Time: 2 hour 30 minutes                                      Max. Marks: 80

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| Q1. | Choose the correct option for following questions. All the Questions are compulsory and carry equal marks |
|---|---|
| 1] | _____modulation is used to send bits over guided and unguided media as analog signal. |
| A | Digital |
| B | Amplitude |
| C | Frequency |
| D | Phase |
| 2] | Network layer is responsible for delivery of packet from |
| A | Port to port |
| B | Network to Network |
| C | Source to Destination |
| D | Process to Process |
| 3] | Flow control in Data link layer is determined by |
| A | Sender |
| B | Receiver |
| C | Network |
| D | Switch |
| 4] | Which protocol let users transmit whenever they have data to be sent and if there will be collisions the colliding frames will be damaged? |
| A | Pure ALOHA |
| B | CSMA |
| C | CSMA/CD |
| D | CSMA/CA |
| 5] | Time to Live(TTL)field in the IP datagram header is used to |
| A | Prioritize packet |
| B | Optimize Routing |
| C | Reduce Delays |
| D | Avoid Looping of packet |
| 6] | How many bytes represent the network id in class B address |
| A | 2 |
| B | 1 |
| C | 3 |
| D | 4 |
| 7] | In a three-way handshake when the server program tells its TCP that it is ready to accept a connection, this request is called the following. |
| A | active open |
| B | passive open |
| C | client request |
| D | server reply |
| 8] | The primary function of DNS is to map _____ onto resource Record |
| A | MAC Address |
| B | Public key |
| C | Domain Name |
| D | IP Address |
| 9] | IP assigned for a client by DHCP server is |

| | | |
|---|---|---|
| | A | fixed for 5 hrs |
| | B | for a limited period |
| | C | for an unlimited period |
| | D | not time dependent |
| **10]** | | Assigning a global IP address to every outgoing packet is called as |
| | A | Supernetting |
| | B | Network Address Translation |
| | C | IPv4 |
| | D | Subnetting |

| **Q2,** | |
|---|---|
| A | **Solve any Two**                                           **5 marks each** |
| i. | What are different hardware component used to design computer network? |
| ii. | What are the advantages and disadvantages of star topology? |
| iii. | What are the benefits of fiber optics over coaxial cable? |
| B | **Solve any One**                                          **10 marks each** |
| i. | Describe ISO-OSI model with design issues. |
| ii. | Why framing is used at DLL? Also explain its different types. |

| **Q3** | |
|---|---|
| A | **Solve any Two**                                           **5 marks each** |
| i. | What is persistence strategy used at DLL to avoid collision? |
| ii. | Describe classfull and classless addressing strategy. |
| iii. | Describe supernetting at Network layer. |
| B | **Solve any One**                                          **10 marks each** |
| i. | How the concept of sliding window is used in Go Back N ARQ protocol? |
| ii. | Describe IP header format. |

| **Q4** | |
|---|---|
| A | **Solve any Two**                                           **5 marks each** |
| i. | Explain different techniques used to improve Quality of service. |
| ii. | What is three ways handshaking technique used in transport layer? |
| iii. | What is the use DNS? |
| B | **Solve any One**                                          **10 marks each** |
| i. | Describe TCP segment header. |
| ii. | Explain DHCP protocol in detail. |