

# National Employability Assessment Test and Industry Readiness Program

for Diploma Engineers and Professionals | Winter – 2022

Discipline: Electronics & Communication Engineering

Computer Based PAN India Examination held on 18.03.2023

Questions & Answers

(Published dtd. 29.03.2023)

## PAPER STRUCTURE

Question Nos.	Sections & Topics		Marks
1 to 40	Section I : General Aptitude	<ul style="list-style-type: none"><li>Quantitative Aptitude</li><li>Logical Reasoning</li><li>Data Interpretation</li><li>English Communication</li></ul>	40
41 to 60	Section II : Basic Concepts	<ul style="list-style-type: none"><li>General Physics</li><li>General Chemistry</li><li>Mechanics</li><li>Engineering Drawing</li></ul>	20
61 to 100	Section III : Technical Aptitude	<ul style="list-style-type: none"><li>Electronics &amp; Communication Engineering</li></ul>	40
<b>TOTAL</b>			<b>100</b>

### NOTE:

- Exam Duration: 3 Hours
- Total 100 no. of Questions of 1 Mark each with Negative Marking of ¼ Mark for every wrong answer
- Questions (Section wise) and respective Answer Options shuffled at Candidates' terminal

Question No. 1	In the first 10 overs of a cricket game, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?			
Answer Options	A)	B)	C)	D)
	7	6.75	6.25	6.5
Right Option	C			

Question No. 2	Today is Monday. After 61 days, it will be:			
Answer Options	A)	B)	C)	D)
	Thursday	Saturday	Tuesday	Wednesday
Right Option	B			

Question No. 3	3 pumps working 8 hours a day, can empty a tank in 2 days. How many hours a day must 4 pumps work to empty the tank in 1 day?			
Answer Options	A)	B)	C)	D)
	9	10	12	11
Right Option	C			

Question No. 4	A man standing at a point P is watching the top of a tower, which makes an angle of elevation of $30^\circ$ with the man's eye. The man walks some distance towards the tower to watch its top and the angle of the elevation becomes $60^\circ$ . What is the distance between the base of the tower and the point P?			
Answer Options	A)	B)	C)	D)
	Data inadequate	8 units	12 units	43 units
Right Option	A			

Question No. 5	Find the largest 4-digit number, which gives the remainder 7 and 13 when divided by 11 and 17?			
Answer Options	A)	B)	C)	D)
	9900	9907	9807	None of these
Right Option	B			

Question No. 6	In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?			
Answer Options	A)	B)	C)	D)
	30%	100%	250%	70%
Right Option	D			

Question No. 7	A candidate who gets 20% marks fails by 10 marks but another candidate who gets 42% marks gets 12% more than the passing marks. Find the maximum marks.			
Answer Options	A)	B)	C)	D)
	75	68	37	100
Right Option	D			

Question No. 8	A sum of Rs. 12,500 amounts to Rs. 15,500 in 4 years at the rate of simple interest. What is the rate of interest?			
Answer Options	A)	B)	C)	D)
	6%	4%	5%	3%
Right Option	A			

Question No. 9	A train travelling at 48 kmph completely crosses another train having half its length and travelling in opposite direction at 42 kmph, in 12 seconds. It also passes a railway platform in 45 seconds. The length of the platform is			
Answer Options	A)	B)	C)	D)
	560 m	450 m	400 m	600 m
Right Option	C			

Question No. 10	In a shower, 5 cm of rain falls. The volume of water that falls on 1.5 hectares of ground is:			
Answer Options	A)	B)	C)	D)
	750 cu. m	75 cu. m	75000 cu. m	7500 cu. m
Right Option	A			

Question No. 11	A good way to figure out the relationship in a given question is to make up a sentence that describes the relationship between the first two words. Then, try to use the same sentence to find out which of the answer choices completes the same relationship with the third word. Cup is to coffee as bowl is to			
Answer Options	A)	B)	C)	D)
	Food	Spoon	Soup	Dish
Right Option	C			

Question No. 12	A student got twice as many sums wrong as he got right. If he attempted 48 sums in all, how many did he solve correctly?			
Answer Options	A)	B)	C)	D)
	12	16	18	24
Right Option	B			

Question No. 13	Choose the statement that is best supported by the information given in the question passage. In the 1966 Supreme Court decision <i>Miranda v. Arizona</i> , the court held that before the police can obtain statements from a person subjected to an interrogation, the person must be given a Miranda warning. This warning means that a person must be told that he or she has the right to remain silent during the police interrogation. Violation of this right means that any statement that the person makes is not admissible in a court hearing. This paragraph best supports the statement that			
Answer Options	A)	B)	C)	D)
	The police may no longer interrogate persons suspected of a crime unless a lawyer is present.	A Miranda warning must be given before a police interrogation can begin.	Police who do not warn persons of their Miranda rights are guilty of a crime.	The 1966 Supreme Court decision in <i>Miranda</i> should be reversed
Right Option	B			

Question No. 14	Here are some words translated from an artificial language. godabim means kidney stones romzbim means kidney beans romzbako means wax beans Which word could mean "wax statue"?			
Answer Options	A)	B)	C)	D)
	Godaromz	Lazbim	Romzpeo	Wasibako
Right Option	D			

Question No. 15	If A is the brother of B; B is the sister of C; and C is the father of D, how D is related to A?			
Answer Options	A)	B)	C)	D)
	Sister	Nephew	Cannot be determined	Brother
Right Option	C			

Question No. 16	Choose the word which is different from the rest.			
Answer Options	A)	B)	C)	D)
	Mandible	Sternum	Ulna	Pinna
Right Option	D			

Question No. 17	In each question below is given a statement followed by three courses of action numbered I, II and III. You have to assume everything in the statement to be true, then decide which of the three given suggested courses of action logically follows for pursuing.  Statement: Besides looks and appearances, it is also important to develop oneself from within.  Courses of Action:  I. One should not pay attention to fashion. II. One should pay attention to fashion. III. Books on self-development should be encouraged.			
Answer Options	A)	B)	C)	D)
	Only II follows	Only III follows	Only I and III follow	Only I follows
Right Option	B			

Question No. 18	Arrange the words given below in a meaningful sequence. 1. Index 2. Contents 3. Title 4. Chapters 5. Introduction			
Answer Options	A)	B)	C)	D)
	3, 2, 5, 1, 4	3, 2, 5, 4, 1	2, 3, 4, 5, 1	5, 1, 4, 2, 3
Right Option	B			

Question No. 19	3, 10, 101, ?			
Answer Options	A)	B)	C)	D)
	10202	10201	10101	11012
Right Option	A			

Question No. 20	A disease always has			
Answer Options	A)	B)	C)	D)
	Cause	Cure	Patient	Germ
Right Option	A			

Question No. 21	<p><b>Question nos. 21 to 25:</b></p> <p>Splash.Inc produces fabric sold in rolls of 35 metres (units) for the wholesale textile market. The production manager at Splash.Inc has produced the following table to illustrate how the unit cost of their bestselling product falls as production increases. Total costs are derived by adding fixed costs and variable costs; the fixed costs used in the calculations total \$3m.</p> <table border="1"> <thead> <tr> <th>Scenario</th> <th>Total cost \$</th> <th>Unit cost \$</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>\$4,500,000</td> <td>\$18.00</td> </tr> <tr> <td>B</td> <td>\$5,400,000</td> <td>\$17.46</td> </tr> <tr> <td>C</td> <td>\$6,477,000</td> <td>\$16.94</td> </tr> <tr> <td>D</td> <td>\$7,776,000</td> <td>\$16.43</td> </tr> </tbody> </table> <p>How much are the variable costs in scenario B?</p>				Scenario	Total cost \$	Unit cost \$	A	\$4,500,000	\$18.00	B	\$5,400,000	\$17.46	C	\$6,477,000	\$16.94	D	\$7,776,000	\$16.43
Scenario	Total cost \$	Unit cost \$																	
A	\$4,500,000	\$18.00																	
B	\$5,400,000	\$17.46																	
C	\$6,477,000	\$16.94																	
D	\$7,776,000	\$16.43																	
Answer Options	A)	B)	C)	D)															
	\$2,400,000	\$1,500,000	\$750,000	Cannot tell															
Right Option	A																		

Question No. 22	How many units are produced in scenario A?			
Answer Options	A)	B)	C)	D)
	2,500,000	250,000	1,250,000	225,000
Right Option	B			

Question No. 23	How many more units are produced in scenario C compared to scenario A?			
Answer Options	A)	B)	C)	D)
	131,000	132,349	139,274	136,998
Right Option	B			

Question No. 24	By what percentage did the total unit cost in scenario A increase in order to realize the unit cost reduction between scenarios A and B?			
Answer Options	A)	B)	C)	D)
	117%	120%	121%	119%
Right Option	B			

Question No. 25	Which suggested answer would provide the best estimate of the unit cost if variable costs were \$750,000?			
Answer Options	A)	B)	C)	D)
	$\$18 \times 97\% = \text{new unit price}$	$\text{New unit cost} \times 97\% = \$18$	$\$28 \times 103\% = \text{new unit price}$	$\text{New unit cost} \times 103\% = \$18$
Right Option	B			

Question No. 26	<b>Question nos. 26 to 30:</b>							
	This following table is related to profit and loss and some values are missing. All the discounts are on the M.P. and the profit are on C.P.							
	<b>Article</b>	<b>Cost Price (Rs.)</b>	<b>Profit (%)</b>	<b>Marked Price (Rs.)</b>	<b>Discount (%)</b>	<b>Selling Price (Rs.)</b>		
	Jeans	2280	---	2720	---	---		
	Shirt	---	30%	---	---	---		
	T-shirt	---	---	2875	14%	---		
	Suit	2200	---	---	---	2640		
	Saree	---	20%	3800	---	---		
	If the discount % and profit % of the Suit is same. Find out the M.P. of Suit?							
Answer Options	A)		B)		C)		D)	
	Rs. 2800		Rs. 2200		Rs. 3300		Rs. 2500	
Right Option	C							

Question No. 27	If the M.P. of jeans is Rs. 140 more than the C.P. of Shirt and the difference between M.P. and S.P. of Shirt is Rs. 780. Find the discount % of Shirt?							
Answer Options	A)		B)		C)		D)	
	17.56%		18.86%		19.76%		20.46%	
Right Option	B							

Question No. 28	C.P. of Suit is how much percentage less than the M.P. of Jeans?							
Answer Options	A)		B)		C)		D)	
	19.10%		18.60%		21.20%		18.40%	
Right Option	A							

Question No. 29	The ratio of discount % and profit % of the T-shirt is 7:5. Find CP. of T-shirt? (approximately)							
Answer Options	A)		B)		C)		D)	
	Rs. 2552		Rs. 2248		Rs. 2398		Rs. 2285	
Right Option	B							



Question No. 30	If the ratio of the C.P. of the Jeans and Saree is 4:5, find out the discount % of Saree?			
Answer Options	A)	B)	C)	D)
	15%	10%	12%	20%
Right Option	B			

Question No. 31	<p><b>Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.</b></p> <p>A: Only natural dyes are used in Kalamkari and it involves several steps.          B: There are two distinctive styles of Kalamkari in India.          C: They are the Sri kalahasti style and the Machlipatnam style.          D: Kalamkari is a type of hand-painted or block-printed cotton textile, produced in the Indian States of Andhra Pradesh and Telangana.</p>			
Answer Options	A)	B)	C)	D)
	DCBA	CBDA	ACBD	DABC
Right Option	D			

Question No. 32	What is the antonym of MOROSE			
Answer Options	A)	B)	C)	D)
	Overawed	Cherubic	Cheerful	Agitated
Right Option	C			

Question No. 33	What is the synonym of ERRONEOUS			
Answer Options	A)	B)	C)	D)
	Erased	Wrong	Weak	Enormous
Right Option	B			

Question No. 34	A frustrated old man, Bandi Thakur was never tired of (1)_____ the exploits of his ancestors, with a little (2) _____ he would lapse into a reminiscent mood, push back the loosely tied turban from his close-cropped grizzled hair and start a familiar story, improvising (3)_____ details which, to the mirth of his audience, always kept changing with every recounting.			
Answer Options	A)	B)	C)	D)
	(1) extolling, (2) advising, (3) rational	(1) extolling, (2) prompting, (3) fanciful	(1) criticizing, (2) prompting, (3) sincere	(1) invoking, (2) arguing, (3) fanciful
Right Option	B			

Question No. 35	Even my goalies and the policemen, who have arrested me or (1) _____ me as a prisoner from place to place have been kind to me, and much of the (2) _____ of conflict and the sting of goal-life has been (3) _____ because of this human touch.			
Answer Options	A)	B)	C)	D)
	(1) escorted, (2) affinity, (3) toned down	(1) abandoned, (2) bitterness, (3) pumped up	(1) safeguarded, (2) kindness, (3) egged on	(1) escorted, (2) bitterness, (3) toned down
Right Option	D			

Question No. 36	Attracted by the serenity of the evening, a friend and I lately went to one of the public walks near the city. Here we (1) _____ together for some time. Then my friend, stopping suddenly, (2) _____ by the elbow, and led me out of the public walk. I could perceive by the quickness of this (3) _____, and by his frequently looking behind, that he was attempting to avoid somebody who followed.			
Answer Options	A)	B)	C)	D)
	(1) sauntered, (2) trapped, (3) pace	(1) vamoosed, (2) relinquished, (3) hands	(1) sauntered, (2) caught, (3) gallop	(1) dance, (2) caught, (3) gallop
Right Option	C			

Question No. 37	It was not surprising that my own countrymen should treat me so, for I had gained a (1) _____ of notoriety and popularity among them. Even for Englishmen I was individual and not merely one of the (2) _____ and, I imagine the fact that I had received my education in England, brought me (3) _____			
Answer Options	A)	B)	C)	D)
	(1) measure, (2) dispersal, (3) at a remote position	(1) weight, (2) collection, (3) in juxtaposition with them	(1) ration, (2) mass, (3) nearer to them	(1) measure, (2) mass, (3) nearer to them
Right Option	D			

Question No. 38	Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order. A: A man on a bike had to ride on the pavement. B: When he tried to plunge onto the road, a car hit him. C: As the bus inched through the evening life, the traffic grew. D: There was no space on the road any more.			
Answer Options	A)	B)	C)	D)
	CDAB	CBAD	ADBC	DBCA
Right Option	A			

Question No. 39	Select the Antonym of OFFHAND			
Answer Options	A)	B)	C)	D)
	Appropriate	Premeditated	Universal	Accurate
Right Option	B			

Question No. 40	What is the synonym of SEIZE			
Answer Options	A)	B)	C)	D)
	Grasp	Length	Start	Release
Right Option	A			

Question No. 41	A pond of clear water appears less deep than it really is. This is due to			
Answer Options	A)	B)	C)	D)
	Dispersion	Refraction	The transparency of water	Reflection
Right Option	B			

Question No. 42	Friction can be reduced by changing from			
Answer Options	A)	B)	C)	D)
	Potential energy to kinetic energy	Sliding to rolling	Dynamic to static	Rolling to sliding
Right Option	B			

Question No. 43	Identify the vector quantity from the following			
Answer Options	A)	B)	C)	D)
	Angular momentum	Heat	Time	Work
Right Option	A			

Question No. 44	Intensity of sound at a point is _____ its distance from the source.			
Answer Options	A)	B)	C)	D)
	Directly proportional to square of	Inversely proportional to	Directly proportional to	Inversely proportional to square of
Right Option	D			

Question No. 45	Mercury is commonly used as a thermometric fluid rather than water because			
Answer Options	A)	B)	C)	D)
	Specific heat of mercury is more than water	Density of mercury is more than the water	Mercury has greater visibility than water	Specific heat of mercury is less than water
Right Option	C			

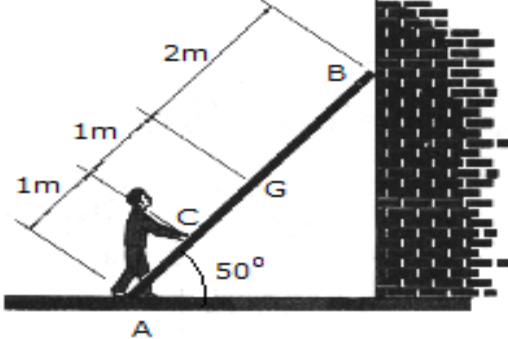
Question No. 46	Lime is sometimes applied to soil in order to			
Answer Options	A)	B)	C)	D)
	Make the soil more porous	Increase the alkalinity of the soil	Restore nitrates to the soil	Increase the acidity of the soil
Right Option	B			

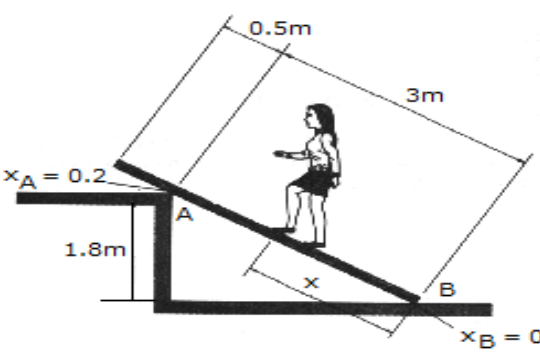
Question No. 47	Photo-oxidation is			
Answer Options	A)	B)	C)	D)
	Photo respiration	Photolysis	Light and oxygen induced breakdown	All of the above
Right Option	D			

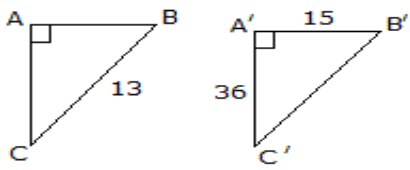
Question No. 48	The exhaled air contains			
Answer Options	A)	B)	C)	D)
	Carbon dioxide only	A mixture of carbon dioxide and nitrogen	A mixture which has more carbon dioxide than oxygen	A mixture of carbon dioxide, nitrogen and oxygen in which nitrogen has the highest percentage
Right Option	D			

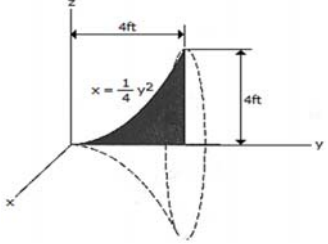
Question No. 49	The ionization energy of hydrogen atom in the ground state is $x$ KJ. The energy required for an electron to jump from 2nd orbit to 3rd orbit is			
Answer Options	A)	B)	C)	D)
	$5x$	$7.2x$	$x/6$	$5x/36$
Right Option	D			

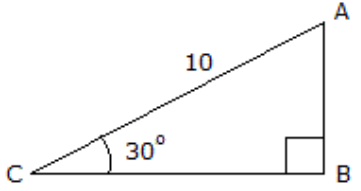
Question No. 50	The oldest rocks in the earth's crust were once molten, and came from deep inside the earth. The molten rock, called magma, spewed out in volcanic eruptions during the earth's early life and solidified into hard rock's called			
Answer Options	A)	B)	C)	D)
	Sedimentary rocks	Basalt	Granite	Igneous rocks
Right Option	D			

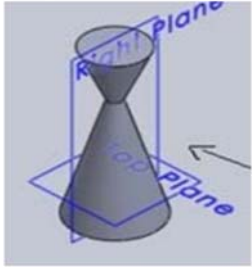
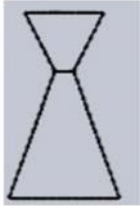
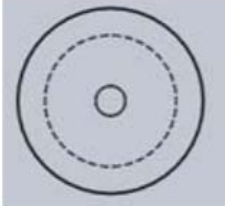
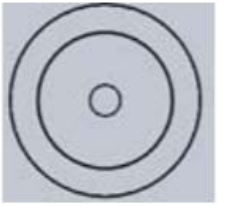
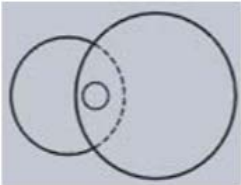
<p>Question No. 51</p>	 <p>A 17-kg ladder has a center of mass at G. If the coefficients of friction at A and B are <math>\mu_A = 0.3</math> and <math>\mu_B = 0.2</math>, respectively, determine the smallest horizontal force that the man must exert of the ladder at point C in order to push the ladder forward.</p>			
<p>Answer Options</p>	<p>A) <math>F = 204 \text{ N}</math></p>	<p>B) <math>F = 166.8 \text{ N}</math></p>	<p>C) <math>F = 120.2 \text{ N}</math></p>	<p>D) <math>F = 288 \text{ N}</math></p>
<p>Right Option</p>	<p>A</p>			

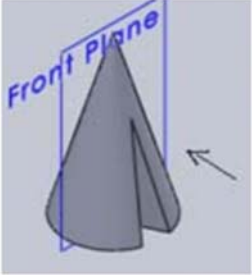

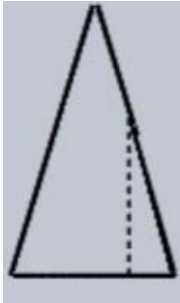

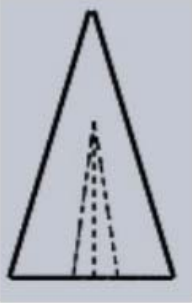
<p>Question No. 52</p>	 <p>A uniform beam has a mass of 18 kg and rests on two surfaces at points A and B. Determine the maximum distance <math>x</math> to which the girl can slowly walk up the beam before it begins to slip. The girl has a mass of 50 kg and walks up the beam with a constant velocity.</p>			
<p>Answer Options</p>	<p>A) <math>x = 0.678 \text{ m}</math></p>	<p>B) <math>x = 0.712 \text{ m}</math></p>	<p>C) <math>x = 0.508 \text{ m}</math></p>	<p>D) <math>x = 1.005 \text{ m}</math></p>
<p>Right Option</p>	<p>D</p>			

Question No. 53	 <p>Determine the length of side AB if the angle ABC is similar to the angle A'B'C':</p>			
Answer Options	A)	B)	C)	D)
	AB = 4	AB = 5	AB = 5.42	AB = 3
Right Option	B			

Question No. 54	 <p>Locate the center of gravity of the homogeneous "bell-shaped" volume formed by revolving the shaded area about the y axis.</p>			
Answer Options	A)	B)	C)	D)
	$\bar{y} = 3.33$ ft	$\bar{y} = 2.80$ ft	$\bar{y} = 3.20$ ft	$\bar{y} = 3.00$ ft
Right Option	A			

Question No. 55	 <p>Using the basic trigonomic functions, determine the length of side AB of the right triangle.</p>			
Answer Options	A)	B)	C)	D)
	h = 8.66	h = 11.55	h = 5.77	h = 5
Right Option	D			

<p>Question No. 56</p>	<p>Identify the top view for the below-given cone.</p> 			
<p>Answer Options</p>	<p>A)</p> 	<p>B)</p> 	<p>C)</p> 	<p>D)</p> 
<p>Right Option</p>	<p>C</p>			

<p>Question No. 57</p>	<p>Identify the front view of the following cone.</p> 			
<p>Answer Options</p>	<p>A)</p> 	<p>B)</p> 	<p>C)</p> 	<p>D)</p> 
<p>Right Option</p>	<p>A</p>			



Question No. 58	Curve of any shape can be drawn in perspective by enclosing it in a _____			
Answer Options	A)	B)	C)	D)
	Rectangle	Square	Cube	Cylinder
Right Option	A			

Question No. 59	A prism and cone got intersected at 90 degrees the line of intersection will be _____ and parallel to axis of _____			
Answer Options	A)	B)	C)	D)
	curve, cone	curve, prism	straight line, prism	straight line, cone
Right Option	B			

Question No. 60	The plane surfaces intersect in a _____ the line of intersection between two curved surfaces is _____ and between a plane surface and curved surfaces is a _____			
Answer Options	A)	B)	C)	D)
	curve, curve, curve	straight line, curve, straight line	straight line, curve, curve	straight line, straight line, curve
Right Option	C			

Question No. 61	In which kind of waveform is the phase velocity defined?			
Answer Options	A)	B)	C)	D)
	Rectangular	Sinusoidal	Square	Triangular
Right Answer	B			

Question No. 62	Wavefront is basically a locus of points acquiring similar _____			
Answer Options	A)	B)	C)	D)
	Phase	Wave equation	Frequency	Amplitude
Right Answer	A			

Question No. 63	When an electromagnetic wave travels from transmitter to receiver, which factor/s affect/s the propagation level?			
Answer Options	A)	B)	C)	D)
	Curvature of earth	Roughness of earth	Magnetic field of earth	All of the above
Right Answer	D			

Question No. 64	Which among the following is/are not present in free space?			
Answer Options	A)	B)	C)	D)
	Solid bodies	Ionized particles	Interference of normal radiation & radio wave propagation	All of the above
Right Answer	D			

Question No. 65	A car is running at a constant speed of 50 km/h, which of the following is the feedback element for the driver?			
Answer Options	A)	B)	C)	D)
	Needle of the speedometer	Eyes	Steering wheel	Clutch
Right Answer	A			

Question No. 66	Any externally introduced signal affecting the controlled output is called a			
Answer Options	A)	B)	C)	D)
	Gain control	Signal	Stimulus	Feedback
Right Answer	C			

Question No. 67	By which of the following the control action is determined when a man walks along a path?			
Answer Options	A)	B)	C)	D)
	Brain	Eyes	Legs	Hands
Right Answer	B			

Question No. 68	In open loop system			
Answer Options	A)	B)	C)	D)
	The control action depends on system variables	The control action depends on the size of the system	The control action depends on the input signal	The control action is independent of the output
Right Answer	D			

Question No. 69	At room temperature the current in an intrinsic semiconductor is due to			
Answer Options	A)	B)	C)	D)
	Holes	Holes and Electrons	Ions	Electrons
Right Answer	B			

Question No. 70	How many free electrons does a p type semiconductor has?			
Answer Options	A)	B)	C)	D)
	Only those produced by thermal energy	Only those produced by doping	Those produced by doping as well as thermal energy	Any of the above
Right Answer	A			

Question No. 71	In a semi-conductor diode, the barrier offers opposition to			
Answer Options	A)	B)	C)	D)
	Holes in P-region only	Majority carriers in both regions	Majority as well as minority carriers in both regions	Free electrons in N-region only
Right Answer	B			

Question No. 72	The sensitivity of human eyes is maximum at			
Answer Options	A)	B)	C)	D)
	Red portion of spectrum	Green portion of spectrum	Violet portion of spectrum	White portion of spectrum
Right Answer	B			

Question No. 73	Which is an incorrect rule of binary subtraction from the following?			
Answer Options	A)	B)	C)	D)
	$0 - 1 = 1$ with borrow '1'	$1 - 0 = 1$	$0 - 1 = -1$	$0 - 0 = 0$
Right Answer	C			

Question No. 74	Which sequential circuits are applicable for counting pulses?			
Answer Options	A)	B)	C)	D)
	Latches	Counters	Flip Flops	Registers
Right Answer	B			

Question No. 75	A 10MHz CRO has			
Answer Options	A)	B)	C)	D)
	10MHz vertical oscillator	5MHz sweep	10MHz supply frequency	10MHz horizontal oscillator
Right Answer	D			

Question No. 76	An oscilloscope indicates			
Answer Options	A)	B)	C)	D)
	DC value of voltage	Peak to peak value of voltage	Average value	RMS value
Right Answer	B			

Question No. 77	No eddy current and hysteresis losses occur in			
Answer Options	A)	B)	C)	D)
	PMMC instruments	Electrodynamo meter instruments	Electrostatic instruments	Moving iron instruments
Right Answer	C			

Question No. 78	The error of an instrument is normally given as a percentage of			
Answer Options	A)	B)	C)	D)
	RMS value	Mean value	Full-scale value	Measured value
Right Answer	C			

Question No. 79	For making a capacitor it is better to have a dielectric having			
Answer Options	A)	B)	C)	D)
	Low Permittivity	High Permittivity	Permittivity which is neither high nor low	Permittivity same as that of air
Right Answer	B			

Question No. 80	Considering cost of instruments, which is better choice, active or passive?			
Answer Options	A)	B)	C)	D)
	Active instruments	Passive instruments	Cost of both active and passive instruments are approximately same	None of these
Right Answer	B			

Question No. 81	Hysteresis most commonly occurs in instruments that contains			
Answer Options	A)	B)	C)	D)
	Springs	Electrical windings formed round on iron core	Both A and B	None of these
Right Answer	C			

Question No. 82	Random errors in a measurement system are due to			
Answer Options	A)	B)	C)	D)
	Unpredictable effects	Environmental changes	Use of uncalibrated instrument	Poor cabling practices
Right Answer	A			

Question No. 83	The electromagnetic effect is generally utilized for			
Answer Options	A)	B)	C)	D)
	Ammeters	Voltmeters	Watt-meters and watt-hour meters	All of these
Right Answer	D			

Question No. 84	The electrostatic effect is utilized for			
Answer Options	A)	B)	C)	D)
	D.C. ampere-hour meters	Watt-meters	Ammeters	Voltmeters
Right Answer	D			

Question No. 85	The instrument which can be used only with the D.C. supply is			
Answer Options	A)	B)	C)	D)
	Split phase induction type instrument	Electrodynamometer instrument	PMMC instrument	Hot-wire instrument
Right Answer	C			

Question No. 86	If a FET is used as the first AF amplifier in a transistor receiver, this will have the effect of			
Answer Options	A)	B)	C)	D)
	Improving the selectivity of the receiver	Reducing the effect of noise at low modulation depths	Reducing the effect of negative-peak clipping	Improving the effectiveness of the AGC
Right Answer	C			

Question No. 87	In a broadcast superheterodyne receiver, the			
Answer Options	A)	B)	C)	D)
	Local oscillator frequency is normally double the IF	Mixer input must be tuned to the signal frequency	Local oscillator operates below the signal frequency	RF amplifier normally works at 455 kHz above the carrier frequency
Right Answer	B			

Question No. 88	Show which of the following statements about the amplitude limiter is untrue:			
Answer Options	A)	B)	C)	D)
	The output must be tuned	The circuit is always biased in class C, by virtue of the leak-type bias.	When the input increases past the threshold of the limiting, the gain decreases to keep the output constant.	Leak-type bias must be used
Right Answer	B			

Question No. 89	The controlled oscillator synthesizer is sometimes preferred over the direct one because			
Answer Options	A)	B)	C)	D)
	Its frequency stability is better	It is relatively free of spurious frequency	It does not require crystal oscillator	It is a simpler piece of equipment
Right Answer	B			

Question No. 90	The minimum number of transistors required to implement a two input AND gate is			
Answer Options	A)	B)	C)	D)
	4	8	6	2
Right Answer	C			

Question No. 91	The amount of photoelectric emission current depends on			
Answer Options	A)	B)	C)	D)
	Frequency of incident radiation	Intensity of incident radiation	Both frequency and intensity of incident radiation	None of the above
Right Answer	B			

Question No. 92	The most commonly used semiconductor material is			
Answer Options	A)	B)	C)	D)
	Silicon	Germanium	Mixture of silicon and germanium	None of the above
Right Answer	A			



Question No. 93	The sensitivity of human eyes is maximum at			
Answer Options	A)	B)	C)	D)
	White portion of spectrum	Green portion of spectrum	Violet portion of spectrum	Red portion of spectrum
Right Answer	B			
NOTE	Question was displayed repeatedly at candidates' terminals. Hence '1' mark has been graced to all candidates, who attempted or not.			

Question No. 94	Which one of the following is not a characteristic of a ferroelectric material?			
Answer Options	A)	B)	C)	D)
	Ferroelectric characteristic only above the curie point	No hysteresis	High dielectric constant	Electric dipole moment
Right Answer	A			

Question No. 95	If the number of states in a counter are $2n$ , then the value of 'n' is _____			
Answer Options	A)	B)	C)	D)
	Greater than the number of flip flops	Less than the number of flip flops	Unpredictable	Equal to the number of flip flops
Right Answer	D			

Question No. 96	What does the data in parallel form of representation in registers, known as?			
Answer Options	A)	B)	C)	D)
	Factorial Code	Temporal Code	Spectral Code	Special Code
Right Answer	D			

Question No. 97	What should be the output of converter, if a common anode display segment is to be turned 'ON'?			
Answer Options	A)	B)	C)	D)
	'0'	'1'	Both A and B	None of the above
Right Answer	A			

Question No. 98	Which adder plays a crucial role in eliminating the problem associated with the inter-stage carry delay?			
Answer Options	A)	B)	C)	D)
	Look-ahead carry adder	BCD adder	Half adder	full adder
Right Answer	A			

Question No. 99	Circuit A is a 1-bit adder; circuit B is a 1-bit multiplier. (Hint: Construct the truth table for the adder and the multiplier)			
Answer Options	A)	B)	C)	D)
	Circuit A has more gates than circuit B	Circuit B has more gates than circuit A	Circuit A has the same number of gates as circuit B	None of the above
Right Answer	A			

Question No. 100	Of the following circuits, the one which involves storage is			
Answer Options	A)	B)	C)	D)
	Mux	Decoder	NAND	RS Latch
Right Answer	D			