Register Number:………….…

MCA DEGREE EXAMINATIONS: JUNE 2015

(Regulation 2014)

Second Semester

MASTER OF COMPUTER APPLICATIONS

P14CAT202: Computer Networks

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. In which sequence Checksum is calculated in source node following sequence   [K$_2$]

    (i) Binary Addition

    (ii) Convert to binary form

    (iii) One's complement

    (iv) Convert into 16 bit word

    a) (i) – (ii) – (iii) – (iv)   b) (iv) – (ii) – (iii) – (i)

    c) (iii) – (ii) – (i) – (iv)   d) (iv) – (iii) – (i) – (ii)

2. SNMP stands for   [K$_1$]

    a) Simple Network Management Process   b) Smart Network Management Protocol

    c) Simple Network Mobility Protocol   d) Simple Network Management Protocol

3. FTP uses the services of _____.   [K$_2$]

    a) TCP   b) UDP

    c) IP   d) ICMP

4. Match the following   [K$_3$]

List I	List II
A. Network Layer	i. Encoding
B. Transport Layer	ii. Host to Host
C. MAC Layer	iii. End to End
D. Physical Layer	iv. Node to Node

a) A -> (i), B ->(ii), C ->(iii),D->(iv)   b) A -> (iv), B ->(iii), C ->(ii),D->(i)

c) A -> (ii), B ->(i), C ->(iv),D->(iii)   d) A -> (iv), B ->(ii), C ->(iii),D->(i)

5. POP 3 has two modes   [K$_2$]

    a) Delete and Share   b) Delete and Ignore

    c) Delete and Keep   d) Delete and Rollback

6. The address space for IPv6 protocol is   [K$_2$]

    a) 2^{32} b) 2^{128}

    c) 2^{16} d) 2^{64}

7. (i) UDP provides best effort delivery   [K$_3$]

    (ii) UDP is a Connection oriented protocol, the above two statements are

    a) Both are relevant and true   b) Both are relevant (i) false (ii) true

    c) Both are relevant (i) true (ii) false d) Both are irrelevant and false

8. Assertion (A): TCP is a reliable transport layer protocol   [K$_1$]

    Reason (R): Sequence numbering and acknowledgement adds reliability to the transport layer

    protocol.

    a) Both A and R are individually true and R   b) Both A and R are individually true
       is the correct explanation of A   but R is not the correct explanation
                                              of A

    c) A is true but R is false   d) A is False but R is true

9. Circuit switching takes place at the _____ layer.   [K$_1$]

    a) Data link   b) Network

    c) Physical   d) Transport

10. Wireless LAN cannot implement three reasons   [K$_2$]

    (i)   For collision detection the station must able to send data and receive collision signals
        at same time

    (ii) Collision may not be detected   because of the hidden station problem

    (iii) Collision may not be detected because of expose terminal problem

      (iv)Distance between stations can be great

    a) (i), (ii), (iii) true and (iv) false   b) (i), (ii), (iv) true and (iii) false

    c) All are true   d) (i), (iii), (iv) true and (ii) false

PART B (10 x 2 = 20 Marks)

11. How half-duplex mode differs from full-duplex mode?   [K$_2$]

12. List the three major classes of guided media.   [K$_1$]

13. Distinguish between circuit-switched network and packet-switched network. [K$_2$]

14. What are the techniques used to improve QoS? [K$_1$]

15. Differentiate single bit error and burst error. [K$_2$]

16. Change the following IPv4 address from dotted-decimal notation to binary notation. [K$_3$]

    (a) 111.56.45.78

    (b) 221.34.7.82

17. In electronic mail, What is MIME? [K$_2$]

18. What is a proxy server and how it is related to HTTP? [K$_2$]

19. Mention the applications of Adhoc Networks. [K$_1$]

20. Differentiate Basic Service Set and Extended Service Set [K$_2$]

PART C (6 x 5 = 30 Marks)

21. For each of the following four networks, discuss the consequences if a connection fails: [K$_3$]

    (i)   Six devices arranged in a bus topology

    (ii)   Four devices arranged in a ring topology

    (iii)   Five devices arranged in a mesh topology

22. Compare virtual-circuit and datagram networks. [K$_2$]

23. Draw the structure of an IPv6 datagram. [K$_1$]

24. What are the issues and challenges in infrastructure less network ? [K$_2$]

25. Why FTP does not have a message format? Explain. [K$_2$]

26. Enumerate the entities of Mobile IP. [K$_1$]

PART D (4 x 10 = 40 Marks)

27. Describe the concept of GSM with a neat diagram [K$_1$]

28. Perform the process of encoder and decoder in CRC for the following dataword and divisor. [K$_3$]

Dataword = 1001 and divisor = 1011

29. An organization is assigned an network id 130.10.0.0/16. The administrator is required to design five usable subnets. [K4]

    1. What is the custom subnet mask?

    2. How many usable host ip will be there in each subnet?

    3. What is the 3rd usable ip in the 2nd subnet?

    4. What is the last usable ip in the 4the subnet?

    5. Give the network id of 5th usable subnet?

30. With neat sketch, explain the four types of scenarios in electronic mail. [K2]

****