Reg. No. : | | | | | | | | | | | | |

Question Paper Code : JK4206

M.C.A. DEGREE EXAMINATION, FEBRUARY/MARCH 2017.

(From Academic Year – 2015 – New Question Paper Pattern)

Second Semester

DMC 7201 — COMPUTER NETWORKS

(Regulations 2013)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is meant by data communication?

2. What are the different encoding techniques?

3. What are the functions of MAC?

4. What is FDDI?

5. What is meant by circuit switching networks?

6. What are datagrams?

7. What are the advantages of using UDP over TCP?

8. Define flow control.

9. What is the purpose of domain name system?

10. What is SMTP?

PART B — (5 × 13 = 65 marks)

11. (a) Explain with an example the basic communication model. (13)

Or

(b) Explain the various transmission media for data communication. (13)

12. (a) Explain ISO/OSI reference model with neat diagram. (13)

Or

(b) Discuss the various types of network topologies in computer network. Also discuss the various advantages and disadvantages of each topology. (13)

13. (a) Describe the two approaches of packet switching techniques. (13)

Or

(b) Explain ICMP with all its header types. (13)

14. (a) Discuss in detail about transmission control protocol. (13)

Or

(b) Explain in detail about various congestion control techniques. (13)

15. (a) Describe in detail about domain name system. (13)

Or

(b) Write notes on FTP and SMTP. (13)

PART C — (1 × 15 = 15 marks)

Compulsory

16. (a) State the potential applications of wireless ATM standard. Is it related to IEEE 802.11 standards? (15)

Or

(b) Name two well known data transport protocols provided by the Internet Transport Layer. Provide a brief description of each service and indicate what type of application might use that service. (15)

Reg. No. : [ ]

Question Paper Code : KJ1357

M.C.A. DEGREE EXAMINATION, FEBRUARY/MARCH 2017.

Second Semester

DMC 7201 — COMPUTER NETWORKS

(Regulations 2013)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List Data encoding techniques.
2. Define protocol.
3. Compare Wi-Fi and Wi-Max.
4. Define Topology.
5. What is connectionless service?
6. Define Datagram.
7. What are the functions of Transport Layer?
8. List Congestion Avoidance Techniques.
9. What is DNS?
10. What is Telnet?

PART B — (5 × 16 = 80 marks)

11. (a) Discuss Wireless Transmission Media. (16)

Or

(b) Brief an overview on Data Link Control Protocols. (16)

12. (a) Discuss on topologies with merits and limitations. (16)

Or

(b) Explain OSI Reference Model. (16)

13. (a) Compare and discuss on the Switching concepts. (16)

Or

(b) Explain Flooding Routing Strategy. (16)

14. (a) Explain Sliding Window flow control mechanism. (16)

Or

(b) Discuss on Queuing disciplines. (16)

15. (a) Discuss on DNS. (16)

Or

(b) Write short notes on :

(i) FTP (5)

(ii) SMTP (5)

(iii) MIME. (6)

Reg. No. : [ ]

Question Paper Code : K1357

M.C.A. DEGREE EXAMINATION, AUGUST/SEPTEMBER 2016.

Second Semester

DMC 7201 — COMPUTER NETWORKS

(Regulations 2013)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List any three medium for data transfer.

2. What is the purpose of Data Link Layer?

3. Define topology with an example.

4. Compare WiFi Vs WiMAX.

5. Define datagram.

6. What is ICMP?

7. Justify reliable delivery service.

8. Define congestion and list its control mechanisms.

9. What is the use of MIME?

10. Define Telnet.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Write short notes on data encoding techniques. (8)

(ii) Discuss about data transmission. (8)

Or

(b) Explain OSI reference model. (16)

12. (a) Explain in brief about MAC. (16)

Or

(b) Explain in brief about wireless LAN. (16)

13. (a) Discuss the concept of switching. Compare Circuit Switching Vs Packet Switching. (16)

Or

(b) Explain about IP and routing IP datagrams. (16)

14. (a) Explain about UDP and TCP. (16)

Or

(b) Write short notes on queuing disciplines along with congestion avoidance. (16)

15. (a) (i) Explain the importance of DNS. (8)

(ii) Write short notes on FTP, SMTP, HTTP and SNMP. (8)

Or

(b) Discuss the basic security enforcement mechanisms for applications of computer networks. (16)

Reg. No. | | | | | | | | | | | | |

Question Paper Code : J1396

M.C.A. DEGREE EXAMINATION, AUGUST/SEPTEMBER 2016.

(From Academic Year – 2015 – New Question Paper Pattern)

Second Semester

DMC 7201 – COMPUTER NETWORKS

(Regulations 2013)

Time : Three hours | Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are important characteristics of periodic signal?

2. Why does CRC detect more errors than parity check?

3. Write the difference between ethernet and token ring.

4. List the metrics of WiMAX.

5. Define throughput.

6. What is an internetwork?

7. What does UDP provide that is not provided by IP?

8. What is flow control?

9. How does MIME enhance SMTP?

10. What is digital signature?

PART B — (5 × 13 = 65 marks)

11. (a) (i) How fiber optics is used to transfer the data in computer network? (8)

(ii) What is channel capacity? Explain the concepts related with this. (5)

Or

(b) Compare stop and wait ARQ with sliding window ARQ scheme. (13)

12. (a) (i) Justify the significance of layers, interfaces in protocol architecture. (7)

(ii) Discuss about the ethernet and its cable types with their properties. (6)

Or

(b) (i) Explain the frame format and access method of IEEE 802.11 standard. (7)

(ii) With the help of a diagram, discuss about bluetooth architecture. (6)

13. (a) (i) Make a comparative study of virtual circuits and datagram networks. (7)

(ii) Mention the possible ways through which a network can differ in internet working. (6)

Or

(b) (i) How does IP datagram forwarded in networks? Explain. (7)

(ii) Describe the error handling in internet with ICMP. (6)

14. (a) (i) Explain the use of multiplexing in the context of transport protocols. (7)

(ii) Illustrate two – way and three – way handshake mechanisms. (6)

Or

(b) What is congestion? Explain any three approaches used for congestion control. (13)

15. (a) (i) How does domain name server works in the context of domain name system? Explain (8)

(ii) Write a short note on rlogin. (5)

Or

(b) (i) Explain two main protocols behind the working of E-mail. (8)

(ii) Describe the symmetric – key ciphers. (5)

PART C — (1 × 15 = 15 marks)

16. (a) (i) A digital signaling system is required to operate at 9600 bps. What is the minimum required bandwidth of the channel.

(1) If a signal element encodes a 4 bit word. (5)

(2) If a signal element encodes a 8 bit word. (5)

(ii) Consider the works of Shannon and Nyquist on channel capacity. Each places an upper limit on the bit rate of a channel based on two different approaches. How are the two related? (5)

Or

(b) (i) What is the header overhead in the IP protocol? (5)

(ii) Key distribution schemes using an access control center and/or a key distribution center have central points vulnerable to attack. Discuss the security implications of such centralization. (10)

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : S1357

M.C.A. DEGREE EXAMINATION, FEBRUARY/MARCH 2016.

Second Semester

DMC 7201 — COMPUTER NETWORKS

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is frequency of spectrum of signal?

2. Why data link layer divided in to two sub layers?

3. Mention functionalities of MAC.

4. Write difference between token ring and ethernet.

5. Distinguish circuit switching and packet switching.

6. Why does the offset field in the IP header measure the offset in 8-byte units?

7. List out the properties of Transport layer protocols.

8. What is the main problem with FIFO queuing?

9. What are the categories of DNS messages?

10. Define traffic confidentiality.

PART B — (5 × 16 = 80 marks)

11. (a) Explain guided transmission media. (16)

Or

(b) (i) What are the problems in NRZ encoding scheme? Explain other approaches which resolve these problems. (8)

(ii) Describe any two data link control protocols. (8)

12. (a) (i) List out the differences between OSI and TCP/IP protocol architecture. Explain OSI reference model. (8)

(ii) Explain different network topologies. (8)

Or

(b) (i) What kind of problems can arise when two hosts on the same ethernet share the same hardware address? Describe what happens and why that behaviour is a problem. (8)

(ii) How can hidden terminals be detected in 802.11 networks? Explain. (8)

13. (a) (i) Describe the datagram forwarding algorithm. (8)

(ii) Explain the working principles of Distance-Vector routing algorithm. (8)

Or

(b) (i) What is datagram? Explain the characteristics of datagram network. (8)

(ii) How does Internet treat the errors? Explain with ICMP. (8)

14. (a) (i) With neat diagram explain TCP connection establishment in normal case. (8)

(ii) Explain the flow control algorithm to regulate the traffic in the data network. (8)

Or

(b) Describe mostly used congestion control algorithm in data communication network to minimize data lose. (16)

15. (a) (i) What is the relationship between a domain name (e.g.,cs.princeton.edu) and an IP subnet number (e.g., 192.12.69.0)? Do all hosts on the subnet have to be identified by the same name server? What is reverse lookup? (8)

(ii) Explain the relationship between Uniform Resource Locators (URLs) and Uniform Resource Identifiers (URIs). Give an example of a URI that is not a URL. (8)

Or

(b) (i) Point out the problems in network management and explain how SNMP protocol solves these problems. (8)

(ii) Outline how Diffie–Hellman key exchange protocol can be extended to protect against "man-in-the-middle" attack. (8)

Reg. No. | | | | | | | | | | | | |

Question Paper Code : 80357

M.C.A. DEGREE EXAMINATION, AUGUST 2015.

Second Semester

DMC 7201 — COMPUTER NETWORKS

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Data Communication.

2. Define Transmission media.

3. Compare OSI and TCP/IP Model.

4. Define Token ring.

5. Define Flooding.

6. Define Datagram subnet.

7. List TCP States during TCP Connection.

8. What is a flow control service?

9. Define MIME.

10. Define Telnet service.

PART B — (5 × 16 = 80 marks)

11. (a) Discuss Data encoding techniques in detail.

Or

(b) Explain any two Sliding window protocols.

12. (a) Explain OSI Model in detail.

Or

(b) Explain wireless LAN technologies: Wi-Fi, Wi-Max and Bluetooth.

13. (a) Discuss Broadcast routing and Multicasting routing.

Or

(b) Explain any

(i) Internetworking concepts Tunneling and Fragmentation (8)

(ii) ICMP protocol. (8)

14. (a) Explain User Datagram Protocol.

Or

(b) Discuss the cause and approaches for Congestion control.

15. (a) Explain the DNS - The Internet Directory Service.

Or

(b) Discuss SMTP and compare it with HTTP.

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 22359

M.C.A. DEGREE EXAMINATION, FEBRUARY/MARCH 2015.

Second Semester

DMC 7201 — COMPUTER NETWORKS

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Draw the basic communication model.

2. Give some of digital communication techniques.

3. State the merits of WiMAX.

4. Difference between TCP/IP and UDP.

5. What do you mean by IP addressing?

6. What are the functions of network layer?

7. Define FDDI.

8. Compare connection oriented and connection less service.

9. What is rlogin?

10. What is MIME?

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail about the data encoding techniques with example. (16)

Or

(b) Discuss in detail about guided and unguided transmission media. (16)

12. (a) What is OSI Model? Explain the functions and protocols and services of each layer. (16)

Or

(b) Write short notes on:

(i) Ethernet. (8)

(ii) Token ring. (8)

13. (a) Describe about the various switching concepts in detail. (16)

Or

(b) (i) Write short notes on Routing IP datagrams. (8)

(ii) Explain in detail about ICMP. (8)

14. (a) Discuss in detail about user datagram protocol. (16)

Or

(b) Explain the connection establishment and congestion avoidance using TCP.

15. (a) (i) Give an account on Telnet. (8)

(ii) What is SMTP? Explain it. (8)

Or

(b) (i) Discuss in detail about domain name system. (8)

(ii) Explain the concepts of SNMP. (8)

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 46356

M.C.A. DEGREE EXAMINATION, AUGUST 2014.

Second Semester

DMC 7201 — COMPUTER NETWORKS

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Draw the basic communication model.
2. Define protocol.
3. State the difference between TCP and UDP.
4. List the advantages of blue tooth technology.
5. What is packet switching?
6. What are the functions of network layer?
7. Define reliability.
8. How to avoid the congestion in transport layer?
9. What is DNS?
10. What is the purpose of security in data communication?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Give an account on data link protocols. (8)

(ii) Explain in detail about the data transmission concepts and terminology. (8)

Or

(b) Discuss in detail about transmission media. (16)

12. (a) What is OSI Model? Explain the functions and protocols and services of each layer? (16)

Or

(b) Write short notes on :

(i) Token ring (8)

(ii) 802.11. (8)

13. (a) Describe about the various network layer functions in detail. (16)

Or

(b) (i) State the difference between reliable connectionless and unreliable Connectionless. (4)

(ii) Explain in detail about ICMP. (12)

14. (a) Discuss in detail about transmission control protocol. (16)

Or

(b) Write short notes on :

(i) Flow control (8)

(ii) Reliable delivery service. (8)

15. (a) (i) Give an account on rlogin (8)

(ii) What is SMTP? Explain it. (8)

Or

(b) Discuss in detail about domain name system. (16)