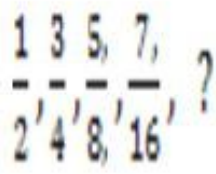
Sr No.	MTech Electronics & Communication Engineering
1	Which fraction comes next in the sequence
	
Alt1	9/32
Alt2	10/17
Alt3	11/34
Alt4	12/35

2	Choose the missing term out of the given options: Ac__cab__baca__aba__acac
Alt1	aacb
Alt2	acbc
Alt3	babb
Alt4	bcbb

3	Leaf is related to Sap in the same way as Bone is related……?.....
Alt1	Fluid
Alt2	Blood
Alt3	Marrow
Alt4	Calcium

4	Select the lettered pair that has the same relationship as the original pair of words: Rotate: Gyrate
Alt1	Putrefy: Reject
Alt2	Anachronism: Cubism
Alt3	Accolade: Criticism
Alt4	Absolve: Exonerate

5	Choose the alternative, which is similar to the given words: Liver : Heart : Kidney
Alt1	Blood
Alt2	Nose
Alt3	Lung
Alt4	Urine

6	Spot the defective segment from the following:
Alt1	The more you read
Alt2	the more will you
Alt3	get to know
Alt4	about more things

7	Choose the meaning of the idiom/phrase from among the options given: A rainy day
Alt1	a holiday
Alt2	a difficult time
Alt3	a fine day
Alt4	a wet day

8	The villagers plan to ------- the elections in protest.
Alt1	avoid
Alt2	ignore
Alt3	neglect
Alt4	boycott

9	Choose the option closest in meaning to the given word: PUERILE
Alt1	vulgar
Alt2	perverse
Alt3	childish
Alt4	young

10	Choose the antonymous option you consider the best: OBTUSE
Alt1	fast
Alt2	sharp
Alt3	reliable
Alt4	lucid

11	In a Cricket tournament, each of the six teams will play every other term exactly once during the league phase. How many matches will be played during the league phase in total ?
Alt1	12
Alt2	36
Alt3	15
Alt4	24

12	A walks 10 metres in front and 10 metres to the right. The every time turning to his left, he waks 5, 15 and 15 metres respectively. How far is he now from the starting point ?
Alt1	15 metres
Alt2	5 metres
Alt3	10 metres
Alt4	30 metres

13	The sum of the income of A and B is more than that of C and D taken together. The sum of the income of A and C is the same as that of b and D taken together. Moreover, A earns half as much as the sum of the income of b and D. Whose income is he highest ?
Alt1	A
Alt2	B

Alt3	C
Alt4	D

14	Five boys A, B, C, D and E are seated on a bench. A is to the left of C. b is to the immediate right of D and there are two people between C and D. E is to the extreme right of the row. Who is exactly at the middle of this group ?
Alt1	A
Alt2	B
Alt3	C
Alt4	E

15	A man is facing south. He turns 1350 in the anticlockwise direction and then 1800 in the clockwise direction. Which direction is he facing now?
Alt1	North East
Alt2	North West
Alt3	South East
Alt4	South West

16	Find the number which when added to itself 17 times becomes 126.
Alt1	13
Alt2	7
Alt3	9
Alt4	18

17	Ravi is exactly 9999 days old today. How old is he?
Alt1	27
Alt2	28
Alt3	26
Alt4	29

18	A Maths teacher usually has 21 students in his class. A,B & C are asleep. D&E are in the bathroom and the teacher has sent F&G to the principal's office. How many students are left in the classroom?
Alt1	18
Alt2	19
Alt3	15
Alt4	17

19	JIPMER is coded as 589142; AIPMT is coded as 78910; Then JEE is coded as
Alt1	910
Alt2	544
Alt3	789
Alt4	914

20	Mr. Arvind drove 90 km at 30 kmph and then an additional 90 km at 45 kmph. What is his average speed over his 180 km ?
Alt1	37.5 kmph
Alt2	35 kmph
Alt3	36 kmph
Alt4	38 kmph

21	A PLA can be used:-
Alt1	As a microprocessor
Alt2	To realize a combinational logic
Alt3	To realize a sequential logic
Alt4	As a dynamic memory

22	The most commonly used filters in SSB generation are _____.
Alt1	Low pass
Alt2	RC
Alt3	LC
Alt4	High pass

23	What determines antenna polarization?
Alt1	The direction of the magnetic field vector
Alt2	The direction of the electric field vector
Alt3	The frequency of the radiated wave
Alt4	The direction of the radiated wave

24	The input $x(t)$ and output $y(t)$ of a system are related as $y(t) = \int_{-\infty}^{t} x(\tau)\cos(5\tau)\,d\tau$. The system is:-
Alt1	stable and not time-invariant
Alt2	not time-invariant and not stable
Alt3	time-invariant and stable
Alt4	time-invariant and not stable

25	If E is the Electric field intensity ,then what is the value of divergence of (curl of E):-
Alt1	Zero
Alt2	E
Alt3	I E I
Alt4	Null vector

26	The amplitude spectrum of a Gaussian pulse is:-
Alt1	a sine function
Alt2	Uniform
Alt3	Gaussian
Alt4	an impulse function

27	Device that provides the connectivity to a WiMAX network is known as:-
Alt1	Gateway
Alt2	Firewall
Alt3	Subscriber stations
Alt4	Base stations

28	The first six points of the 8- point DFT of a real valued sequence are 5, 1+j3, 0, 3-j4, 0, and 3+j4. The last two points of the DFT are respectively:-
Alt1	0, 1+j3
Alt2	0, 1-j3
Alt3	1+j3, 5
Alt4	1-j3, 5

29	The periodic convolution of x(n)={1, 2, 0, 1}and h(n)={2, 2, 3, 0} is:-
Alt1	{ 4,9,7,8}
Alt2	{ 9,6,8,2}
Alt3	{3,6,8,4}
Alt4	{2,5,8,4}

30	Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?
Alt1	ALOHA
Alt2	CDMA
Alt3	CA
Alt4	CSMA/CA

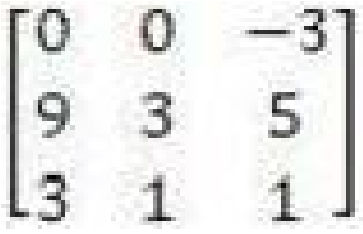
31	Medium Earth Orbit satellites are located at altitudes between:-
Alt1	5000 and 15000 Km
Alt2	5000 and 10000 Km
Alt3	1000 and 5000 Km
Alt4	3000 and 5000 Km

32	When the PLL is being used as a frequency multiplier or a frequency divider, the output is taken from:-
Alt1	the output of phase comparator
Alt2	the VCO input
Alt3	LPF output
Alt4	the VCO output

33	By default a real number is treated as a:-
Alt1	Long double
Alt2	Far double
Alt3	Float
Alt4	Double

34	A device which converts a balanced line to an unbalanced line of a transmission line is:-
Alt1	Balun

Alt2	Stub
Alt3	Directional coupler
Alt4	Hybrid

35	The rank of matrix Shown in Image is:-
	
Alt1	1
Alt2	2
Alt3	0
Alt4	3

36	For transmission line, open circuit and short circuit impedances are 20 Ω and 5Ω respectively. Then the characteristic impedance is:-
Alt1	25 Ω
Alt2	100 Ω
Alt3	10 Ω
Alt4	50 Ω

37	How many bits are needed to address 64K memory location:-
Alt1	10
Alt2	3
Alt3	32
Alt4	16

38	Why is a digital network preferred over an analogue network?
Alt1	It has lower power consumption
Alt2	It is newer
Alt3	It has higher capacity for the same bandwidth
Alt4	It is smaller

39	The gray code decimal equivalent to 6 is _____.
Alt1	1000
Alt2	110
Alt3	101
Alt4	1001

40	Viterbi decoding is one of the most commonly used technique in modern systems that are used to decode the data encoded by _____.
Alt1	Hamming coding
Alt2	Block coding
Alt3	Convolutional coding

Alt4	CRC coding

41	The impedance measured at the input of the transmission line when its length is infinity:-
Alt1	Open circuit impedance
Alt2	Input impedance
Alt3	Short circuit impedance
Alt4	Characteristic impedance

42	An amplifier with mid-band gain, A= 500 is provided with 1% of negative feedback. If the upper cut-off frequency without feedback is 60 KHz ,with feedback it becomes:-
Alt1	300 KHz
Alt2	360 KHz
Alt3	12 KHz
Alt4	10 KHz

43	What is another name for a one-shot?
Alt1	Tristable
Alt2	Monostable
Alt3	Bistable
Alt4	Astable

44	Standard GSM systems support a data rate of:-
Alt1	12kbps
Alt2	9.6kbps
Alt3	256kbps
Alt4	128kbps

45	Snell's law relates:-
Alt1	Light absorption
Alt2	Light refraction
Alt3	Light Transmission
Alt4	Light reflection

46	An RL impedance function can also be realized as:-
Alt1	RC admittance function
Alt2	LC impedance function
Alt3	RC impedance function
Alt4	LC admittance function

47	The standing wave ratio is equal to _____ if the load is properly matched with the transmission line.
Alt1	1
Alt2	-1
Alt3	Infinity
Alt4	0

48	Source encoding in a data communication system is done in order to:-

Alt1	Conserve the transmitted power
Alt2	Facilitate clock recovery in the receiver
Alt3	Enhance the information transmission rate
Alt4	Reduce the transmission errors

49	Transmission efficiency increases as _____.
Alt1	Voltage increases but power factor decreases
Alt2	Voltage and power factor both increase
Alt3	Voltage decreases but power factor increase
Alt4	Voltage and power factor both decrease

50	For the differential equation shown in image with y(0)=1 ,the general solution is:-
	
Alt1	e5t
Alt2	
Alt3	e(-5t)
Alt4	5e(-5t)

51	Whenever current is applied by a source its terminal voltage
Alt1	Fluctuates
Alt2	Increases
Alt3	Decreases
Alt4	Remains constant

52	The type of signalling that have the same circuit and is used for both signalling and voice communication is called:-
Alt1	out-band
Alt2	signal points
Alt3	in-band
Alt4	signal transport ports

53	The number of flip-flops required to construct a MOD-10 counter that counts from zero to decimal 9 is:-
Alt1	8
Alt2	32
Alt3	4
Alt4	16

54	One of the following Op-Amp type number is used as a comparator:-
Alt1	LM710

Alt2	LM748
Alt3	LM741
Alt4	747

55	SDMA makes use of:-
Alt1	Different codes
Alt2	Different frequencies
Alt3	Different radiation patterns
Alt4	Different time slots

56	The Fourier series of a real periodic function has only P. Cosine terms if it is even Q. Sine terms if it is even R. Cosine terms if it is odd S. Sine terms if it is odd Which of the above statements are correct?
Alt1	Q and R
Alt2	P and R
Alt3	Q and S
Alt4	P and S

57	A radar receives an echo from a target 20 microseconds after sending the signal. The approximate range of the target is:-
Alt1	300m
Alt2	600m
Alt3	3000m
Alt4	6000m

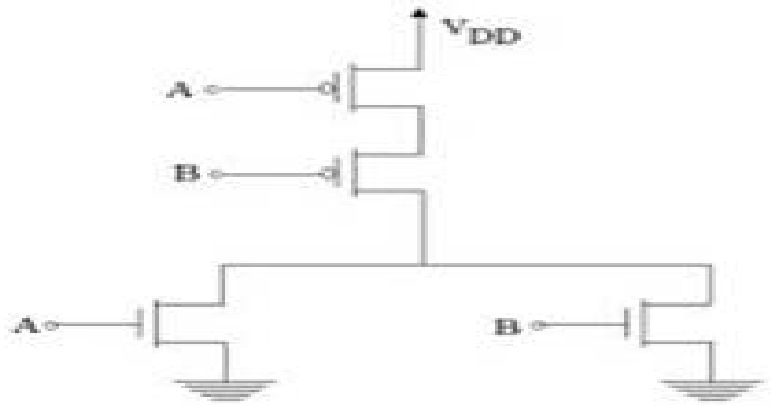
58	Figure of merit is always unity in:-
Alt1	PM
Alt2	SSB-SC
Alt3	AM-SC
Alt4	AM

59	A dynamic RAM consists of:-
Alt1	2 transistors and 2 capacitors
Alt2	6 transistors only
Alt3	1 transistor and 1 capacitor
Alt4	2 capacitors only

60	The semiconductor diode which can be used in switching circuit in microwave range is:-
Alt1	PIN diode
Alt2	Tunnel diode
Alt3	Varactor diode
Alt4	Gunn diode

61	The main advantage of microwave is that_____.
Alt1	High penetration power
Alt2	Highly Directive
Alt3	S/N ratio grater
Alt4	Moves at the speed of light

62	Which topology contains a central controller or hub:-
Alt1	Bus
Alt2	Star
Alt3	Ring
Alt4	Mesh

63	The below circuit represent _____ Gate
	
Alt1	OR Gate
Alt2	NAND Gate
Alt3	NOR Gate
Alt4	AND Gate

64	In a cellular communication system, the noise is best described as:-
Alt1	Exponential
Alt2	Rayleigh
Alt3	Gaussian
Alt4	Uniform

65	Find the bandwidth of SSB-SC technique when message signal has combination of two frequencies i.e. 200 Hz and 400Hz.
Alt1	800Hz
Alt2	600Hz
Alt3	200Hz
Alt4	400Hz

66	If for a control system, the Laplace transform of error e (t) is as shown in image as then the steady state value of the error works out as:-

	$\frac{8(s+4)}{s(s+10)}$
Alt1	2.4
Alt2	3.6
Alt3	3.2
Alt4	1.2

67	Analyze the output for the program given below:
	`void main()`
	`{`
	`Static int i=5;`
	`if(--i){`
	`main ();`
	`printf ("%d ",i);`
	`}`
	`}`

Alt1	1 1 0 0
Alt2	0 0 0 0
Alt3	1 1 1 1
Alt4	0 1 0 1

68	How many different three-member teams can be formed from six students?
Alt1	240
Alt2	120
Alt3	360
Alt4	20

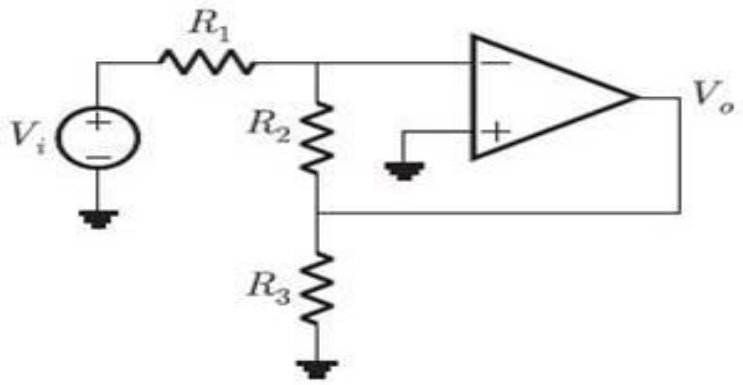
69	What is the electrical wavelength of a 500 MHz signal?
Alt1	0.6 meters
Alt2	0.06 meters
Alt3	600 centimeters
Alt4	60 meters

70	The z- Transform of the function $\sum_{k=0}^{\infty} \delta(n-k)$ is
Alt1	z/(z-1)2
Alt2	z/(z-1)
Alt3	(z-1)2/z

Alt4	(z-1)/z

71	For an air dielectric two-wire line, the minimum characteristic impedance value is:-
Alt1	90 Ω
Alt2	88 Ω
Alt3	85 Ω
Alt4	95 Ω

72	To couple a coaxial line to a parallel wire line it is best to use:-
Alt1	λ/4 transformer
Alt2	Directional Coupler
Alt3	Balun
Alt4	Slotted line

73	Assuming the OP-AMP to be ideal, the voltage gain of the amplifier shown below is 
Alt1	– (R2+ R3)/R1
Alt2	– R3/R1
Alt3	– R2/R1
Alt4	– (R2|| R3)/R1

74	A 4 bit modulo-16 ripple counter uses JK flip-flops. If the propagation delay of each FF is 50 ns, the maximum clock frequency that can be used is equal to:
Alt1	10 MHz
Alt2	4 MHz
Alt3	5 MHz
Alt4	20 MHz

75	The state-variable description of a linear autonomous system is $\dot{\bar{X}} = A\bar{X}$, where $\bar{X}$ is a two-dimensional state vector and A is a matrix given by $\begin{bmatrix} 0 & 3 \\ 3 & 0 \end{bmatrix}$ The poles of the system are located at:-
Alt1	3j and -3j
Alt2	-2j and 2j

Alt3	-2 and +2
Alt4	+3 and -3

76	What is the loss of the circuit in dB if the power ratio of output to input is 0.01.
Alt1	40
Alt2	-20
Alt3	20
Alt4	-40

77	In an AM wave, the total power content is 600 W and that of each sideband is 75 W. The modulation index is:-
Alt1	0.403
Alt2	0.607
Alt3	0.535
Alt4	0.816

78	A series circuit consist of R = 20 Ω, L= 20 mH and AC supply of 60 V with f = 100 Hz. The voltage drop across R is:-
Alt1	50.8
Alt2	24.4
Alt3	40.8
Alt4	30.6

79	How many non-overlapping channels are available with 802.11h standard?
Alt1	40
Alt2	3
Alt3	12
Alt4	23

80	To solve x3+ x – 1 =0 by Iteration method, the equation is written as x =Φ(x) where Φ(x) = ?
Alt1	(1 – x)1/3
Alt2	$\frac{1}{1+x^2}$
Alt3	1 – x3
Alt4	0

81	The residue of equation shown below is:-
	$\frac{e^z-1}{z^4}$ at $z=0$
Alt1	1/2

Alt2	1/6
Alt3	1/4
Alt4	0

82	Find the phase velocity of dielectric medium with refractive index 2.2.
Alt1	2.12*108
Alt2	3*108
Alt3	1.21*108
Alt4	2*108

83	The radiation resistance of a circular loop of one turn is 0.01 ohm. For 5 turn loop the radiation resistance is:-
Alt1	0.25Ω
Alt2	$0.002\ \Omega$
Alt3	$0.01\ \Omega$
Alt4	$0.05\ \Omega$

84	The Power Spectral Density of a WSS process with autocorrelation function $R_x(\tau) = 4\,e^{-2\,\lvert\tau\rvert}$ is given by:- A: $\frac{4}{\omega^2+16}$ B: $\frac{16}{\omega^2+16}$ C: $\frac{4}{\omega^2+4}$ D: $\frac{16}{\omega^2+4}$
Alt1	A
Alt2	B
Alt3	C

Alt4	D

85	Hilbert Transform of sinw1t + cosw2t is:-
Alt1	sinw1t- cosw2t
Alt2	-cosw1t + sinw2t
Alt3	cosw1t – sinw2t
Alt4	sinw1t + sinw2t

86	A quarter wave transformer matches a 100 ohm load to a transmission line with L=1.35 H/m and C=60 pFm. The characteristic impedance of matching transformer is:-
Alt1	300 Ω
Alt2	150 Ω
Alt3	275 Ω
Alt4	122.5 Ω

87	In a flag register of 8086,which bit number is used for overflow flag and zero flag:-
Alt1	11 and 0
Alt2	10 and 9
Alt3	11 and 6
Alt4	9 and 0

88	A signal is transmitted through a 10 Km coaxial line channel which exhibits a loss of 2 dB/Km. the transmitted signal power is PTdB= -30dBW(-30dBW means 30 dB below 1W or , simply , 1mW). Determine the received signal power (dB) and power at the output of an amplifier which has a gain of LdB=15dB
Alt1	-30
Alt2	-35
Alt3	35
Alt4	-50

89	The Fourier series expansion of a real periodic signal with fundamental frequency f_0 is given by $g_{p(t)}=\sum_{n=-\infty} c_n e^{j2\pi f_0 t}$ is given that $c_3 = 3 + j5$. Then c_{-3} is:-
Alt1	3 - j5
Alt2	-1
Alt3	-5
Alt4	5 + j3

90	Two cards are drawn at random from a standard deck of 52 cards, without replacement. What is the probability of drawing a 7 and a king in that order?
Alt1	4/1/1951
Alt2	4/663

Alt3	4/1/1952
Alt4	4/256

91	In order to radiate 100W from a circular loop of circumference equal to 0.1λ,the current required will be:-
Alt1	100 A
Alt2	200 A
Alt3	400 A
Alt4	0.416666667

92	The Fourier transform of $\delta[\frac{[t-t_0]}{a}]$ is A: $\lvert a\rvert e^{-j\omega t_0}$ B: $\frac{1}{\lvert a\rvert e^{-j\omega t_0}}$ C: $e^{-j\omega t_0}$ D: $\delta\ (\omega-\omega_0)e^{-j\omega t_0}$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

93	Convolution of e-2tu(t - 2) with δ (t + 2) is:-
Alt1	$e^{-2t}\,u(t)$
Alt2	$e^{-2t}\,u(t+2)$
Alt3	$e^{-2(t+2)}\,u(t)$
Alt4	$e^{-2\,(t+2)}\,u(t+2)$

94	The resolution of a 4-bit counting ADC is 0.5 volts. For an analog input of 6.6 volts, the digital output of the ADC will be:-
Alt1	1011

Alt2	1101
Alt3	1100
Alt4	1110

95	A BPSK scheme operating over an AWGN channel with noise power spectral density of $N_0/2$, uses equiprobable signals $S_1(t) = \sqrt{\frac{2E}{T}}\sin(w_c(t))$ and $S_2(t) = -\sqrt{\frac{2E}{T}}\sin(w_c(t))$ over the symbol interval $(0,T)$. If the local oscillator in a coherent receiver is ahead in phase by 45^c with respect to the received signal, the probability of error in the resulting system is:- A: $Q\left(\sqrt{\frac{4E}{N_o}}\right)$ B: $Q\left(\sqrt{\frac{E}{2N_o}}\right)$ C: $Q\left(\sqrt{\frac{2E}{N_o}}\right)$ D: $Q\left(\sqrt{\frac{E}{N_o}}\right)$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

96	The initial and final values of $X(z) = \left[2z\left(z-\frac{5}{12}\right)\right] / \left[\left(z-\frac{1}{2}\right)\left(z-\frac{1}{3}\right)\right]; \lvert z\rvert > \frac{1}{2}$ is respectively:-
Alt1	2 & 0
Alt2	1 & 0
Alt3	0 & 1
Alt4	0 & 2

97	The height of a transmitting antenna is 225m above the ground level. Its radio horizon will be:-
Alt1	60 km

Alt2	120 km
Alt3	76 km
Alt4	225 km

98	An analog signal is band-limited to 4 kHz .Sampled at the Nyquist rate and the samples are quantized into 4 levels. The quantized levels are assumed to be independent and equally probable.
Alt1	1 bit/sec
Alt2	3 bits/sec
Alt3	4 bits/sec
Alt4	2 bits/sec

99	Given $y(t) = \|x(t)\|$ where $x(t) = \cos t$. Then amplitude of d .c component of $y(t)$ is:-
Alt1	0
Alt2	1
Alt3	$\frac{2}{\pi}$
Alt4	$\frac{1}{2\pi}$

100	Plane y=0 carries a uniform current of 30 $\overrightarrow{a_z}$mA/m. At (1, 10, −2), the magnetic field intensity is:- A: $477.5\, a_y \mu A/m$ B: $15\, a_z mA/m$ C: $-15\, a_z mA/m$ D: $18.85\, a_y nA/m$
Alt1	A
Alt2	B
Alt3	C

Alt4	D