth of internet. ? | [6M] |
| | b) | Explain OSI reference model and compare it with TCP/IP. ? | [10M] |
| 3 | a) | How the message switching implemented in circuit switching networks?
Explain with an example | [8M] |
| | b) | Discuss briefly about virtual circuit networks? | [8M] |
| 4 | a) | Describe the services provided by PPP protocol. Also, list some services
which does PPP does not provide. ? | [9M] |
| | b) | Give the frame structure of HDLC. Explain each field. ? | [7M] |
| 5 | a) | What is channelization? Explain various channelization protocols. ? | [7M] |
| | b) | List the differences between a unicast, multicast and broadcast address. ? | [9M] |
| 6 | a) | Discuss in detail about fast Ethernet. ? | [8M] |
| | b) | What are the common Fast Ethernet implementations? Give the purpose of
NIC? | [8M] |
| 7 | a) | What is WEB Documents? Explain with its categories? | [9M] |
| | b) | Explain about HTTP Request Message Format ? | [7M] |

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PART -A

- | | | | |
|---|----|---|------|
| 1 | a) | What is internet? | [2M] |
| | b) | Give examples for frequency division multiplexing | [4M] |
| | c) | What is switching? | [4M] |
| | d) | What is framing? | [4M] |
| | e) | What is unicast? | [4M] |
| | f) | Define Gigabit Ethernet? | [4M] |

PART -B

- | | | | |
|---|----|---|------|
| 2 | a) | What is Open Systems Interconnect (OSI) reference model? What are the principles used in defining the OSI layers. ? | [8M] |
| | b) | Explain different network topologies. ? | [8M] |
| 3 | a) | Distinguish between FDMA and TDMA? | [7M] |
| | b) | Explain the concept of multiplexing. Why is multiplexing more cost effective? | [9M] |
| 4 | a) | Discuss about the configuration and control fields of HDLC. ? | [5M] |
| | b) | Discuss about unrestricted simplex protocol. ? | [6M] |
| | c) | What is framing? Why it is implemented in Data Link Layer? | [6M] |
| 5 | a) | Discuss about code division multiple access? | [8M] |
| | b) | What is meant by vulnerable period? Show that the vulnerable time period of slotted ALOHA is half of the pure ALOHA? | [8M] |
| 6 | a) | What are the advantages of dividing an Ethernet LAN with a bridge? Give the relationship between a switch and a bridge. ? | [8M] |
| | b) | Discuss in detail about standard Ethernet? | [8M] |
| 7 | a) | Explain about HTTP Response Message Format? | [7M] |
| | b) | Explain about static document & dynamic document? | [9M] |
