

End-Term Examination
(CBCS)(SUBJECTIVE TYPE)(Offline)
Course Name: B.Tech., Semester: Fourth
(April -May, 2024)

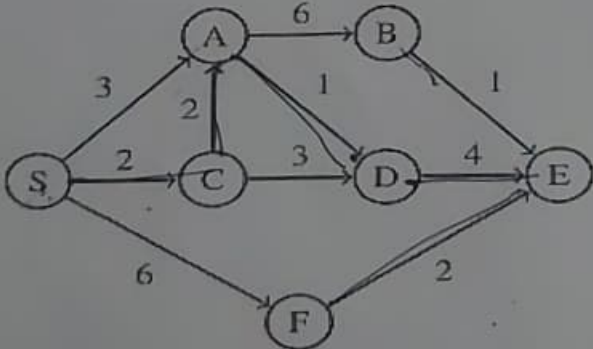
Subject Code: BAI - 202

Subject: Computer Networks

Time :3 Hours

Maximum Marks :60

Note:Q. 1 is compulsory. Attempt one question each from the Units I, II, III & IV.

Q1	<p>(a) List the characteristics of broadband coaxial cable.</p> <p>(b) What limitations of a bridge are overcome by a router?</p> <p>(c) State the purpose of layering in Networks.</p> <p>(d) Which protocol is known for its collision detection capability in Ethernet network.</p> <p>(e) For n devices in a network, what is the number of cable links required for a mesh, ring and star topology, respectively.</p> <p>(f) What are default masks for class A, B, C addressing?</p> <p>(g) What is the need for IPV6 Addressing?</p> <p>(h) Draw and explain different fields of UDP header.</p>	(2.5*8=20)	
UNIT-I			
Q2	<p>(i) Explain the Shielded twisted pair (STP) and Unshielded twisted pair (UTP)</p> <p>(ii) Mention the advantages of fiber optics.</p>	(10)	
Q3	Draw the OSI network architecture and explain the functionalities of every layer in detail	(10)	
UNIT-II			
Q4	A group of terminals are to be connected to a central site using ALOHA schemes over a 9600 bps channel. Frame length is 200 bits. Terminals generate on an average one frame in every two minutes. For maximum throughput condition, estimate the number of terminals that can be supported if the scheme used is (a) Pure ALOHA (b) Slotted ALOHA.	(10)	
Q5	Describe sliding window protocol using Go back n.	(10)	
UNIT-III			
Q6	<p>Using Dijkstra's algorithm to find the shortest path tree for the node S in the figure given below</p> 	(10)	
Q7	<p>(a) Subnet the IP Address 205.11.2.0 so that you have 30 subnets.</p> <p>(b) What is the subnet mask for the maximum number of hosts?</p> <p>(c) How many hosts can each subnet have?</p> <p>(d) What is the IP address of host 3 on subnet 2?</p>	(10)	
UNIT-IV			

Q8	<p>The UDP header in hexadecimal format is as :</p> <p>BC82000D002B001D Obtain the following from it:</p> <ol style="list-style-type: none"> 1. Source port number 2. Destination port number 3. Total length 4. Length of the data. 5. Name of client process. 	(10)	
Q9	<p>Discuss the features of HTTP and also discuss how HTTP works. Explain the working of Electronic mail. How SMTP used in Email applications</p>	(10)	