Sr No.	PhD Electronics & Communication Engineering
1	Which fraction comes next in the sequence
	$$\frac{1}{2}, \frac{3}{4}, \frac{5}{8}, \frac{7}{16}, ?$$
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	The voltage gain of an emitter follower is
Alt1	10 dB
Alt2	1 dB
Alt3	infinity
Alt4	0 dB

22	The efficiency of a circuit at maximum power transfer is
Alt1	0.5
Alt2	0.75
Alt3	1
Alt4	0.25

23	If a unit step response of a system is (1 – e a t), then its unit impulse response will be
Alt1	a e - a t
Alt2	a e - t / a
Alt3	1 / (a e a t)
Alt4	(1 - a) e - a t

24	The discrete impulse function is defined by
Alt1	$\delta(n) = 1, n \geq 0$ $= 0, n \neq 1$
Alt2	$\delta(n) = 1, n = 0$ $= 0, n \neq 1$
Alt3	$\delta(n) = 1, n \leq 0$ $= 0, n \neq 1$
Alt4	$\delta(n) = 1, n \leq 0$ $= 0, n \geq 1$

25	Decimation is a process in which the sampling rate is _____.
Alt1	enhanced
Alt2	stable
Alt3	reduced
Alt4	unpredictable

26	Let x1(t) and x2(t) be periodic signals with fundamental periods T1 and T2 respectively. Then the fundamental period of x(t)=x1(t)+x2(t) is:
Alt1	LCM of T1 and T2

Alt2	HCF of T1and T2
Alt3	Product of T1 and T2
Alt4	Ratio of T1 to T2

27	The Cooley–Tukey algorithm of FFT is a
Alt1	Divide and conquer algorithm
Alt2	Divide and rule algorithm
Alt3	Split and rule algorithm
Alt4	Split and combine algorithm

28	For a system function H(s) to be stable
Alt1	The zeros lie in left half of the s plane
Alt2	The zeros lie in right half of the s plane
Alt3	The poles lie in left half of the s plane
Alt4	The poles lie in right half of the s plane

29	A MOS transistor which has conducting channel region at zero gate bias is called
Alt1	Depletion mode
Alt2	Enhancement mode
Alt3	Saturated mode
Alt4	Non- saturated mode

30	In the VLSI design the data and control signals of a shift register flow in
Alt1	horizontally and vertically
Alt2	vertically and horizontally
Alt3	both horizontally
Alt4	both vertically

31	DRAM has a…………………………. and SRAM is ………………………….
Alt1	smaller layout and uses large power ; slower, uses more power and is larger
Alt2	smaller layout and uses less power ; faster, uses more power and is larger
Alt3	more power and slower ; faster, uses less power and is smaller
Alt4	more power and faster ; faster, uses less power and is larger

32	The frequency of an LC oscillator is ω0. The plates of the parallel plate capacitor are
Alt1	$2\omega_0 / \kappa$
Alt2	$(2/\kappa)1/2\ \omega_0$
Alt3	$(\kappa/2)1/2\ \omega_0$
Alt4	$\kappa\ \omega_0 / 2$

33	Consider a solenoid with radius R and length L (R << L). The magnetic field at the center
Alt1	B0/4
Alt2	B0/2
Alt3	4 B0
Alt4	2 B0

34	The fields of an electromagnetic wave traveling in the backward z direction is given by,

Alt1	Ex = E0 sin(wt + bz), Hx = H0 sin(wt - bz)	
Alt2	Ez = E0 sin(wt - bz), Hy = H0 sin(wt + bz)	
Alt3	Ex = E0 sin(wt + bz), Hy = H0 sin(wt + bz)	
Alt4	Ey = E0 sin(wt - bz), Hy = H0 sin(wt - bz)	

35	110012 -100012 =
Alt1	10000
Alt2	01000
Alt3	00100
Alt4	00001

36	In a shift register, right shifting a bit by one position means
Alt1	division by 2
Alt2	multiplication by 2
Alt3	subtraction by 2
Alt4	addition by 2

37	HDLC and LLC are examples of standards at the
Alt1	Physical layer
Alt2	Data link layer
Alt3	Network layer
Alt4	Transport layer

38	Rayleigh fading occurs in a wireless channel when there is,
Alt1	A LOS component present
Alt2	No LOS component present
Alt3	Intercell interference
Alt4	Noise in the channel

39	If the maximum Doppler frequency is 20Hz, the maximum velocity of a mobile for the
Alt1	6.67 m/s
Alt2	66.7 cm/s
Alt3	66.7 m/s
Alt4	6.67 cm/s

40	The significant amounts of signal-processing power required by the use of equalizers
Alt1	CDMA systems
Alt2	TDMA systems
Alt3	OFDM systems
Alt4	FDMA systems

41	The antenna suitable for high gain wideband application is
Alt1	folded dipole antenna
Alt2	helical antenna
Alt3	crossed dipole antenna
Alt4	log-periodic antenna

42	The Standard Single Mode fibers have zero chromatic dispersion at
Alt1	850 nm
Alt2	1300 nm
Alt3	1480 nm
Alt4	1550 nm

43	The von Neumann bottleneck is due to
Alt1	mismatch in speed between secondary and primary storage
Alt2	mismatch in speed between the CPU and primary storage
Alt3	slow speed of I/O devices
Alt4	low clock speeds

44	RISC machines typically
Alt1	have high capacity on-chip cache memories
Alt2	have fewer registers than CISC machines
Alt3	are less reliable than CISC machines
Alt4	execute 1 instruction per clock cycle

45	Three amplifiers {A1, A2, A3} have gains of {5, 10, 3} dB respectively. Their
Alt1	A1
Alt2	A2
Alt3	A3
Alt4	Cannot be determined

46	The Euclidean distance between the two signals defined by (E/2T)1/2 Cos(2pft) and
Alt1	(E/T)1/2
Alt2	(E/2)1/2
Alt3	(2E)1/2
Alt4	2(E)1/2

47	Given IP address 101.27.51.122 and subnet mask 255.255.128.0, the subnet address is,
Alt1	101.0.0.0
Alt2	101.27.0.0
Alt3	101.27.51.0
Alt4	101.27.51.128

48	The use of an PIN photodiode detector as compared to an APD in a fiber optic receiver
Alt1	Increased Sensitivity and Increased Bandwidth
Alt2	Increased Sensitivity and Decreased Bandwidth
Alt3	Decreased Sensitivity and Increased Bandwidth
Alt4	Decreased Sensitivity and Decreased Bandwidth

49	If a return echo arrives after the allocated pulse interval,
Alt1	it will interfere with the operation of the transmitter
Alt2	the receiver might be overloaded
Alt3	it will not be received
Alt4	the target will appear closer than it really is

50	If the antenna diameter in a radar system is increased by a factor of 4, the maximum
Alt1	√2
Alt2	2
Alt3	4
Alt4	8

51	If a single mode fiber with dispersion magnitude of 16 ps/nm.km, is used for light
Alt1	8 ps
Alt2	8 ns
Alt3	16 ps
Alt4	16 ns

52	The pump wavelength that should be used in an Erbium Doped Fiber Amplifier for
Alt1	1330 nm
Alt2	980 nm
Alt3	1480 nm
Alt4	1550 nm

53	A cellular system with total band width of 40MHz, has to provide cellular service with 2
Alt1	100
Alt2	250
Alt3	500
Alt4	750

54	If the symbol duration is 1 ms, and one of the frequencies used in the Minimum Shift
Alt1	200.50 MHz
Alt2	201.00 MHz
Alt3	250.00 MHz
Alt4	400.00 MHz

55	Early-late synchronizer utilizes, _____ to synchronize the receiver.
Alt1	convolution
Alt2	correlation
Alt3	differentiation
Alt4	accumulation

56	Which of the following devices translates hostnames into IP addresses?
Alt1	DNS Server
Alt2	Hub
Alt3	DHCP Server
Alt4	Firewall

57	In PPP,_____ is a three-way-hand-shaking authentication protocol in which the
Alt1	NCP
Alt2	LCP
Alt3	CHAP

Alt4	PAP

58	L-match is used for _____
Alt1	noise matching
Alt2	impedance matching
Alt3	both
Alt4	none of these

59	The capacity of MIMO system is directly proportional to
Alt1	Maximum number of transmit and receive antennas
Alt2	Minimum number of transmit and receive antennas
Alt3	Product of number of transmit and receive antennas
Alt4	Ratio of number of transmit and receive antennas

60	The symbol transmitted by Alamouti code in 2x1 MIMO system by the second antenna in
Alt1	symbol 1
Alt2	symbol 2
Alt3	-complex conjugate of symbol 2
Alt4	complex conjugate of symbol 1

61	The mapping of irregular combinational logic functions into regular structures is
Alt1	FPGA
Alt2	CPCD
Alt3	standard cells
Alt4	PLA

62	Histogram equalization make image intensity changes
Alt1	low
Alt2	high
Alt3	visible
Alt4	invisible

63	Decomposing image into band limit components is called
Alt1	low coding
Alt2	high coding
Alt3	intense coding
Alt4	subband coding

64	Haar transformation is defined by
Alt1	T = HFHT
Alt2	T = HFH
Alt3	T = HFT
Alt4	T = HT

65	Convolution in spatial domain is multiplication in
Alt1	frequency domain
Alt2	time domain

Alt3	spatial domain
Alt4	plane

66	Advanced Encryption Standard (AES), has three different configurations with respect to
Alt1	Data Size
Alt2	Round Size
Alt3	Key Size
Alt4	Encryption Size

67	The signal to quantisation noise ratio in PCM system depends upon
Alt1	Sampling rate
Alt2	Number of quantisation level
Alt3	Message signal bandwidth
Alt4	Signal power

68	For a modulation co-efficient of 0.4 and carrier power of 400W, the total sideband power will be
Alt1	432W
Alt2	32W
Alt3	160W
Alt4	100W

69	The resonant frequency of RF amplifier of a receiver is 1 MHz and its bandwidth is 10 KHz. The Q factor will be
Alt1	50
Alt2	100
Alt3	10
Alt4	25

70	The probabilities of the five possible outcomes of an experiment are given as $P(x1)=1/2$, $P(x2)=1/4$, $P(x3)= 1/8$, $P(x4)=P(x5)= 1/16$. The rate of information R will be
Alt1	30 bits /sec
Alt2	15 bits/sec
Alt3	45 bits/sec
Alt4	10 bits/sec

71	A 20 m antenna gives a certain uplink gain at frequency of 4/6 GHz. For getting same gain in the 20/30 GHz band, antenna size in meter will be
Alt1	100
Alt2	4
Alt3	1
Alt4	10

72	The minimum number of NAND gates required to design Ex-OR gate will be
Alt1	5
Alt2	4
Alt3	3

Alt4	2

73	8255A is a
Alt1	Programmable peripheral interface
Alt2	I/O device
Alt3	Memory chip
Alt4	Timer Device

74	An energy signal has G (f) = 10. Its energy density spectrum is
Alt1	10
Alt2	100
Alt3	50
Alt4	20

75	Which one is discrete time periodic signal
Alt1	$Sin\sqrt{3}\pi n$
Alt2	$Cos\sqrt{2}\pi n$
Alt3	$Sin3\pi n$
Alt4	All

76	If f(t) is volts, then F(jω) is in
Alt1	Volts
Alt2	Volt seconds
Alt3	Volts/sec
Alt4	Volt-sec2

77	If the system transfer function of a discrete time system H(z) = z/(z-1) then system is
Alt1	Stable
Alt2	Unstable
Alt3	Stable at z=1
Alt4	Unstable at z=1

78	A RC snubber circuit is used to protect a SCR against
Alt1	False triggering
Alt2	Failure to turn on
Alt3	Switching transient
Alt4	Failure to commutate

79	A DC-AC power converter is called
Alt1	Cyclo-converter

Alt2	Rectifier
Alt3	Inverter
Alt4	Chopper

80	In a single phase semi converter the number of SCR is
Alt1	16
Alt2	8
Alt3	4
Alt4	2

81	In a single phase full wave controlled rectifier using centre tap transformer, the voltage across each half of secondary is Vmsinωt. The peak inverse voltage is
Alt1	2Vm
Alt2	Vm
Alt3	0.5Vm
Alt4	0.25Vm

82	The total number of leads in SCR , DIAC and TRIAC respectively are
Alt1	3,2,3
Alt2	2,3,3
Alt3	3,3,2
Alt4	3,2,4

83	In a three phase bridge inverter, the gating signals for three phase have a phase difference of
Alt1	120°
Alt2	60°
Alt3	240°
Alt4	90°

84	Four 1 ohm resistances are used as arms to form a square. The diagonal resistances between two corner will be
Alt1	4 Ω
Alt2	2 Ω
Alt3	1 Ω
Alt4	3 Ω

85	As a result of reflection from a plane conducting wall, electronic magnetic waves acquire an apparent velocity greater than velocity of light in space. This is called
Alt1	Velocity of propagation
Alt2	Normal velocity
Alt3	Group velocity
Alt4	Phase velocity

86	A 4 input AND gate is equivalent to
Alt1	4 switches in parallel
Alt2	2 switches in series and 2 in parallel
Alt3	3 switches in parallel and one in series
Alt4	4 switches in series

87	1's complement of binary number 0101 is
Alt1	1010
Alt2	1110
Alt3	1
Alt4	1111

88	The circuit of the given figure gives the output Y =

Alt1	AB
Alt2	A+B
Alt3	(AB)'
Alt4	(A+B)'

89	An instrumentation amplifier has a high
Alt1	Output impedance
Alt2	Power gain
Alt3	CMRR
Alt4	Supply voltage

90	The maximum efficiency of a push pull class B power amplifier is
Alt1	0.4
Alt2	0.5
Alt3	0.785
Alt4	0.25

91	A varactor diode is operated under
Alt1	Reverse bias
Alt2	Forward bias
Alt3	Without bias
Alt4	Zero bias

92	How many flags are there in 8085 microprocessor
Alt1	4
Alt2	5
Alt3	6
Alt4	8

93	A microcomputer has a 64K memory what is the hexadecimal notation for the first memory location
Alt1	0000
Alt2	FFFF
Alt3	0FFF
Alt4	3FFF

94	The number of select lines in a 8:1 MUX are
Alt1	4
Alt2	3
Alt3	2
Alt4	8

95	Commonly used mode for 3G networks is
Alt1	TDMA
Alt2	FDMA
Alt3	TDD
Alt4	FDD

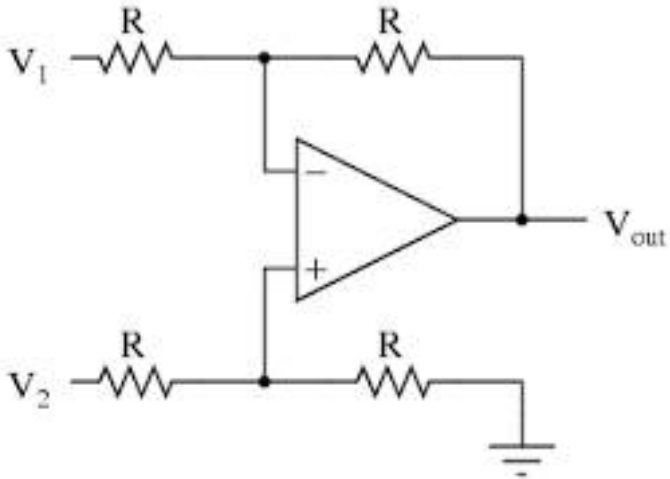| 96	Half duplex system for communication has
Alt1	Communication in single direction
Alt2	Communication in single direction at a time
Alt3	Communication in both directions at the same time
Alt4	Communication at selective frequency

97	The process of transferring a mobile station from one base station to another is
Alt1	MSC
Alt2	Roamer
Alt3	Hand off
Alt4	Forward channel

98	When a beam of light travels through media of two different densities ,if the angle of incidence is greater than the critical angle ,_____ occurs
Alt1	Reflection

Alt2	Refraction
Alt3	Both (a) and (b)
Alt4	Criticism

99	Consider an ideal n channel MOSFET with parameter L=1.25 m, n = 650cm2/v-s,Cox = 6.9x10-8 F/cm2 and Vth= 0.65 v. The channel width W at ID(sat) = 4mA for VG = 5V will be
Alt1	0.18 m
Alt2	10 m
Alt3	11.8 m
Alt4	10.5 m

100	The output Vout = _____
Alt1	V1 + V2
Alt2	V1 - V2
Alt3	V2 – V1
Alt4	V1V2