CMR Institute of Technology
Department of ECE
17EC741- Multimedia Communication
IAT-1- September 2020
Scheme and Solution

S.no	Question	Answer	Marks	CO	Bloom's Level
1	Telephones in the home or in a small business are connected directly to their nearest exchange	End Office	1	CO1	L1
2	The internet operates in	Packet Mode	1	CO1	L1
3	Telephones in a large office are connected to a private switching office known as	Private Branch Exchange	1	CO1	L1
4	Telephone networks operate in	Circuit Mode	1	CO1	L1
5	-------is a device that enables a television set to become a user interface to the Internet and also enables a television set to receive and decode digital television	A set-top box	1	CO1	L1
6	Integration of both analogue or voice data together with digital data over the same network using	Integrated Services Digital Network	1	CO1	L1
7	In which all	Multicasting	1	CO1	L1

	transmissions from any of the PCs/workstations belong to a predefined group are received by all the other members of the group				
8	The optional linkage points within documents are defined by the creator of the document and are known as	Anchors	1	CO1	L1
9	Web documents comprising only text are created using	Hypertext	1	CO1	L1
10	The client software that is used to explore the total contents of the web	Hypertext Markup Language	1	CO1	L1
11	The user may want to pass on information back to the server called	Interactive Application	1	CO1	L1
12	Centralized mode is used with -------- networks	Circuit Switched	1	CO1	L1
13	The decentralized mode is used with ---------- networks that support multicast communications	Packet Switched	1	CO1	L1
14	Probability of a bit being corrupted during its transmission in a defined time interval	BER	1	CO1	L1
15	According to the Nyquist theorem, we need to sample an analog signal ---------	Two	1	CO1	L1

	--- times the highest frequency.				
16	V_{max} is the maximum positive and negative signal amplitude and n is the number of binary bits used then the quantization interval	$2V_{max}/2^n$	1	CO1	L2
17	------is the difference between the actual signal amplitude and the corresponding nominal amplitude	Both a & b(Quantization error and Quantization Noise)	1	CO1	L1
18	Colouring a solid block with the same colour is known as ----------	Rendering	1	CO1	L1
19	------- involves a finely-focussed electron beam being scanned over the complete screen	Raster-Sacn	1	CO1	L1
20	The set of three related colour-sensitive phospors associated with each pixel is called a------	Phospor Triad	1	CO1	L1
21	Table that stores the selected colours in the subsets as an address to a location	Colour Look Up Table(CLUT)	1	CO1	L1
22	The information is played out directly as it is received continuously called	Streaming	1	CO1	L1
23	In a 525 line system the number of visible lines are----	480	1	CO4	L1

24	In email, bcc stands for	Blind Carbon Copy	1		
25	In the case of half-duplex and duplex communications, the information flow can be ---------- or ----------	Symmetric or Asymmetric	1	CO1	L1
26	In packet switched network, the time spent by the packet in queue waiting for the outgoing link is termed as	Store-and-forward delay	1	CO1	L1
27	The bandwidth of the Speech signal is from ------ to-----	50 Hz to 10 KHz	1	CO1	L1
28	The bandwidth of the music signal is from ------ to-----	15 Hz to 20 KHz	1	CO1	L1
29	The band limiting filter is also known as	Anti-aliasing filter	1	CO1	L1
30	Dynamic range of the signal is defined as the ratio of	Peak amplitude to minimum amplitude	1	CO1	L1
31	Unformatted Text is also known as	Plain Text	1	CO1	L1
32	Formatted Text is also known as	Rich Text	1	CO1	L1
33	Additive Color mixing produces ---------- surface which is used for ---------- applications	Black, Display	1	CO1	L1
34	Subtractive Color mixing produces ---------- surface which is used for ---------- applications	White, Printing	1	CO1	L1
35	To avoid flicker, frame refresh rate used as	30fps, 25fps(Interlaced)	1	CO1	L1

	per NTSC standard is ---------- and as per PAL standard is----------	60Hz and 50 Hz(Progressive)			
36	Pixel depth is defined as	The number of bits per pixel	1	CO1	L1
37	Aspect Ratio is defined as	Screen width to height	1	CO1	L1
38	As per VGA Standard, the number of horizontal pixels in one frame as per NTSC standard for 4/3 aspect ratio is	640(i.e 480 visible lines X 4/3)	1	CO1	L2
39	As per VGA Standard, the number of horizontal pixels in one frame as per PAL/SECAM standard for 16/9 aspect ratio is	1024 (i.e 576 visible lines X 16/9)	1	CO1	L2
40	CCD is a widely used	Image Sensor	1	CO1	L1
41	Derive the maximum block size that should be used over a channel which has BER Probability of 10^{-4} if the probability of a block containing an error and being discarded is to be 10^{-1}.	N= 1054 bits OR N=1000 bits	2	CO1	L3
42	Determine the propagation delay associated with the following communication channels (i) A connection through a private telephone	(i)5 x 10^{-6} Sec (ii) 10^{-3} Sec or 1 ms (iii)1.67 x 10^{-1} Sec	2	CO1	L3

	network of 1 km (ii) A connection through a PSTN of 200 km (iii) A connection over a satellite channel of 50,000km. Assume that the velocity of propagation of a signal in the case of (i) and (ii) is $2x10^8$ m/s and in the case of (iii) is $3x10^8$ m/s.				
43	A webpage of 10Mbytes is being retrieved from a web server. Neglecting server and trunk delays, calculate the time to transfer the page over a (i) PSTN modem operating at 28.8kbps (ii) Primary rate ISDN access line of 1.5 Mbps (iii) Cable modem operating at 27 Mbps.	10Mbytes= 80 Mbits (i)2.77×10^3 Sec (ii)53.33 Sec (iii) 2.96 Sec	2	CO1	L3
44	An analog signal has a dynamic range of 40 dB. Determine the magnitude of the quantization noise relative to the minimum signal amplitude if the quantizer uses (i) 7 bits (ii) 12 bits	D= 20 $\log_{10}$ V_{max}/V_{min} Quantization Noise= $\pm q/2= \pm V_{max}/2^n$ $V_{min}= V_{max}/100$ (i)n=7 bits $q/2= \pm V_{max}/2^7=$ Vmax/128-Acceptable (ii)n=12 bits $q/2= \pm V_{max}/2^{12}=$	2	CO1	L3

		V_{max}/4096-Acceptable			
45	Derive the time to transmit the following digitized images at both 64 kbps and 1.5 Mbps. (i)A 640 x 480 x 16 XGA Compatible Image (ii)A 1024 x 768 x 8 SVGA Compatible Image	Size of each image XGA= 640 x 480 x 16= 4.92 Mbits SVGA= 1024 x 768 x 8 = 6.29 Mbits **At 64 kbps** **XGA** Time= 4.92 Mb/ 64 Kb= **76.88 Sec** **SVGA** Time= 6.29 Mb/ 64 Kb= **98.28 Sec** **At 1.5Mbps** **XGA** Time= 4.92 Mb/ 1.5 Mb= 3.28 Sec **SVGA** Time= 6.29 Mb/ 1.5 Mb= 4.19 Sec	2	CO1	L3