

Sr No.	PhD EEE
1	Find the missing term in the series: 3, 20, 63, 144, 275,?
Alt1	354
Alt2	468
Alt3	548
Alt4	554

2	Choose word from the given options which bears the same relationship to the third word, as the first two bears: Anaemia: Blood :: Anarchy:?
Alt1	Lawlessness
Alt2	Government
Alt3	Monarchy
Alt4	Disorder

3	Teeth is related to Grit in the same way as Fist is related to.....?.....
Alt1	Blow
Alt2	Hand
Alt3	Open
Alt4	Clench

4	Select the lettered pair that has the same relationship as the original pair of words: Reproof: Scold
Alt1	Respite: Spite
Alt2	Romantic: Strong
Alt3	Salient: Prominent
Alt4	Chastise: Erring

5	Choose the alternative, which is similar to the given words: Bleat : Bray : Grunt
Alt1	Bark
Alt2	Croak
Alt3	Cry
Alt4	Scream

6	Spot the defective segment from the following:
Alt1	I wish
Alt2	I have a car
Alt3	to go shopping
Alt4	in the rain

7	Choose the meaning of the idiom/phrase from among the options given: Out of sorts
Alt1	unwell
Alt2	irrelevant
Alt3	in disorder
Alt4	out of love

8	The rowdy was at last done -----.
Alt1	over
Alt2	off
Alt3	away
Alt4	away with

9	Choose the option closest in meaning to the given word: BUCOLIC
Alt1	rustic
Alt2	utopian
Alt3	peaceful
Alt4	noisy

10	Choose the antonymous option you consider the best: CALLOW
Alt1	immature
Alt2	green
Alt3	clumsy
Alt4	veteran

11	If the seventh day of a month is three days earlier than Friday, what day will it be on the nineteenth day of the month ?
Alt1	Sunday
Alt2	Monday
Alt3	Wednesday
Alt4	Friday

12	Water is related to Ocean in the same way as Snow is related to
Alt1	Peaks
Alt2	Hail
Alt3	Glacier
Alt4	Mountain

13	A's father's brother's father is D. how is D related to A ?
Alt1	Father
Alt2	Grandfather
Alt3	Uncle
Alt4	Son

14	Find the odd man out:
Alt1	Squash
Alt2	football
Alt3	hockey
Alt4	Cricket

15	In a certain code language, if CRICKET is coded as 3923564, ROCKET is coded as 913564 and KETTLE is coded as 564406, then how is LITTLE coded in that language ?
Alt1	024406
Alt2	240406
Alt3	20446
Alt4	200446

16	At what angles are the hands of a clock inclined at 20 minutes past 7 ?
Alt1	80 degrees
Alt2	90 degrees
Alt3	100 degrees
Alt4	120 degrees

17	Odd one out: 2,4,6,8
Alt1	2
Alt2	4
Alt3	6
Alt4	8

18	Which is smallest:
Alt1	Quarter of 140
Alt2	Double of 4×4
Alt3	7×5
Alt4	Half of 72

19	What is the next alphabet in the following series Z D X H V L T ?
Alt1	Q
Alt2	N
Alt3	P
Alt4	O

20	How many times is the abbreviation FB shorter than the word FACEBOOK?
Alt1	4times
Alt2	3times
Alt3	5times
Alt4	Many

21	The graph of an electrical network has N nodes and B branches. The number of links L, with respect to the choice of a tree is given by:-
Alt1	$N - B + 1$
Alt2	$N - 2B - 1$
Alt3	$B - N + 1$
Alt4	$B + 1$

22	In a transformer, zero voltage regulation at full load is:-
Alt1	not possible

Alt2	possible at leading power factor load
Alt3	possible lagging power factor load
Alt4	possible at unity power factor load

23	For a given stepper motor the following torque has highest numerical value:-
Alt1	detent torque
Alt2	pull out torque
Alt3	pull in torque
Alt4	holding torque

24	A series R-L-C circuit when excited by a 10V sinusoidal voltage source of variable frequency, exhibits at 100 Hz and has a 3 dB bandwidth of 5 Hz. The voltage across the inductor L at resonance is
Alt1	10V2V
Alt2	10/V2V
Alt3	10V
Alt4	200V

25	Efficiency of a 100KVA transformer is 0.98 at full as well as at half load. For this transformer at full load, the copper loss is
Alt1	25% of the core loss
Alt2	more than the core loss
Alt3	equal to the core loss
Alt4	50% of the core loss

26	The function of oil in a transformer is to provide
Alt1	lubrication
Alt2	protection against lightening
Alt3	protection against short circuit
Alt4	insulation and cooling

27	The insulation level of a 400KV, EHB overhead transmission line is decided on the basis of:-
Alt1	corona inception voltage
Alt2	radio and tv interference
Alt3	lightening overvoltage
Alt4	switching overvoltage

28	When a transformer winding suffers a short circuit, the adjoining turns of the same windings experience
Alt1	external force
Alt2	a repulsive force
Alt3	no force
Alt4	an attractive force

29	The torque angle of a synchronous machine operating from a constant voltage bus is usually defined as the space angle between
Alt1	stator mmf wave and resultant flux density wave

Alt2	rotor mmf wave and resultant flux density wave
Alt3	stator mmf wave and resultant mmf wave
Alt4	rotor mmf wave and stator mmf wave

30	The type of single phase induction motor having the highest power factor at full load is:-
Alt1	shaded pole type
Alt2	split-phase type
Alt3	capacitor start type
Alt4	capacitor run type

31	A three phase four pole squirrel cage induction motor has 36 stator and 28 rotor slots. The number of poles in the rotor is:-
Alt1	8
Alt2	7
Alt3	9
Alt4	3

32	Distributed winding and shunt chording employed in ac machines will result in:-
Alt1	reduction in emf and increase in harmonics
Alt2	increase in emf and reduction in harmonics
Alt3	increase in both emf and harmonics
Alt4	reduction in both emf and harmonics

33	If an ac voltage wave is corrupted with an arbitrary number of harmonics, then the overall voltage differs from its fundamental frequency component in terms of:-
Alt1	only the peak values
Alt2	only rms values
Alt3	only average values
Alt4	all the three measures

34	If an induction machine is run at above synchronous speed, it acts as
Alt1	synchronous generator
Alt2	an inductor motor
Alt3	an induction generator
Alt4	a synchronous motor

35	A three phase salient pole synchronous motor is connected to an infinite bus. It is operated at no load at normal excitation. The field excitation of the motor is first reduced to zero, and then increased in the reverse direction gradually. Then the arm
Alt1	first increases and then decreases steeply
Alt2	remains constant
Alt3	first decreases and then increases steeply
Alt4	increases continuously

36	Leakage flux in an induction motor is:-
Alt1	flux that links the stator windings or the rotor windings but not both
Alt2	flux that links none of the windings

Alt3	flux that leaks through the machine
Alt4	flux that links both the stator and rotor windings

37	The speed of rotation of stator magnetic field with respect to rotor structure will be:-
Alt1	1500 rpm in the opposite direction of rotation
Alt2	90 rpm in the opposite direction rotation
Alt3	90 rpm in the direction of rotation
Alt4	1500 rpm in the direction of rotation

38	the low voltage winding of a 400/230 V single phase 50Hz transformer is to be connected to a 25Hz supply voltage should be:-
Alt1	460V
Alt2	230V
Alt3	115V
Alt4	65V

39	A differentially compounded dc motor with interpoles and with brushes on the neutral axis is to be driven as a generator in the direction with the same polarity of the terminal voltage. It will then:-
Alt1	be a cumulatively compounded generator without reversing the Interpole coil connections
Alt2	be a cumulatively compounded generator but the interpole coil connections are to be reversed
Alt3	be a differentially compounded generator without reversing the Interpole coil connections
Alt4	be a differentially compounded generator but the Interpole coil connections are to be reversed

40	Bundled conductors are mainly used in high voltage overhead transmission lines to:-
Alt1	reduced transmission line losses
Alt2	increased mechanical strength of the line
Alt3	reduced sag
Alt4	reduced corona

41	The inductance of a power transmission line increases with:-
Alt1	increase in diameter of conductor
Alt2	increase in load current carried by the conductors
Alt3	decrease in line length
Alt4	increase in spacing between the phase conductors

42	In a constant voltage transformer the output voltage remains constant due to:-
Alt1	tapped windings
Alt2	saturation
Alt3	input inductor
Alt4	capacitor

43	The use of high speed of circuit breakers:-
Alt1	decreases system stability
Alt2	increases the short circuit current
Alt3	reduces the short circuit current
Alt4	improves system stability

44	A negative sequence relay is commonly used to protect
Alt1	a transmission line
Alt2	a bus bar
Alt3	a transformer
Alt4	an alternator

45	A long wire composed of a smooth round conductor runs above parallel to the ground (assumed to be a large conducting plan) a high voltage exists between conductor and ground. The maximum electric stress occurs at
Alt1	lower surface of the conductor
Alt2	upper surface of the conductor
Alt3	ground surface
Alt4	midway between the conductor and the ground

46	A series R-L-C circuit has the following parameter values $R=10\Omega$, $L=0.01H$ $C=100mF$. The Q factor of the circuit at resonance is:-
Alt1	3
Alt2	0.01
Alt3	30
Alt4	0.03

47	Resistance switching is normally employed in:-
Alt1	air blast circuit breakers
Alt2	minimum oil breakers
Alt3	all breakers
Alt4	bulk oil breakers

48	For a 500Hz frequency excitation a 50km short power line will be modeled as:-
Alt1	short line
Alt2	long line
Alt3	data insufficient for decision
Alt4	medium line

49	The energy stored in the magnetic field of a solenoid 30cm long and 3 cm diameter wound with 100 turns of wire carrying a current of 10 A is:-
Alt1	0.15J
Alt2	0.5J
Alt3	1.1J
Alt4	0.015 J

50	Keeping in view the requirement of parallel operation, which of these 3 phase connections given below are possible:-
Alt1	star-star to delta-star
Alt2	delta-delta to delta- star
Alt3	delta-star to star-delta
Alt4	delta-delta to star-delta

51	A unique step voltage is applied at $t=0$ to a series RL circuit with zero initial conditions:-
Alt1	it is possible for the current to be oscillatory
Alt2	the resistor current eventually falls to zero
Alt3	the voltage across the resistor at $t = 0 +$ is zero
Alt4	the energy stored in the inductor in the steady state is zero

52	The unit of electrical charge is the
Alt1	joule
Alt2	coulomb
Alt3	watt
Alt4	volt

53	The Hall Effect
Alt1	can develop potentials of thousands of volts
Alt2	is a phenomenon with no practical applications
Alt3	is used in various sensor applications
Alt4	is the basis for solar cell operation

54	What device is similar to an RTD but has a negative temperature coefficient?
Alt1	Strain gauge
Alt2	Negative-type RTD
Alt3	Thermocouple
Alt4	Thermistor

55	A typical EMG signal ranges from
Alt1	About 0.1 to 0.5 mV
Alt2	About 1 to 0.5 mV
Alt3	About 1 to 5 mV
Alt4	About 0.1 to 5 mV

56	A differentiator has transfer function whose:-
Alt1	amplitude increases linearly with frequency
Alt2	whose phase increases linearly with frequency
Alt3	amplitude decreases linearly with frequency
Alt4	amplitude remains constant

57	A transducer's function is to:-
Alt1	Convert energy
Alt2	Produce mechanical energy
Alt3	Transmit electrical energy
Alt4	Prevent current flow

58	EEG machines have notch filters to eliminate:-
Alt1	Un damped oscillations
Alt2	Noise
Alt3	Muscle artifacts

Alt4	Frequency interference
------	------------------------

59	Simplified form of $AB+AC+B\hat{C}$ is
Alt1	AC
Alt2	BC
Alt3	$AC+ B\hat{C}$
Alt4	$AC+BC$

60	Which of the following is a desirable characteristic of an instrument?
Alt1	Poor reproducibility
Alt2	High fidelity
Alt3	High drift
Alt4	High measuring lag

61	What are the effects of moving a closed wire loop through a magnetic field:-
Alt1	Voltage, current and polarity change
Alt2	The polarity across the wire depends on the direction of motion
Alt3	A current is induced in the wire
Alt4	A voltage is induced in the wire

62	Signal flow graph is used to obtain the:-
Alt1	controllability of a system
Alt2	transfer function of a system
Alt3	stability of a system
Alt4	observability of a system

63	The phase lead compensation used to:-
Alt1	increase rise time and decrease overshoot
Alt2	decrease rise time and increase over shoot
Alt3	increase both rise time and overshoot
Alt4	decrease both rise time and overshoot

64	For a feedback control system of type 2, the steady state error for a ramp input is:-
Alt1	indeterminate
Alt2	constant
Alt3	zero
Alt4	infinite

65	Introduction of integral action in the forward path of a unity feedback system results in a:-
Alt1	system with no steady state error
Alt2	system with better speed of response
Alt3	marginally stable system
Alt4	system with increased stability margin

66	Photo conductive cell consists of a thin film of:-
Alt1	Calcium
Alt2	Selenium

Alt3	Cadmium
Alt4	Magnesium

67	What is the zero-voltage switch used for?
Alt1	For extremely low-voltage applications
Alt2	To provide power to a circuit when power is lost
Alt3	To control low-voltage circuits
Alt4	To reduce radiation of high frequencies during turn-on of a high current to a load

68	Principle of operation of LVDT is based on the variation of:-
Alt1	Capacitance
Alt2	mutual inductance
Alt3	Self-inductance
Alt4	Resistance

69	In microprocessor the register which holds the address of the next instructions to be fetched is:-
Alt1	Program Counter
Alt2	Instructor Register
Alt3	Stack Pointer
Alt4	Accumulator

70	The cycloconverter requires natural or forced commutation as under
Alt1	natural commutation for both step up and step down operation
Alt2	forced commutation for step up operation
Alt3	forced commutation for both step up and step down operation
Alt4	forced commutation for step down operation

71	In common emitter amplifier, the un bypassed emitter resistance provides:-
Alt1	Current series feedback
Alt2	Negative voltage feedback
Alt3	Voltage shunt feedback
Alt4	Positive current feedback

72	The One Newton-Meter is equal to:-
Alt1	One WATT
Alt2	One joule
Alt3	One joule-ampere
Alt4	One WATT-ampere

73	In a microprocessor the address of the next instruction to be executed is stored in:-
Alt1	Stack pointer
Alt2	Program counter
Alt3	Address latch
Alt4	General purpose register

74	Which of the following logic family has highest dc noise margin:-
Alt1	CMOS

Alt2	TTL
Alt3	HTL
Alt4	DTL

75	Kirchhoff's second law is based on law of conservation of:-
Alt1	Mass
Alt2	Momentum
Alt3	Charge
Alt4	Energy

76	Which one of the following device is a negative resistance device:-
Alt1	FET
Alt2	BJT
Alt3	UJT
Alt4	Diode

77	The notch filter is:-
Alt1	Narrow band reject filter
Alt2	Band pass filter
Alt3	Wide band reject filter
Alt4	High pass filter

78	How many ones are represent in the binary representation of $3*5^{12}+7*6^4+5*8+3$:- 8
Alt1	8
Alt2	10
Alt3	9
Alt4	11

79	To achieve step up chopper operation:-
Alt1	independent of the value of duty ratio
Alt2	the value of duty ratio should be above 1
Alt3	the value of duty ratio should vary between 0 and 1
Alt4	None of the above

80	<p>A 8085 microprocessor executes the following program:</p> <pre> π MVI A, 10H π MVI B, 10H b. BCK: NOP π ADD B π RLC π JNC BCK π HLT </pre> <p>c. The number of times that the operation NOP will be executed is equal to:-</p>
Alt1	3

Alt2	1
Alt3	2
Alt4	4

81	The major advantage of active filters is that they can be realized without using:-
Alt1	Resistors
Alt2	Inductors
Alt3	Op-amps
Alt4	Capacitors

82	In a 3 - phase semiconverter, frequency of the ripple in the output voltage may be:-
Alt1	6 times the supply frequency for firing angle less than 60°
Alt2	6 times the supply frequency for firing angle greater than 60°
Alt3	3 times the supply frequency for firing angle greater than 60°
Alt4	3 times the supply frequency for firing angle less than 60°

83	The depletion region in a semiconductor PN junction diode has:-
Alt1	Positive ions and electrons
Alt2	Negative ions and holes
Alt3	Positive and negative ions
Alt4	Electrons and holes

84	What is the input control parameter of a FET
Alt1	Gate voltage
Alt2	Source Voltage
Alt3	Drain Voltage
Alt4	Gate Current

85	Oscillators Operates on the principle of
Alt1	Negative feedback
Alt2	Postive feedback
Alt3	Signal feed through
Alt4	Attenuation

86	What happens if the input capacitor of a transistor amplifier is short-circuted
Alt1	signal will not reach the base
Alt2	transistor will be destroyed
Alt3	biasing conditions will change
Alt4	biasing will stabilize

87	The number of stages in muti-stage amplifier that can be directly coupled is limited because
Alt1	change in temperture can cause thermal instability
Alt2	circuit beomes heavily and costly
Alt3	it becomes difficult to bias the circuit
Alt4	circuits resistance becomes too large

88	An ideal OPAMP is an ideal
----	----------------------------

Alt1	current controlled current sources
Alt2	current controlled voltage sources
Alt3	voltage controlled voltage sources
Alt4	voltage controlled current sources

89	An OPAMP has a slew rate of 5 V/ μ S. The largest sine wave O/P voltage possible at a frequency of 1 MHz is
Alt1	10 volts
Alt2	5 volts
Alt3	5/10 volts
Alt4	5/2 volts

90	At which condition of ϵ resonant peak does not exist and its maximum value is considered to be unity along with zero resonant frequency ?
Alt1	$0 < \epsilon < 0.707$
Alt2	$\epsilon > 0.707$
Alt3	$\epsilon = 0$
Alt4	$\epsilon = 1$

91	In P-D controller, the derivative action plays a significant role in increasing _____ of response
Alt1	Time
Alt2	distance
Alt3	speed
Alt4	Volume

92	Which point on root locus specifies the meeting or collision of two poles
Alt1	Centroid
Alt2	break away point
Alt3	stability point
Alt4	Anti-Break point

93	In a second order system, if the damping ratio is greater than equal to '1', then what would be the nature of roots
Alt1	Imaginary
Alt2	Real and equal
Alt3	Real but not equal
Alt4	Complex conjugate

94	If transfer function of a system is $H(z) = 6 + z^{-1} + z^{-2}$ then system is
Alt1	Minimum phase
Alt2	Maximum phase
Alt3	Mixed phase
Alt4	Zero phase

95	In PWM signal reception, the Schmitt trigger circuit is used
Alt1	to remove noise

Alt2	to produce ramp signal
Alt3	for synchronization
Alt4	none of the above

96	Which starting a synchronous motor by induction motor action
Alt1	Field winding is usually short circuited by very low resistance
Alt2	Field winding is usually kept open circuited
Alt3	Field winding is usually connected to d.c.supply
Alt4	Field winding is usually short circuited by very high resistance

97	In power system load flow study buses are classified to make
Alt1	the analysis simpler
Alt2	the analysis realistic
Alt3	the no. of equations equal to no. of unknown variables
Alt4	the no. of control variables equal to no. of unknow variables

98	A four quadrant operation requires
Alt1	Two full converters in series
Alt2	Two full converters connected back to back
Alt3	Two full converters connected in parallel
Alt4	Two full semi-converters connected back to back

99	Which of following statement/statement is/are correct in connection with inverters
Alt1	VSI and CSI both requires feedback diodes
Alt2	only VSI requires feedback diodes
Alt3	GTO s can be used in CSI
Alt4	only CSI requires feedback diodes

100	Derivative control can make a system unstable
Alt1	if the change in error is zero
Alt2	if the change in error if high
Alt3	if there is noise in error
Alt4	if the error is zero