

CII – iPATE 1.0 (2020)

Computer Based PAN India Examination

Category: GRADUATE ENGINEER (ENTRY LEVEL)

Engineering Discipline: COMPUTER ENGINEERING

Questions & Answers

(Reviewed, Revised & Published dtd. 20.01.2021)

Paper Structure

Question Nos.	Sections & Topics		Marks
1 to 20	Section I : Cognitive Abilities	<ul style="list-style-type: none">Quantitative AptitudeAnalytical ReasoningData InterpretationEnglish Communication	20
21 to 40	Section II : Professional Abilities	<ul style="list-style-type: none">Project ManagementHealth, Safety & Risk ManagementEnvironmental LawsSocial Responsibility & EthicsFinance & AccountsLegal, Contracts & Arbitration	20
41 to 50	Section III (A) : Technical Abilities	Physics & Chemistry (10+2 level)	10
51 to 100	Section III (B) : Technical Abilities	Engineering Discipline	50
TOTAL			100

NOTE:

- Exam Duration: 3 Hours
- Total 100 no. of Questions of 1 Mark each with Negative Marking of ½ Mark for every wrong answer
- Questions (Section wise) and respective Answer Options shuffled at Candidates' terminal

Question No. 1	Neha goes for a walk between 4 am and 5 am. After coming back, she found that the hour hand and the minute hand of her watch had exchanged their positions. How much time(approx.) did she spend on her walk?			
Answer Options	A)	B)	C)	D)
	55 min	55:38 min	55:54 min	55:46 min
Right Answer	B			

Question No. 2	4 red, 6 green and 5 white flowers are in a bag. 3 flowers are taken together. What is the probability of getting 1 white and 2 green flowers?			
Answer Options	A)	B)	C)	D)
	1/5	15/91	3/91	3/11
Right Answer	B			

Question No. 3	Tony, Monu and James completed a work together in 36 days and received a total payment of Rs. 54000. Tony took half of the total money, Monu took one third and James took remaining. In how many days, Tony and James would have finished the work if Monu was not working?			
Answer Options	A)	B)	C)	D)
	72 days	54 days	96 days	64 days
Right Answer	B			

Question No. 4	A shopkeeper purchased 15 kg of variety A rice at Rs. X per kg and 10 kg of variety B rice at Rs. (X + 5) per kg. The shopkeeper sold the whole quantity of variety A rice at 10% profit and that of variety B rice at 20% profit. The total selling price of variety A rice was Rs. 30 more than that of variety B rice. Had the two varieties been mixed and sold at an overall profit of 20%, what would have been the selling price (per kg)?			
Answer Options	A)	B)	C)	D)
	Rs. 26.40	Rs. 23.20	Rs. 24.20	Rs. 25.00
Right Answer	A			

Question No. 5	A club has 256 members of whom 144 can play football, 123 can play tennis, and 132 can play cricket. Moreover, 58 members can play both football and tennis, 25 can play both cricket and tennis, while 63 can play both football and cricket. If every member can play at least one game, then the number of members who can play only tennis is			
Answer Options	A)	B)	C)	D)
	32	43	38	45
Right Answer	B			

Question No. 6	Fill up the following series: 5, 25, 7, _____, 9, 19			
Answer Options	A)	B)	C)	D)
	23	22	25	32
Right Answer	B			

Question No. 7	<p>The question is followed by three statements I, II, and III. Read the question and the statements carefully and choose your answer according to which set of the statement(s) is/are sufficient to answer the question.</p> <p>What is the area of the rectangle?</p> <p>I. The ratio of length to breadth of the rectangle is 35 : 12. II. The perimeter of the rectangle is 188 cm. III. The length of diagonal of the rectangle is 74 cm</p>			
Answer Options	A)	B)	C)	D)
	I and II only	I and III only	(I and II) or (II and III)	Any two of the three
Right Answer	D			

Question No. 8	<p>The question below consists of a question and three statements numbered I, II and III given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read all the statements and give answer:</p> <p>What is the sum of the age of Ram and Mohan?</p> <p>Statement I : The age of Ram is 6 years more than the age of Mohan. Statement II : 40% of the age of Mohan is equal to 30% of the age of Ram. Statement III : The ratio between half of the age of Ram and one third of the age of Mohan is 2 : 1.</p>			
Answer Options	A)	B)	C)	D)
	Either statement III alone or statements I and II together are sufficient.	Only statement III is sufficient	Only statement I and II are sufficient	Only statement I, II, and III are sufficient
Right Answer	C			

Question No. 9	<p>Mohan is the Son of Arun's Father's sister. Prakash is the son of Reva, who is the mother of Vikas and Grandmother of Arun. Pranab is the father of Neela and the grandfather of Mohan. Reva is the wife of Pranab. How is the wife of Vikas related to the neela?</p>			
Answer Options	A)	B)	C)	D)
	Sister	Sister - In - Law	Niece	None of The Above
Right Answer	B			

Question No. 10	<p>In the following question, there is a certain relationship between two given words on one side of:: and one word is given on another side of:: while another word is to be found from the given alternatives having the same relationship with this word as the words of the given pair bear. Choose the correct alternative.</p> <p>_____ : trail :: grain : grail</p>			
Answer Options	A)	B)	C)	D)
	train	path	wheat	holy
Right Answer	A			

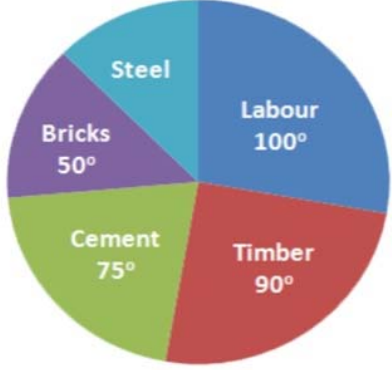
Question No. 11	Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.			
	A: Only natural dyes are used in Kalamkari and it involves several steps. B: There are two distinctive styles of Kalamkari in India. C: They are the Sri kalahasti style and 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.			
Answer Options	A) CBDA	B) DABC	C) ACBD	D) DCBA
Right Answer	B			

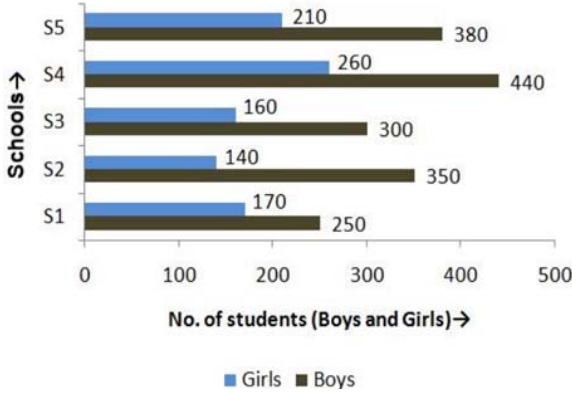
Question No. 12	What is the antonym of MOROSE			
Answer Options	A) overawed	B) agitated	C) cherubic	D) cheerful
Right Answer	D			

Question No. 13	What is the synonym of ERRONEOUS			
Answer Options	A) Enormous	B) Wrong	C) Erased	D) Weak
Right Answer	B			

Question No. 14	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) (1) criticizing, (2) prompting, (3) sincere	B) (1) extolling, (2) advising, (3) rational	C) (1) invoking, (2) arguing, (3) fanciful	D) (1) extolling, (2) prompting, (3) fanciful
Right Answer	D			

Question No. 15	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) (1) safeguarded, (2) kindness, (3) egged on	B) (1) escorted, (2) affinity, (3) toned down	C) (1) abandoned, (2) bitterness, (3) pumped up	D) (1) escorted, (2) bitterness, (3) toned down
Right Answer	D			

<p>Question No. 16</p>	<p>The pie chart shows the total expense of Rs 450000 to construct a house.</p> <p>The cost of steel is</p> 			
<p>Answer Options</p>	<p>A) Rs 55000</p>	<p>B) Rs 56250</p>	<p>C) Rs 60000</p>	<p>D) Rs 62500</p>
<p>Right Answer</p>	<p>B</p>			

<p>Question No. 17</p>	<p>The following bar graph shows the number of boys and girls of class X of 5 different schools.</p> <p>Find the difference between the number of boys and girls of schools S2 and S3 together</p> 			
<p>Answer Options</p>	<p>A) 300</p>	<p>B) 350</p>	<p>C) 400</p>	<p>D) 450</p>
<p>Right Answer</p>	<p>B</p>			

Question No. 18	Study the tables carefully and answer the question that follow: Number of candidates (in lakhs) appearing in an entrance examination from six different states and the ratio of male candidates and female candidates in the same																																	
	The number of male candidates from Andhra Pradesh and Haryana together is what percent of the total number of female candidates from Bihar?																																	
	<table border="1"> <thead> <tr> <th rowspan="2">State</th> <th rowspan="2">Number of candidates</th> <th colspan="2">Ratio</th> </tr> <tr> <th>Male</th> <th>Female</th> </tr> </thead> <tbody> <tr> <td>Andhra Pradesh</td> <td>1.85</td> <td>3</td> <td>2</td> </tr> <tr> <td>Assam</td> <td>2.73</td> <td>7</td> <td>5</td> </tr> <tr> <td>Telangana</td> <td>1.25</td> <td>7</td> <td>3</td> </tr> <tr> <td>Odisha</td> <td>3.14</td> <td>5</td> <td>3</td> </tr> <tr> <td>Haryana</td> <td>1.08</td> <td>4</td> <td>5</td> </tr> <tr> <td>Bihar</td> <td>2.27</td> <td>1</td> <td>3</td> </tr> </tbody> </table>				State	Number of candidates	Ratio		Male	Female	Andhra Pradesh	1.85	3	2	Assam	2.73	7	5	Telangana	1.25	7	3	Odisha	3.14	5	3	Haryana	1.08	4	5	Bihar	2.27	1	3
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Odisha	3.14	5	3																															
Haryana	1.08	4	5																															
Bihar	2.27	1	3																															
Answer Options	A) 98.41%	B) 48.45%	C) 95.49%	D) 93.39%																														
Right Answer	D																																	
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.																																	

Question No. 19	Read the following information carefully and answer the given question.			
	i. Rajesh, Raju and Pijush are intelligent. ii. Rajesh, Shib and Hari are hard-working. iii. Shib, Pijush and Hari are honest. iv. Rajesh, Raju and Hari are ambitious.			
	Which of the following person is neither honest nor hard-working but is ambitious?			
Answer Options	A) Shib	B) Pijush	C) Raju	D) Hari
Right Answer	C			


Question No. 20	Read the following information carefully and answer the following question.			
	'A + B' means 'A is the father of B'; 'A - B' means 'A is the wife of B'; 'A x B' means 'A is the brother of B'; 'A ÷ B' means 'A is the daughter of B'.			
	If $P \div R + S + Q$, which of the following is true?			
Answer Options	A) P is the daughter of Q	B) Q is the aunt of P	C) P is the aunt of Q	D) P is the mother of Q
Right Answer	C			

Question No. 21	A management point in a Work Breakdown Structure (WBS) used to consolidate and process work package data and forward the result to the project management is called _____			
Answer Options	A)	B)	C)	D)
	Control account	Chart of the account	Control limit	Account limit
Right Answer	A			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 22	Various activities of a project are shown on a Bar Chart by _____			
Answer Options	A)	B)	C)	D)
	Vertical line	Horizontal line	Dots	Crosses
Right Answer	B			

Question No. 23	The difference between the time avail-to do a job and time required to do the job is known as _____			
Answer Options	A)	B)	C)	D)
	Event	Float	Duration	Constraints
Right Answer	B			

Question No. 24	Gantt Chart is commonly used for _____			
Answer Options	A)	B)	C)	D)
	Routing	Scheduling	Follow up	Inspection and quality control
Right Answer	B			

Question No. 25	The following symbol is used when something in your workplace is 			
Answer Options	A)	B)	C)	D)
	Chemical Weapon	Biohazard	Toxic Substance	Radiation Danger
Right Answer	B			

Question No. 26	What is the leading cause of death on construction sites?			
Answer Options	A)	B)	C)	D)
	Struck by object	Falls	Caught-in or -between	Electrocutions Hazardous Materials
Right Answer	B			

Question No. 27	What violations are most commonly cited by OSHA?			
Answer Options	A)	B)	C)	D)
	Hazard communications	Scaffolding	Fall protection	Respiratory protection
Right Answer	C			

Question No. 28	_____ is best suited to extinguishing oil or flammable liquid fire			
Answer Options	A)	B)	C)	D)
	Soda acid	Vaporizing liquid	Foam	Dry chemical
Right Answer	C			

Question No. 29	Out of the 37 countries, which country still not ratified the second commitment known as the Doha amendment to the Kyoto Protocol?			
Answer Options	A)	B)	C)	D)
	USA	Canada	Norway	Ukraine
Right Answer	A			

Question No. 30	The Ministry also serves as the nodal agency in the country for the which of these organisations?			
Answer Options	A)	B)	C)	D)
	United Nations Environment Programme (UNEP)	South Asia Co-operative Environment Programme (SACEP)	International Centre for Integrated Mountain Development (ICIMOD)	All of the above
Right Answer	D			

Question No. 31	There are many benefits to implementing an EMS. These include a potential for			
Answer Options	A)	B)	C)	D)
	Reduction in waste production	The avoidance in use, and costly disposal of, other hazardous or potentially polluting materials	A planned approach to compliance with regulations and the consequential reduced risk of prosecutions and fines.	All of the above
Right Answer	D			

Question No. 32	Which of the following does not contribute to the development of a manager's standard of ethics?			
Answer Options	A)	B)	C)	D)
	competitor behaviours	society's norms and values	individual life experiences	environmental situations
Right Answer	A			

Question No. 33	Which is the approach to corporate planning?			
Answer Options	A)	B)	C)	D)
	Customers and workers satisfaction	Planning skills	Optimising	All of the above
Right Answer	D			

Question No. 34	Which one of the following is not principle business ethics?			
Answer Options	A)	B)	C)	D)
	Principle of universality	Principle of humanity	Principle of autonomy	Principle of dissatisfaction
Right Answer	D			

Question No. 35	Which of the following is a definition for variable costs?			
Answer Options	A)	B)	C)	D)
	Costs that remain the same whatever the level of output	Costs that contain a fixed and variable element	Costs that vary directly with the number of units produced	Costs that will remain fixed as output increases until the activity reaches a level where the costs have to increase sharply
Right Answer	C			

Question No. 36	Which of the following is a definition of break-even point?			
Answer Options	A)	B)	C)	D)
	The difference between the selling price of a product and the variable costs incurred in producing that product	The fixed plus variable costs of the business	The situation where neither a profit nor a loss is made	The situation where a profit is made
Right Answer	C			

Question No. 37	Which of the following is not a benefit of budgeting?			
Answer Options	A)	B)	C)	D)
	It promotes study, research, and a focus on the future	It is a source of motivation	It will prevent net losses from occurring	It is a mean of coordinating business activities
Right Answer	C			

Question No. 38	What is the obligation of the peaceful settlement of dispute?			
Answer Options	A)	B)	C)	D)
	It is an obligation of result i.e. States are under a strict obligation to resolve the disputes at the earliest	It is an obligation of conduct i.e. States have an obligation to try to resolve the disputes via peaceful mean. That does not entail an obligation to resolve the dispute	It is an intention to act immediately as per norms of International Law and all States have a legal interest to safeguard its application in any dispute	It is an obligation which concerns solely International courts and tribunal.
Right Answer	B			

Question No. 39	What is the primary function of the Law of Tort?			
Answer Options	A)	B)	C)	D)
	Punishment of a wrong motivator	Clarification of the human rights of the parties	Compensating the claimant	Spreading of losses throughout the parties
Right Answer	C			

Question No. 40	FIDIC published a completely new suite of contracts in various coloured books which contain different conditions. What condition is mentioned in Red Book?			
Answer Options	A)	B)	C)	D)
	Conditions of contract for Construction project.	Conditions of contract for EPC/ Turnkey project.	Conditions of contract for Plant & Design.	Conditions of contract for DBO (Design, Build & Operate) project.
Right Answer	A			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 41	The center of mass of the system consisting of Earth, the Sun, and the planet Mars is:			
Answer Options	A)	B)	C)	D)
	Closer to Earth than to either of the other bodies	Closer to the Sun than to either of the other bodies	Closer to Mars than to either of the other bodies	At the geometric center of the triangle formed by the three bodies
Right Answer	B			

Question No. 42	At the same instant that a 0.50-kg ball is dropped from 25m above Earth, a second ball, with a mass of 0.25 kg, is thrown straight upward from Earth's surface with an initial speed of 15m/s. They move along nearby lines and pass without colliding. At the end of 2 sec the magnitude of the acceleration of the center of mass of the two-ball system is:			
Answer Options	A)	B)	C)	D)
	0.25g	0.50g	0.75g	g
Right Answer	D			

Question No. 43	The rainbow seen after a rain shower is caused by:			
Answer Options	A)	B)	C)	D)
	diffraction	interference	refraction	polarization
Right Answer	C			

Question No. 44	When light travels from medium X to medium Y as shown:			
Answer Options	A)	B)	C)	D)
	both the speed and the frequency decrease	both the speed and the frequency increase	both the speed and the wavelength decrease	both the speed and the wavelength increase
Right Answer	C			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 45	An object rests on a horizontal frictionless surface. A horizontal force of magnitude F is applied. This force produces an acceleration:			
Answer Options	A)	B)	C)	D)
	only if F is larger than the weight of the object	only while the object suddenly changes from rest to motion	always	only if the inertia of the object decreases
Right Answer	C			

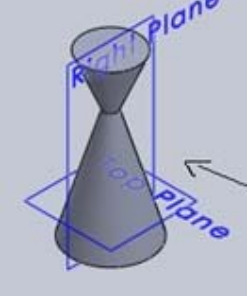

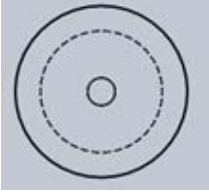
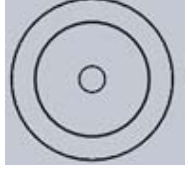
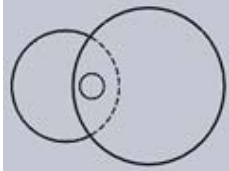
Question No. 46	Which statement is incorrect?			
Answer Options	A)	B)	C)	D)
	All the metals are good conductor of electricity.	All the metals are good conductor of heat	All the metals form positive ions	All the metals form acidic oxides
Right Answer	D			

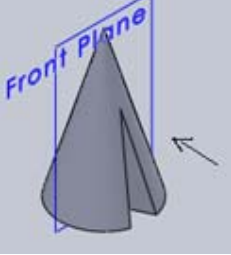
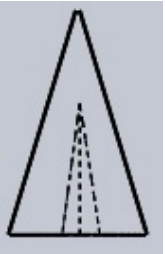
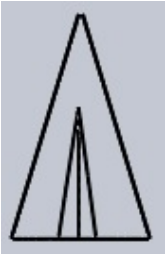
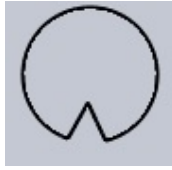
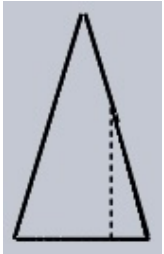
Question No. 47	Based on the first law of thermodynamics, which one of the following is correct?			
Answer Options	A)	B)	C)	D)
	For an isothermal process, $q = +w$	For an isochoric process, $\Delta U = -q$	For an adiabatic process, $\Delta U = -w$	For a cyclic process, $q = -w$
Right Answer	D			

Question No. 48	Among the electrolytes Na_2SO_4 , CaCl_2 , $\text{Al}_2(\text{SO}_4)_3$ and NH_4Cl , the most effective coagulating agent for Sb_2S_3 sol is			
Answer Options	A)	B)	C)	D)
	Na_2SO_4	CaCl_2	$\text{Al}_2(\text{SO}_4)_3$	NH_4Cl
Right Answer	C			

Question No. 49	Of the following which one is classified as polyester polymer?			
Answer Options	A)	B)	C)	D)
	Nylon-66	Terylene	Backelite	Melamine
Right Answer	B			

Question No. 50	In order to increase the volume of a gas by 10%, the pressure of the gas should be			
Answer Options	A)	B)	C)	D)
	increased by 10%	increased by 1%	decreased by 10%	decreased by 1%
Right Answer	C			

<p>Question No. 51</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 Answer</p>	<p>C</p>			

<p>Question No. 52</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 Answer</p>	<p>B</p>			

Question No. 53	Curve of any shape can be drawn in perspective by enclosing it in a _____			
Answer Options	A)	B)	C)	D)
	rectangle	cube	cylinder	square
Right Answer	A			

Question No. 54	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)
	straight line, prism	curve, prism	straight line, cone	curve, cone
Right Answer	B			

Question No. 55	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)
	straight line, curve, curve	straight line, straight line, curve	straight line, curve, straight line	curve, curve, curve
Right Answer	A			

Question No. 56	Which of the following data structure is useful in traversing a given graph by breadth first search?			
Answer Options	A)	B)	C)	D)
	Stack	List	Queue	None of the above
Right Answer	C			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 57	A Circular queue is initialized, Following operations are performed EnQueue(54) EnQueue(23) EnQueue(12) DeQueue() EnQueue(86) What will be Element at Front?			
Answer Options	A)	B)	C)	D)
	23	86	12	54
Right Answer	A			

Question No. 58	Are the array elements necessarily positive?			
Answer Options	A)	B)	C)	D)
	Yes, there can be only non-negative numbers	Yes	No	No, but can't be zero

Right Answer	C			
Question No. 59	The worst-case complexities for Linear and Binary Search are:			
Answer Options	A)	B)	C)	D)
	linear: $O(1)$ binary: $O(N \cdot \log N)$	linear: $O(N)$ binary: $O(N)$	linear: $O(N)$ binary: $O(\log N)$	linear: $O(N \cdot N)$ binary: $O(N \cdot \log N)$
Right Answer	C			

Question No. 60	What is the worst-case time complexity of looking up an element in a hash table?			
Answer Options	A)	B)	C)	D)
	$O(N)$	$O(1)$	$O(N \log N)$	$O(\log N)$
Right Answer	A			

Question No. 61	Consider a number system X. It has digit from 0-5. There is a corresponding encoding system called BCX (Binary Coded X). Now how many different BCX numbers can be stored in 9 switches? (Assume two position of a switch is possible, ON/OFF)			
Answer Options	A)	B)	C)	D)
	216	120	60	210
Right Answer	A			

Question No. 62	When dealing with multiple device interrupts, which mechanism is easy to implement?			
Answer Options	A)	B)	C)	D)
	Polling method	Vectored interrupts	Interrupt nesting	None of the mentioned
Right Answer	A			

Question No. 63	Pick up the corrected statement:			
Answer Options	A)	B)	C)	D)
	The basic difference between Logical and physical address is that Logical address is generated by CPU in perspective of a program	In the program when programmer allocate memory using calloc/malloc, OS return local address	The set of all logical addresses generated by CPU for a program is called Logical Address Space	All of the above
Right Answer	D			

Question No. 64	Which of the following components of program state are shared across threads in a multithreaded process?			
Answer Options	A)	B)	C)	D)
	Register values and Stack memory	Heap memory	Global variables	B and C
Right Answer	D			

Question No. 65	The most appropriate matching for the following pairs: X : Indirect Addressing 1. Loop Y : Immediate Addressing 2. Pointers Z : Auto Decrement Addressing 3. Constants			
Answer Options	A)	B)	C)	D)
	X - 3, Y - 2, Z - 1	X - 2, Y - 3, Z - 1	X - 3, Y - 1, Z - 2	X - 2, Y - 1, Z - 3
Right Answer	B			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 66	(1217) ₈ is equivalent to			
Answer Options	A)	B)	C)	D)
	(1217) ₁₆	(028F) ₁₆	(2297) ₁₀	(0B17) ₁₆
Right Answer	B			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 67	Find out the space and time complexity of the following code snippet <pre>#include <bits/stdc++.h> using namespace std; void my_function(int input) { int array[] = { 5, 21, 11, 20, 26, 101, 6, 22, 21 }; int t = *(&array + 1) - array; sort(array, array+t); vector<int> result; for (int idx = t - 1; idx >= 0; idx--) { while (input >= array[idx]) { input -= array[idx]; result.push_back(array[idx]); } } for (int idx = 0; idx < result.size(); idx++) cout << result[idx] << " "; }</pre>			
Answer Options	A)	B)	C)	D)
	Time Complexity: O(NlogN) Space Complexity: O(1)	Time Complexity: O(NlogN) Space Complexity: O(N)	Time Complexity: O(logN) Space Complexity: O(N)	Time Complexity: O(logN) Space Complexity: O(1)
Right Answer	A			

Question No. 68	In a company X, there is a 5 members team working on project which deal with real time data. Data comes from in the form of number. It may be float, integer or double. They want to sort the data and display it. They have given instruction that their soring time complexity should not vary in any of the cases like, if data come in sorted order or reverse sorted order or in random order or nearly sorted order. Then which of the following algorithm they will select to full fill the instruction.			
Answer Options	A)	B)	C)	D)
	Insertion Sort	Quick Sort	Selection Sort	Merge sort
Right Answer	D			

Question No. 69	You are in front of a building of N floors. You are given M eggs. Now You are asked to find out the minimum number of drops needed to determine from which floors it is safe to drop an egg without breaking the egg. Here are the rules: 1. If an egg does not break from a given floor, it will also not break on any lower floor. 2. If an egg breaks when dropped from a given floor, it will also break on any higher floor. 3. If an egg breaks, it must be discarded. Now how do you approach this problem from the following options			
Answer Options	A)	B)	C)	D)
	Backtracking	Divide and Conquer	Dynamic programming	Greedy
Right Answer	C			

Question No. 70	Which of the following is true about z-buffer algorithm?			
Answer Options	A)	B)	C)	D)
	It is a depth sort algorithm	Comparisons of objects is done	No limitation on total number of objects	z-buffer is initialized to background colour at start of algorithm
Right Answer	C			

Question No. 71	The Completely Fair Scheduler (CFS) is a process scheduler of the Linux kernel and is the default scheduler. It handles CPU resource allocation for executing processes and aims to maximize overall CPU utilization while also maximizing interactive performance. Which of the following TREE concept is used there to get best performance?			
Answer Options	A)	B)	C)	D)
	BST	AVL Tree	RED-Black Tree	N-ary Tree
Right Answer	C			

Question No. 72	You are asked to do sorting of some input numbers and you are also given a criterion that during sorting swap is a very performance hit operation. Then which one of the following in place sorting algorithms you will choose?			
Answer Options	A)	B)	C)	D)
	Quick sort	Selection sort	Insertion sort	Heap sort
Right Answer	B			

Question No. 73	What is the value of i in the following pseudo-code W:=1; i:=1; while (W ≤ 500) begin W:=2^W ; i:=i+1; end			
Answer Options	A)	B)	C)	D)
	4	5	6	3
Right Answer	B			

Question No. 74	Consider a directed graph with X vertices and Y edges such that all edges have same edge weights. Find the complexity of the best-known algorithm to compute the minimum spanning tree of the graph?			
Answer Options	A)	B)	C)	D)
	$O(X+Y)$	$O(X \log Y)$	$O(XY)$	$O(Y \log X)$
Right Answer	A			

Question No. 75	Comment on this const int *ptr;			
Answer Options	A)	B)	C)	D)
	You cannot change the value pointed by ptr	You cannot change the pointer ptr itself	Both (a) and (b)	You can change the pointer as well as the value pointed by it
Right Answer	A			

Question No. 76	<pre>#include<stdio.h> void fun(int a, ...) { printf("%d ", a); } int main() { fun(1,2,3,4); fun(5,6,7,8,9); return 0; }</pre>			
Answer Options	A)	B)	C)	D)
	1 5	43953	43835	Compiler error
Right Answer	A			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 77	What is the output of this program? <pre>#include<stdio.h> int demo() { static int i = 0; printf("%d ",i++); } int main() { for(int j = 0 ; j < 5 ; j++) { demo(); } }</pre>			
Answer Options	A) 0 0 0 0 0	B) 1 1 1 1 1	C) 1 2 3 4 5	D) 0 1 2 3 4
Right Answer	D			

Question No. 78	What is the output of this program? <pre>#include<stdio.h> int test() { static int n = 10; return n--; } int main() { for(test(); test(); test()) printf("%d ", test()); return 0; }</pre>			
Answer Options	A) 7 4 1	B) 8 5 2	C) Infinite loop	D) Compilation Error
Right Answer	B			

Question No. 79	What is the output of this program? <pre>#include<stdio.h> void test(char**); int main() { char *argv[] = {"a", "b", "c", "d"}; test(argv); return 0; } void test(char **p) { char *m; m = (p+= sizeof(int))[-2]; printf("%s", m); }</pre>			
Answer Options	A) a	B) b	C) c	D) d
Right Answer	C			

Question No. 80	What is the output of this program? <pre>#include<stdio.h> void test(int *a, int *b) { a = b; *a = 15; } int x = 10, y = 20; int main() { test(&x, &y); printf("%d %d", x, y); return 0; }</pre>			
Answer Options	A)	B)	C)	D)
	15 15	10 15	10 20	15 20
Right Answer	B			

Question No. 81	What does the following statement mean? int (*ptr)[5];			
Answer Options	A)	B)	C)	D)
	ptr is an array of 5 integers	ptr is a pointer to an array of 5 integers	ptr is array of pointers to 5 integers	ptr is array of function pointers to 5 integers
Right Answer	B			

Question No. 82	What is the output of the given code ? <pre>#include<stdio.h> void main() { int a = 0 ; int *const ptr = &a ; printf("%p ", ptr); ptr++; printf("%p ", ptr); }</pre>			
Answer Options	A)	B)	C)	D)
	0 1	compilation Error	Run Time Error	None of the above
Right Answer	B			

Question No. 83	In a Banking System, users complain that slowness of to restive historical data of a particular Banking Screen. As a Database Administrator, you identified that a particular table need to create index. Which index do you need to select for columns with less unique values?			
Answer Options	A)	B)	C)	D)
	B-Tree Index	Bitmap Index	Reverse Key Index	Function Base Index
Right Answer	B			

Question No. 84	What is the feature true for 'truncate' statement in sql?			
Answer Options	A)	B)	C)	D)
	You can delete a single row or multiple rows from table using truncate statement.	You can rollback data of table after using truncate statement.	Truncate statement is faster than delete statement	None of the above
Right Answer	C			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 85	Assume a schema of Emp (Id, Name, DeptId) , Dept (Id, Name). If there are 10 records in the Emp table and 5 records in the Dept table, how many rows will be displayed in the result of the following SQL query: Select * From Emp, Dept			
Answer Options	A)	B)	C)	D)
	10	5	50	Giving syntax error
Right Answer	C			

Question No. 86	Find the SQL statement below that is equal to the following: SELECT name FROM customer WHERE state = 'BIHAR';			
Answer Options	A)	B)	C)	D)
	SELECT name IN customer WHERE state IN ('BIHAR');	SELECT name IN customer WHERE state = 'BIHAR';	SELECT name IN customer WHERE state = 'BIHAR';	SELECT name FROM customer WHERE state IN ('BIHAR');
Right Answer	D			
NOTE	Question was displayed incorrectly at candidates' terminals. Hence '1' mark has been given to all candidates, who attempted or not.			

Question No. 87	Evaluate the set of SQL statements: CREATE TABLE dept (deptno NUMBER(2), dname VARCHAR2(14), loc VARCHAR2(13)); ROLLBACK; DESCRIBE DEPT			
Answer Options	A)	B)	C)	D)
	The DESCRIBE DEPT statement displays the structure of the DEPT table.	The ROLLBACK statement frees the storage space occupied by the DEPT table.	The DESCRIBE DEPT statement returns an error ORA-04043: object DEPT does not exist.	The DESCRIBE DEPT statement displays the structure of the DEPT table only if there is a COMMIT statement introduced before the ROLLBACK statement.
Right Answer	A			

Question No. 88	You want to display the titles of books that meet these criteria: 1. Purchased before January 29, 2020 2. Price is less than Rs. 500 or greater than Rs. 900 You want to sort the results by their data of purchase, starting with the most recently bought book. Which statement should you use?			
Answer Options	A) SELECT book_title FROM books WHERE price between 500 and 900 AND purchase_date < '29-JAN-2020' ORDER BY purchase_date;	B) SELECT book_title FROM books WHERE price IN (500,900) AND purchase_date < '29-JAN-2020' ORDER BY purchase date ASC;	C) SELECT book_title FROM books WHERE price < 500 or > 900 AND purchase_date < '29-JAN-2020' ORDER BY purchase date DESC;	D) SELECT book_title FROM books WHERE (price < 500 OR price > 900) AND purchase_date < '29-JAN-2020' ORDER BY purchase date DESC;
Right Answer	D			

Question No. 89	You added a PHONE_NUMBER column of NUMBER data type to an existing EMPLOYEES table. The EMPLOYEES table already contains records of 100 employees. Now, you want to enter the phone numbers of each of the 100 employees into the table. Some of the employees may not have a phone number available. Which data manipulation operation do you perform?			
Answer Options	A) MERGE	B) UPDATE	C) ADD	D) You cannot enter the phone numbers for the existing employee records.
Right Answer	B			

Question No. 90	In a SELECT statement that includes a WHERE clause, where is the GROUP BY clause placed in the SELECT statement?			
Answer Options	A) After the WHERE clause	B) After the ORDER BY clause	C) Before the WHERE clause	D) Immediately after the SELECT clause
Right Answer	A			

Question No. 91	A repeater device operates in the _____ layer of the Internet model			
Answer Options	A) physical	B) data link	C) network	D) all of the above
Right Answer	A			

Question No. 92	What is the physical path over which a message travel?			
Answer Options	A) Protocol	B) Medium	C) Signal	D) All the above
Right Answer	B			

Question No. 93	What is the protocol suite for the current Internet?			
Answer Options	A)	B)	C)	D)
	TCP/IP	NCP	UNIX	ACM
Right Answer	A			

Question No. 94	A data communication system spanning states, countries, or the whole world is called			
Answer Options	A)	B)	C)	D)
	MAN	LAN	WAN	None of the above
Right Answer	C			

Question No. 95	A data communication system within a building, plant, or campus, or between nearby buildings is called			
Answer Options	A)	B)	C)	D)
	MAN	LAN	WAN	None of the above
Right Answer	B			

Question No. 96	Output of following C++ program? <pre> #include<iostream> using namespace std; void square (int *x) { *x = (*x)++ * (*x); } void square (int *x, int *y) { *x = (*x) * --(*y); } int main () { int number = 30; square(&number, &number); cout << number; return 0; } </pre>			
Answer Options	A)	B)	C)	D)
	870	910	920	900
Right Answer	A			

Question No. 97	Output of following C++ program? #include <iostream> using namespace std; int main() { try { throw 'a'; } catch (int param) { cout << "int exception"; } catch (...) { cout << "default exception"; } cout << "After Exception"; return 0; }			
Answer Options	A) default exception After Exception	B) int exception After Exception	C) int exception After Exception	D) default exception After Exception
Right Answer	D			

Question No. 98	Output of following C++ program? #include <iostream> using namespace std; int main() { try { try { throw 20; } catch (int n) { cout << "Inner Catchn"; throw; } } catch (int x) { cout << "Outer Catchn"; } return 0; }			
Answer Options	A) Outer Catch	B) Inner Catch	C) Inner Catch Outer Catch	D) Inner CatchnOuter Catchn
Right Answer	D			

Question No. 99	<p>Output of following C++ program?</p> <pre>#include <iostream> using namespace std; class Test { public: Test() { cout << "Constructing an object of Test " << endl; } ~Test() { cout << "Destructing an object of Test " << endl; } }; int main() { try { Test t1; throw 10; } catch(int i) { cout << "Caught " << i << endl; } }</pre>			
Answer Options	A) Caught 10	B) Constructing an object of Test Caught 10	C) Constructing an object of Test Destructing an object of Test Caught 10	D) Compiler Error
Right Answer	C			

Question No. 100	<p>Output of following C++ program?</p> <pre>#include <iostream> using namespace std; class Test { static int count; int id; public: Test() { count++; id = count; cout << "Constructing object number " << id << endl; if(id == 4) throw 4; } ~Test() { cout << "Destructing object number " << id << endl; } }; int Test::count = 0; int main() { try { Test array[5]; } catch(int i) { cout << "Caught " << i << endl; } }</pre>			
Answer Options	A) <ul style="list-style-type: none"> Constructing object number 1 Constructing object number 2 Constructing object number 3 Constructing object number 4 Destructing object number 1 Destructing object number 2 Destructing object number 3 Destructing object number 4 Caught 4 	B) <ul style="list-style-type: none"> Constructing object number 1 Constructing object number 2 Constructing object number 3 Constructing object number 4 Destructing object number 3 Destructing object number 2 Destructing object number 1 Caught 4 	C) <ul style="list-style-type: none"> Constructing object number 1 Constructing object number 2 Constructing object number 3 Constructing object number 4 Destructing object number 4 Destructing object number 3 Destructing object number 2 Destructing object number 1 Caught 4 	D) <ul style="list-style-type: none"> Constructing object number 1 Constructing object number 2 Constructing object number 3 Constructing object number 4 Destructing object number 1 Destructing object number 2 Destructing object number 3 Caught 4
Right Answer	B			