

1	Which country will host the FIFA World Cup 2022 tournament?					
	a) France	b) Qatar	c) Brazil	d) Japan	B	Qatar
2	Which country will host the 2023 International Cricket Council (ICC) World Cup?					
	a) England	b) Australia	c) India	d) South Africa	C	India
3	The capital city of Ukraine is					
	a) Kyiv	b) Kharkiv	c) Odessa	d) Dnipro	A	Kyiv
4	In which year, Arunachal Pradesh became a full-fledged state of India?					
	a) 1985	b) 1986	c) 1987	d) 1988	C	1987
5	Where the Shirui Lily grows?					
	a) Tripura	b) Mizoram	c) Manipur	d) Nagaland	B	Manipur
6	Select the wrongly spelt words					
	a) career	b) callous	c) calander	d) carriage	C	calander
7	Select the wrongly spelt word in the following words.					
	a) expire	b) explicit	c) explode	d) exploite	D	exploite
8	In each of the following questions, choose the correctly spelt word.					
	a) Bouquete	b) Bouquet	c) ) Boquet	d) Bouquette	B	Bouquet
9	One who damages public property					
	a) Cynosure	b) Demagogue	c) Epicure	d) Vandal	D	Vandal
10	Find the Error Section in the following sentence "He has made a mistake (A)/ of which (B) / I am certain (C) / No error (D)"					
	a) A	b) B	c) C	d) D	D	No error
11	My sister's marriage passed _____ peacefully.					
	a) away	b) by	c) off	d) out	C	off

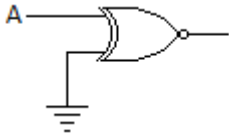
12	Health is too important to be _____.					
	a) discarded	b) disposed	c) neglected	d) detested	C	neglected
13	Tsunamis are not caused by					
	a) Hurricanes	b) ) Earthquakes	c) ) Earthquakes	d) Volcanic eruptions	A	Hurricanes
14	The hottest planet in the solar system?					
	a) Mercury	b) Venus	c) Mars	d) Jupiter	B	Venus
15	Where was the electricity supply first introduced in India –					
	a) Mumbai	b) ) Dehradun	c) Darjeeling	d) ) Chennai	C	Darjeeling
16	Gravity setting chambers are used in industries to remove					
	a) NO <sub>x</sub>	b)SO <sub>x</sub>	c) CO	d) suspended particulate matter	D	suspended particulate matter
17	Friction can be reduced by changing from					
	a) rolling to sliding	b) sliding to rolling	c) dynamic to static	d) potential energy to kinetic energy	B	sliding to rolling
18	Garampani sanctuary is located at					
	a)Gangtok, Sikkim	b) Kohima, Nagaland	c)Diphu, Assam	d) Junagarh, Gujarat	C	Diphu, Assam
19	Today is Varun's birthday. One year from today he will be twice as old as he was 12 years ago. How old is Varun today?					
	a)20 years	b)21 years	c)22 years	d)25 years	D	25
20	Joule is related to Energy in the same way as Pascal is related to _____?					
	a)Purity	b)Density	c)Pressure	d)Volume	C	Pressure
21	Museum is related to Curator in the same way as Prison is related to _____?					
	a)Warden	b)Jailor	c)Monitor	d)Manager	B	Jailor
22	A man has Rs. 480 in the denominations of one-rupee notes, five-rupee notes and ten-rupee notes. The number of notes of					

	each denomination is equal. What is the total number of notes that he has ?					
	a) 45	b) 60	c) 75	d) 90	D	90
23	What is the product of all the numbers in the dial of a telephone?					
	a) 158480	b)159480	c)159990	d)None of these	D	None of these
24	There are deer and peacocks in a zoo. By counting heads they are 80. The number of their legs is 200. How many peacocks are there?					
	a) 20	b) 30	c) 50	d) 60	D	60

25	The region where the electrons and holes diffused across the junction is called					
	(A) Depletion Junction	(B) Depletion region	(C) Depletion space	(D) Depletion boundary	Depletion region	B
26	Which of the following metals forms an amalgam with other metals?					
	a) Tin	b) Mercury	c) Lead	d) Zinc	Mercury	B
27	How many terminals a MOSFET has?					
	a) 3	b)5	c)4	d)6	4	C
28	In which regions a MOSFET works as a 'Switch'?					
	a)Saturation, Linear	b) Cut off, linear	c) Saturation, Cut off	d) Cutoff, Cutoff	Saturation, Cut off	C
29	BJT is a ..... Device					
	a)Current controlled	b)voltage controlled	c)both	d)none	Current controlled	A
30	n- type semiconductor is doped with					
	a)acceptor	b)doner	c)both	d)neutral	doner	B
31	Width of depletion region increases in					
	a)Forward bias	b)reverse bias	c) in both bias	d)does not change	reverse bias	B
32	Electric pressure is also called					
	a)Resistance	b)Power	c)Voltage	d)Energy	Voltage	C
33	Which of following can be used to measure absolute resistance					
	a)Lorentz	b)ReleighMehto	C)Ohm's Law	d)Wheatstone	Ohm's Law	D

	Method	d		Bridge Method		
34	Which is the best conductor of Electricity					
	a)Iron	b)Silver	c)Copper	d)Carbon	Silver	B
35	A line which cuts a pair of parallel lines is called					
	a)tangent	b)chord	c)transversal	d)intersector	intersector	C
36	An angle whose value is ..... called complete angle					
	a)180	b)240	c)360	d)none	360	C
37	If a certain sum of money can become 5 times of its principal in 10 years, then the rate of interest is					
	a)20%	b)30%	c)40%	d)50%	40%	C
38	The areas of two similar triangles are 81 sq. cm and 49 sq. cm. Find the ratio of their corresponding heights					
	a)9:7	b)7:9	c)6:5	d)89:49	9:7	A
39	What is the full form of FIFO					
	a)Fan-in Fan-Out	b)First in First out	c)final-in Final-out	d)None of these	First in First out	B
40	For superconductors, magnetic susceptibility is -----					
	a)Zero	b)+1	c)Infinite	d)-1	-1	D
41	The unit of radioactivity is					
	a)Curie	b)Becquerel	c)Henry	d)Both a and b	Both a and b	D
42	Mesons are elementary particles that consists of					
	a)Photons and neutrons	b)Quarks	c)One quark and one anti quark	d)Hadrons	One quark and one anti quark	C
43	A resistor with colour bands: red-red-red-gold, has the value:					
	a)22k 5%	B)2k2 5%	c)220R 5%	d)22R 5%	2k2 5%	B
44	Name the three leads of a BJT					
	a)Collector Bias Omitter	b)Base Collector Case	c)Emitter Collector Bias	d)Collector Base Emitter	Collector Base Emitter	D
45	The number "104" on a capacitor indicates					
	a)0.1u	b)100n	c)1n	d)both a and b	both a and b	D

46	A semiconductor is formed by ..... bonds.					
	a) Covalent	b) Electrovalent	c) Co-ordinate	d) None of the above	a	Covalent
47	A semiconductor has ..... temperature coefficient of resistance					
	a) Positive	b) Zero	c) Negative	d) None of the above	c	Negative
48	The most commonly used semiconductor is .....					
	a) Germanium	b) Silicon	c) Carbon	d) Sulphur	b	Silicon
49	When a pentavalent impurity is added to a pure semiconductor, it becomes .....					
	a) An insulator	b) An intrinsic semiconductor	c) p-type semiconductor	d) n-type semiconductor	d	n-type semiconductor
50	The random motion of holes and free electrons due to thermal agitation is called .....					
	a) Diffusion	b) Pressure	c) Ionisation	d) None of the above	a	Diffusion
51	In a pnp transistor, the current carriers are .....					
	a) acceptor ions	b) donor ions	c) free electrons	d) holes	d	holes
52	In a transistor, $I_c = 100$ mA and $I_E = 100.2$ mA. The value of $\beta$ is .....					
	a) 100	b) 50	c) about 1	d) 200	d	200
53	The relation between $\beta$ and $\alpha$ is .....					
	a) $\beta = 1 / (1 - \alpha)$	b) $\beta = (1 - \alpha) / \alpha$	c) $\beta = \alpha / (1 - \alpha)$	d) $\beta = \alpha / (1 + \alpha)$	c	$\beta = \alpha / (1 - \alpha)$
54	An oscillator converts .....					
	a) a.c. power into d.c. power	b) d. c. power into a.c. power	c) mechanical power into a.c. power	d) none of the above	b	d. c. power into a.c. power
55	In an LC transistor oscillator, the active device is .....					
	a) LC tank circuit	b) Biasing circuit	c) Transistor	d) None of the above	c	Transistor

56	Hartley oscillator is commonly used in .....					
	a) Radio receivers	b) Radio transmitters	c) TV receivers	d) None of the above	a	Radio receivers
57	In an AM wave useful power is carrier by .....					
	a) Carrier	b) Sidebands	c) Both sidebands and carrier	d) None of the above	b	Sidebands
58	As the modulation level is increased, the carrier power .....					
	a) Is increased	b) Remains the same	c) Is decreased	d) None of the above	b	Remains the same
59	In radio transmission, the medium of transmission is .....					
	a) Space	b) An antenna	c) Cable	d) None of the above	a	Space
60	A switch has .....					
	a) One state	b) Two states	c) Three states	d) None of the above	b	Two states
61	The universal gate is .....					
	a) NAND gate	b) AND gate	c) E-xor gate	d) OR gate	a	NAND gate
62	In Boolean algebra, the bar sign (-) indicates .....					
	a) OR operation	b) AND operation	c) NOT operation	d) None of the above	c	NOT operation
63	A decade counter skips .....					
	a) binary states 1000 to 1111	b) binary states 0000 to 0011	c) binary states 1010 to 1111	d) binary states 1111 to higher	c	binary states 1010 to 1111
64	For the gate in the given figure the output will be .....					
						
	a) 1	b) 0	c) A	d) $\bar{A}$	d	$\bar{A}$

65	The circuit in the given figure is a ..... gate.				
	a) positive logic OR gate	b) negative logic OR gate	c) negative logic AND gate	d) positive logic AND gate	b
66	The basic storage element in a digital system is .....				
	a) flipflop	b) counter	c) multiplexer	d) encoder	a
67	A JFET is similar in operation to ..... valve				
	a) diode	b) pentode	c) triode	d) tetrode	b
68	A moving-coil permanent-magnet instrument can be used as ..... by using a low resistance shunt.				
	a) ammeter	b) voltmeter	c) flux-meter	d) ballistic galvanometer	a
69	In a 3-phase power measurement by two wattmeter method, the reading on one of the wattmeter is zero. The power factor of the load must be .....				
	a) unity	b) 0.5	c) 0.3	d) zero	b
70	The best device to measure the true open circuit e.m.f. of a battery is .....				
	a) D.C. voltmeter	b) ammeter and a known resistance	c) D.C. potentiometer	d) none of the above	c
71	In liquid crystal displays, the liquid crystal exhibits properties of .....				
	a) Liquid	b) Solids	c) Gases	d) Both(a) and (b)	d
72	Find the Eigen values for the following 2×2 matrix. $A = \begin{bmatrix} 1 & 8 \\ 2 & 1 \end{bmatrix}$				
	a) -3	b) 2	c) 6	d) 4	a
73	If $f(t) = 1$ , then its Laplace Transform is given by?				

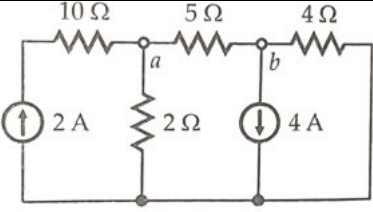
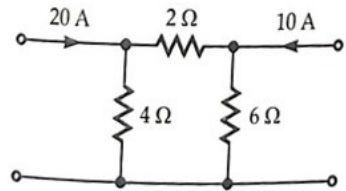
	a) s	b) 1/s	c) 1	d) Does not exist	b	1/s
74	Let A and B be two events such that $P(A) = 1/5$ While $P(A \text{ or } B) = 1/2$ . Let $P(B) = P$ . For what values of P are A and B independent?					
	a) 1/10 and 3/10	b) 3/10 and 4/5	c) 3/8 only	d) 3/10	c	3/8 only
75	Consider a dice with the property that that probability of a face with n dots showing up is proportional to n. The probability of face showing 4 dots is?					
	a) 1/7	b) 5/42	c) 1/21	d) 4/21	d	4/21

76	The equation of the plane through the points (1,-1,2) , (1,1,-2)and (-1,1,2) is					
	a) $x+3y+2z-2=0$	b) $x-y+2z-2=0$	c) $2x+2y+z-2=0$	d) $x+y-z-2=0$	c)	$2x+2y+z-2=0$
77	If 2 and 4 are the eigen values of square matrix A then the Eigen values of $A^{-1}$ are					
	a) 0.5, 0.25	b) 2, 4	c) 4, 16	d) 3, 2	b)	2, 4
78	If A is skew-Hermitian, then (iA) is					
	a) Skew-symmetric	b) Symmetric	c) Hermitian	d) Skew-Hermitian	c)	Hermitian
79	When a LED has 2 V applied to its terminals, it draws 100 mA and produces 4 mW of optical power. The LED conversion efficiency from electrical to optical power is:-					
	a)3%	b)4%	c)5%	d)2%	d)	2%
80	Number of electron-hole pairs generated divided by the number of photons is:-					
	a) Dark current	b) Quantum efficiency	c) Photo sensitivity	d) Quantum response	b)	Quantum efficiency
81	If the refractive index of a media is 1.5, the velocity of light in the medium is:-					
	a) $3 \times 10^8$ m/s	b) $1.5 \times 10^8$ m/s	c) $1 \times 10^8$ m/s	d) $2 \times 10^8$ m/s	d)	$2 \times 10^8$ m/s
82	Electrical Zero Position (EZP) in Linear Variable Differential Transformer (LVDT) is:-					
	a) Position of	b) Position of	c) Position of	d) Position of ac	c)	Position



	primary winding coil	secondary winding coil	core	input voltage terminal		of core
83	One Hartley oscillator circuit has two inductors of 0.5 mH and each is tuned to resonate with a capacitor which can be varied from 100 pF to 500 pF, the upper and lower frequencies of oscillation are, respectively: -					
	a) 712 kHz, 225 kHz	b) 503 kHz, 318 kHz	c) 503 kHz, 225 kHz	d) 712 kHz, 318 kHz	c)	503 kHz, 225 kHz
84	In PCM system, if the quantization levels are increased from 3 to 9, the relative bandwidth requirement will: -					
	a) be doubled	b) be tripled	c) remain same	d) become four times	a)	be doubled
85	A system has three stage cascaded amplifier each stage having a power gain of 10 dB and noise figure of 6 dB. The overall noise figure is:-					
	a)1	b)0	c)10	d)20	a)	1
86	A 2 MHz carrier is amplitude modulated by a 500 Hz modulating signal to a depth of 60%. If the unmodulated carrier power is 2 kW, the power of the modulated signal is:-					
	a) 1 kW	b) 2.17 kW	c)4.45kW	d) 22 kW	b)	2.17 kW
87	24 channels are to be time multiplexed using PCM. If the sampling frequency is 10 KHz and the number of quantization levels is 128, the required bandwidth of PCM is:-					
	a) 240 KHz	b) 1.68 MHz	c) 81.6 KHz	d) 3.072 MHz	b)	1.68 MHz
88	If the flux density in a certain magnetic material is 0.25 T and the area of the material is 25 mm <sup>2</sup> . The magnetic flux through material is: -					
	a) 6.25 μWb	b) 2.5 μWb	c) 0.5 μWb	d) 25 μWb	a)	6.25 μWb
89	A microprocessor with a 16-bit address bus is used in a linear memory selection configuration with 4 memory chips. The maximum addressable memory space is					
	a)64k	b)8k	c)4k	d)16k	d)	16k
90	When we use RRC instruction once in 8085, the number is					
	a) multiplied by 2	b) divided by 2	c) Multiplied by 4	d) Divided by 4	b)	divided by 2

91	In a digital system, if $(211)_x = (152)_8$ , then the value of base x is					
	a)7	b)5	c)6	d)9	a)	7
92	How many AND gates are required to realize $Y = CD+EF+G$					
	a)3	b)4	c)2	d)5	c)	2
93	A dc supply voltage has a no load voltage of 30 V, and a full-load voltage of 25 V at a full-load current of 1 A. Its output resistance is					
	a) 5 $\Omega$	b) 30 $\Omega$	c) 25 $\Omega$	d) 20 $\Omega$	c)	25 $\Omega$
94	If the differential voltage gain and common mode gain of a differential amplifier are 48 dB and 2dB respectively. Then the common mode rejection ratio is:-					
	a)25 dB	b)23 dB	c) 46 dB	d) 50 dB	c)	46 dB
95	A feedback amplifier has an open loop gain of -100. If 4 % of the output is fed back in a degenerative loop, what is the closed loop gain of the amplifier?					
	a)-25	b)-33.3	c)-20	d)25	c)	-20
96	A Zener regulator has an input voltage from 15 to 20 V and a load current 5 to 20 mA. If the Zener voltage is 6.8 V,the maximum value of a series resistor is:-					
	a)660 $\Omega$	b)320 $\Omega$	c)570 $\Omega$	d)410 $\Omega$	d)	410 $\Omega$
97	In an amplifier with negative feedback, the bandwidth is:-					
	a)increased by a factor of $(1 + A\beta)$	b)decreased by a factor of $(1 + A\beta)$	c)increased by a factor of $A\beta$	d)decreased by a factor of $A\beta$	a)	increased by a factor of $(1 + A\beta)$
98	In the circuit shown in the figure, $V_s$ is					
	a)2.35V	b) 3.5V	c) 4.7V	d) 6.5V	c)	4.7V
99	In the circuit shown in the figure, the current through the 5 $\Omega$ resistor is					

					
a) 1.81 A	b) 2.96 A	c) 3.35 A	d) 4.23 A	a)	1.81 A
100	<p>In the circuit shown in figure, the current in the <math>2\ \Omega</math> resistor is</p> 				
a) 5.25 A	b) 4.75 A	c) 6.25 A	d) 11.67 A	d)	11.67 A