Register Number															

SRM Institute of Science and Technology
College of Engineering and Technology
School of Computing

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamil Nadu

Set - C

Academic Year: 2021-22 (Even)

Test: CLA-T2 | Date: 30-05-2022
Course Code & Title: 18CSS202J - Computer Communications | Duration: 100 Minutes (2 Periods)
Year & Sem: II Year / IV Sem | Max. Marks: 50

Course Articulation Matrix:

S.No.	Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	CO1	3	-	-	-	-	-	-	-	-	-	-	3
2	CO2	3	2	3	-	-	-	-	-	-	-	-	3
3	CO3	3	3	3	-	-	-	-	-	-	-	-	3
4	CO4	3	2	-	-	-	-	-	-	-	-	-	3
5	CO5	3	-	-	-	-	-	-	-	-	-	-	2
6	CO6	3	3	3	-	-	-	-	-	-	-	-	3

Part - A
(20 x 1 = 20 Marks)

Instructions: 1) Answer ALL questions. 2) The duration for answering the part A is 30 minutes (this sheet will be collected after 30 minutes). 3) Encircle the correct answer 4) * denotes more than one choice may be correct

Q. No	Question	Marks	BL	CO	PO	PI Code
1	In IPV4 address, Class C uses _____ bits for net ID and _____ bits for host ID a) 8, 24 b) 16, 16 c) 15, 17 d) 24, 8	1	1	3	1	1.7.1
2	How many possible networks are there in a class B of an IPv4 address? a) 16384 b) 128 c) 256 d) 65536	1	1	3	2	2.6.3
3	Choose the dotted-decimal notation of the IPv4 address 11000011 01101001 10100010 01001011 a) 195.105.162.75 b) 195.104.162.74 c) 194.104.161.74 d) 196.106.163.76	1	2	3	2	2.6.3
4	Choose the class of the given IPV4 address 92.168.192.92 a) A b) B c) C d) D	1	1	3	1	1.7.1
5	A block of addresses is granted to a small organization. One of the addresses is 192.168.100.105/27. What is the last address in the block? a) 192.168.100.0 b) 192.168.100.128 c) 192.168.100.126 d) 192.168.100.127	1	2	3	2	2.6.3
6	The network address of 172.16.0.0/19 provides how many subnets and hosts? a) 8 subnets, 4096 host each b) 8 subnets, 8190 host each c) 7 subnets, 30 host each d) 8 subnets, 2046 host each	1	2	3	2	2.6.3

7	The address space 225.225.225.225/32 is called as _____. a) Multicast Addresses b) loopback address c) limited broadcast address d) first address	1	1	3	1	1.7.1
8 *	Bridge operates at layer (s) _____of the OSI model. a) Physical Layer b) Data link Layer c) Network Layer d) Presentation Layer	1	2	3	1	1.7.1
9	A multiport bridge can be used to connect more than _____ LANs. a) one b) two c) four d) three	1	1	3	1	1.7.1
10	A _____ is a technology that allows a private network to use a set of private addresses for internal communication and a set of global Internet addresses for external communication. a) Address Aggregation b) Network address transfer c) Network address translation d) Slash notation	1	1	3	1	1.7.1
11	Bipolar coding is the process of converting _____. a) analog data to digital signals b) digital data to analog signals c) digital data to digital signals d) analog data to analog signals	1	1	4	1	1.7.1
12	When the voltage level remains constant for long periods of time, there is an increase in the low frequencies of the signal is called as _____. a) DC components b) Self synchronization c) Noise d) Baseline wandering	1	1	4	1	1.7.1
13	The _____ specifies how many data elements are sent in one second. a) signal rate b) bit rate c) frame rate d) message rate	1	1	4	1	1.7.1
14	In Phase Shift Keying, the _____ is varied represent two or more different signal elements and _____ remain constant as the phase changes. a) carrier, frequency b) voltage, frequency c) signal element, data element d) amplitude, frequency	1	1	4	1	1.7.1
15	Calculate the value of the signal rate for the case “Two data elements per one signal element” if the data rate is 1 Mbps and c = 1/2. a) 500 Kbaud b) 1 Mbaud c) 250 Kbaud d) 375 Kbaud	1	3	4	2	2.6.3
16	Which multiplexing technique transmits digital signals? a) TDM b) FDM c) WDM d) SDM	1	1	4	1	1.7.1
17	In synchronous TDM, a _____ is a complete cycle of time slots, including one or more slots dedicated to each sending device. a) filter b) carrier c) signal d) frame	1	1	4	1	1.7.1
18	FDM uses ___ to prevent modulated signals from overlapping a) Physical hardware devices b) carrier frequencies c) guard bands d) demultiplexers	1	1	4	1	1.7.1
19	The Bipolar Return to Zero scheme uses _____ voltage values. a) 1 b) 2 c) 3 d) 4	1	1	4	1	1.7.1
20	The _____ digital signal is superior to _____ analog signal because it is more robust to noise and can easily be recovered, corrected and amplified a) Analog, Digital b) Digital, Analog c) Carrier, Data d) Data, Data	1	1	4	1	1.7.1

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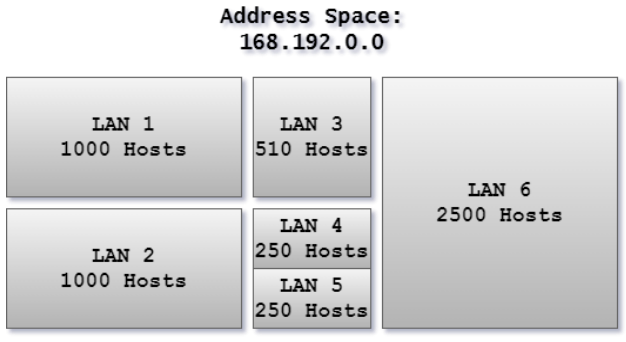
Part – B
(2 x 5 = 10 Marks)
Instructions: Answer ALL questions

Q. No	Question	Marks	BL	CO	PO	PI Code
21	i. Identify the network Id for the IP address 200.1.1.50/28 ii. If 4 subnets are needed for 172.16.0.0 address space, what subnet mask must be assigned? iii. What is the significance of 0.0.0.0 and 255.255.255.255 iv. At least, how many network bits are used when the IP addresses 192.168.10.31 and 192.168.10.32 belong to different subnets? v. What is the wildcard mask for 255.255.255.128	5	3	3	2	2.6.3
22	Define baseline wandering and its effect on digital transmission.	5	2	4	1	1.7.1

Part – C
(2 x 10 = 20 Marks)
Instructions: Answer ANY two questions

Q. No	Question	Marks	BL	CO	PO	PI Code
23. A	Resolve and tabulate:	10	3	3	2	2.6.3



Network	Hosts	Net ID in CIDR notation	Subnet Mask	Number of Hosts in Subnet	Broadcast Address
LAN 1					
LAN 2					
LAN 3					
LAN 4					
LAN 5					
LAN 6					

	Or					
23. B	An organization is granted a block of 192.168.0.0. The administrator wants to create 17 subnets as shown below. 1. 4 subnets with 32 addresses 2. 5 subnets with 16 addresses 3. 4 subnets with 8 addresses 4. 4 subnets with 4 addresses Find the subnet mask, usable address range, network address, and broadcast address for each subnet. (7) If no subnetting is done and when Class C address is used for each network for the above demands, tabulate how many address spaces are **wasted** for each network. (3)	10	3	3	2	2.6.3
24. A	Draw a diagram to depict the Delta Modulation and describe.	10	2	4	1	1.7.1
	Or					
24. B	Explain phase shift keying with an applicable example.	10	2	4	1	1.7.1

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions