

Code: 21F00203

MCA II Semester Regular & Supplementary Examinations July 2024

COMPUTER NETWORKS

(Master of Computer Applications)

Time: 3 hours

Max. Marks: 60

Answer all the questions

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| 1 | (a) What is Internet? Explain applications of Internet. | 6M |
| | (b) Define delay, loss and throughput of network. | 6M |
| | OR | |
| 2 | (a) Discuss about history of computer networking. | 6M |
| | (b) Discuss about attacking on computer network. | 6M |
| 3 | (a) Explain File Transfer Protocol. | 8M |
| | (b) Define website, web server and web browser. | 4M |
| | OR | |
| 4 | (a) Explain HTTP protocol. | 6M |
| | (b) Discuss about electronic mail. | 6M |
| 5 | (a) Explain Transport layer services. | 8M |
| | (b) Briefly discuss about TCP. | 4M |
| | OR | |
| 6 | (a) Explain connectionless Transport protocol. | 6M |
| | (b) Explain connection oriented Transport protocol. | 6M |
| 7 | (a) Explain service Internet Protocol. | 8M |
| | (b) Discuss about virtual circuit. | 4M |
| | OR | |
| 8 | (a) Discuss about routing in internet. | 8M |
| | (b) Explain datagram network. | 4M |
| 9 | Explain error detection and error correction techniques. | 12M |
| | OR | |
| 10 | Discuss about switched local area networks. | 12M |

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MCA II Semester Supplementary Examinations February 2024

COMPUTER NETWORKS

(Master of Computer Applications)

Time: 3 hours

Max. Marks: 60

Answer all the questions

- 1 (a) What is Internet? 6M
(b) Explain TCP/IP layered architecture. 6M
- OR
- 2 (a) Explain packet switched networks. 6M
(b) Explain Network edge. 6M
- 3 (a) Explain FTP service. 6M
(b) Explain electronic mail service. 6M
- OR
- 4 (a) Explain directory service in the internet. 6M
(b) Explain the features of application layer. 6M
- 5 (a) What are the services of Transport layer? 6M
(b) Explain UDP. 6M
- OR
- 6 (a) Differentiate connectionless and connection oriented services in Transport layer. 6M
(b) What is congestion? What are the factors that cause congestion in a network? Explain. 6M
- 7 (a) Differentiate virtual circuit networks and datagram networks. 6M
(b) What is Routing? Explain any Routing algorithm. 6M
- OR
- 8 (a) What are the characteristics of Internet Protocol? 6M
(b) Explain addressing in IP protocol. 6M
- 9 (a) Explain error detection techniques. 6M
(b) Explain sliding window protocols. 6M
- OR
- 10 (a) What are the characteristics of Link layer? 6M
(b) Explain Carrier sense multiple access protocols. 6M

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MCA III Semester Supplementary Examinations May 2019

COMPUTER NETWORKS

(For 2017 admitted batches only)

Time: 3 hours

Max. Marks: 60

Answer all the questions

1 State the purpose of layering in networks. Explain different layers of OSI referential model with their functionality.

OR

2 Define transmission medium. Explain different transmission medium with their advantages and disadvantages.

3 Explain about the error detection and error correction with an example.

OR

4 With the help of diagram, explain five different categories of connecting devices?

5 What do you mean by routing in network? Explain in detail about any one routing algorithm and one congestion control algorithm. Also write the advantages and disadvantages of each.

OR

6 Write about IPv6 in detail. What are its new features and improvements?

7 Explain in detail about the connection establishment in TCP.

OR

8 Discuss in brief about the services provided by the transport layer.

9 Explain the functioning of HTTP in detail.

OR

10 Write short notes on the following:

(a) SNMP.

(b) Domain Name System.

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MCA III Semester Regular & Supplementary Examinations November/December 2017

COMPUTER NETWORKS

(For 2012, 2013, 2014, 2015 & 2016 admitted batches only)

Time: 3 hours

Max. Marks: 60

Answer any FIVE questions
All questions carry equal marks

- 1 Explain the ISO-OSI reference model with a neat schematic.
- 2 (a) Explain sliding window protocol in data link layer.
(b) Explain how a slow receiver is protected from a fast sender in data link layer.
- 3 (a) Explain the functioning of pure ALOHA.
(b) Prove that the probability of successful packet delivery in pure ALOHA is 18%.
- 4 (a) Explain link state routing protocol in detail.
(b) Explain congestion prevention policies in network layer.
- 5 Explain the network layer functionalities in ATM networks.
- 6 (a) Explain connection establishment and release in TCP connections.
(b) Explain TCP header format and the functionalities of each field.
- 7 (a) Explain the DES algorithm with a neat schematic.
(b) How the integrity of a message ensured? What are the procedures incorporated?
- 8 (a) What are the functionalities of application layer?
(b) Explain domain hierarchy in detail.

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MCA III Semester Supplementary Examinations July 2015

COMPUTER NETWORKS

(For students admitted in 2009, 2010, 2011, 2012 and 2013 only)

Time: 3 hours

Max Marks: 60

Answer any FIVE questions

All questions carry equal marks

- 1 (a) Distinguish between TCP/IP model and OSI model.
(b) Explain B-ISDN ATM reference model.
- 2 (a) Discuss framing techniques in brief.
(b) What do you mean by sliding window protocol? Distinguish between Go-back-N protocol and selective repeat protocol.
- 3 (a) What is ALOHA? Calculate throughput of pure ALOHA and slotted ALOHA.
(b) Draw Ethernet frame format and explain each field.
- 4 (a) Explain shortest path routing.
(b) What do you mean by congestion? State general principles of congestion control.
- 5 (a) Distinguish between transparent and non-transparent fragmentation.
(b) What is multicasting? Briefly discuss multicasting techniques and protocols.
- 6 (a) What are the functions of transport layer? State transport service primitives.
(b) Discuss TCP transmission policy.
- 7 (a) Describe RSA algorithm with a suitable example.
(b) What is digital signature? Explain digital signature using message digests.
- 8 Write short notes on the following:
 - (a) MIME.
 - (b) HTTP.
 - (c) SNMP.

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MCA III Semester Supplementary Examinations September/October 2014

COMPUTER NETWORKS

(For students admitted in 2009, 2010, 2011 and 2012 only)

Time: 3 hours

Max Marks: 60

Answer any FIVE questions

All questions carry equal marks

- 1 (a) Differentiate between OSI reference model and TCP/IP model.
(b) Explain the characteristics of twisted pair cable.
- 2 (a) Explain the term sliding window. Illustrate and explain the operation of selective repeat.
(b) List and explain the services provided by data link layer.
- 3 (a) Explain the functions of repeaters and bridges. What are their limitations?
(b) Discuss in brief MAC frame structure for IEEE 802.3.
- 4 (a) Explain the count-to-infinity problem and solution in distance vector routing.
(b) Give the general principles of various congestion control algorithms.
- 5 (a) Explain about fragmentation.
(b) Discuss in detail about the routing in the internetworking.
- 6 (a) Explain the flow control mechanism in transport layer.
(b) Define UDP and discuss the different fields of the format of a used datagram. List out the uses of UDP protocol.
- 7 (a) Explain the message authentication operation used in RSA technique.
(b) What is meant by firewall? Explain the types of firewall.
- 8 (a) What is electronic mail? Explain the two scenarios of architecture of e-mail.
(b) What is a name server? List and explain the features of various name servers.
