



Register Number:.....

**B.E/ B.TECH DEGREE EXAMINATIONS: MAY 2015**

(Regulation 2009)

Fifth Semester

**ITY104: COMPUTER NETWORKS**

(Common to CSE/IT)

**Time: Three Hours**

**Maximum Marks: 100**

**Answer ALL Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. Session layer check points \_\_\_\_\_
  - a) Allow just a portion of file to be resent
  - b) Control the addition of headers
  - c) Detect and recover errors
  - d) Are involved in dialog control
2. \_\_\_\_\_ protocol converts IP address to MAC address
  - a) ARP
  - b) RARP
  - c) POP
  - d) SMTP
3. The maximum window size for data transmission using the selective reject protocol with n-bit frame sequence numbers is
  - a)  $2^n$
  - b)  $2^{n-1}$
  - c)  $2^n-1$
  - d)  $2^n-2$
4. Medium access is the function of \_\_\_\_\_ layer
  - a) Physical
  - b) Transport
  - c) Data link
  - d) Network
5. 232.34.56.4 is \_\_\_\_\_ address
  - a) Class A
  - b) Class C
  - c) Class B
  - d) Class D
6. Distance vector routing, shares its routing table with \_\_\_\_\_
  - a) Neighbors
  - b) Selected routers
  - c) All routers
  - d) None of the above
7. \_\_\_\_\_ protocol is used for making reservation
  - a) IP
  - b) TCP

- c) RSVP  
d) Integrated services
8. TCP provides \_\_\_\_\_ service  
a) Reliable & Connection oriented  
b) Connection-less & Unreliable  
c) Unreliable  
d) connection less
9. The success of RSA lies in the difficulty of finding \_\_\_\_\_  
a)  $K_p$   
b) N  
c) Prime factors of  $K_p$   
d) Prime factors of N
10. Which of the following protocol is used in e-mail  
a) DNS  
b) SMTP  
c) FTP  
d) Telnet

**Answer ALL Questions:-**

**PART B (10 x 2 = 20 Marks)**

11. Compare point to point and point to multipoint connections.
12. List the advantages of fiber optic cable.
13. Differentiate a router and a bridge.
14. List the advantages of selective repeat protocol.
15. Find the net ID and host ID of 190.12.67.9.
16. Find the default mask of 198.0.46.201.
17. What is the value of the receiver window (rwnd) for host A if the receiver, host B, has a buffer size of 6500 bytes and 2500 bytes of received and unprocessed data?
18. Compare active and passive open in TCP.
19. Differentiate FTP and TFTP protocols.
20. List few geographic domains.

**PART C (5 x 14 = 70 Marks)**

21. a) Compare the functions, protocols, unit of transfer and addressing used in various layers of OSI model.
- (OR)**
- b) i) Compare the network topologies used for interconnecting network devices. (7)  
ii) Explain the various transmission medium used for networking. (7)
22. a) Compare the IEEE standards used for MAC layer communication in terms of its frame format, operation, advantages and disadvantages.
- (OR)**
- b) i) If the following data is to be transmitted 1001101, use hamming code to (7)

generate a code word and correct the error if the 7<sup>th</sup> bit is modified while transmission.

- ii) Explain the operation of stop and wait protocol when alternate frames are lost during transmission. (7)

23. a) i) Design a subnet for the following. An organization is granted the block 130.56.0.0 /16. The administrator wants to create 1024 subnets. (7)

- a) Find the subnet mask
- b) Find the number of addresses in each subnet
- c) Find the first and last addresses in subnet 1
- d) Find the first and last addresses in subnet 1024

- b) ii) Compare packet switching and circuit switching. (7)

**(OR)**

- b) i) Identify the special IP Addresses and describe its function. (7)

- ii) Describe how distance vector protocol is used for routing update. (7)

24. a) Describe the congestion control mechanisms used by TCP.

**(OR)**

- b) Describe how integrated service helps in service provisioning in networks.

25. a) i) Describe the HTTP transaction between a client and a server. (7)

- ii) Describe the protocol that is used for e-mail. (7)

**(OR)**

- b) i) How is RSA algorithm used for public key encryption and decryption? (7)

- ii) How is bit level encryption done using DES standard? (7)

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