RGUCET 2022 M Tech in Computer Sc

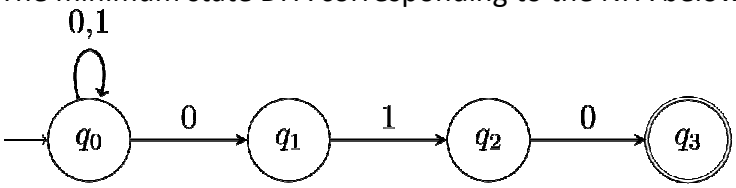
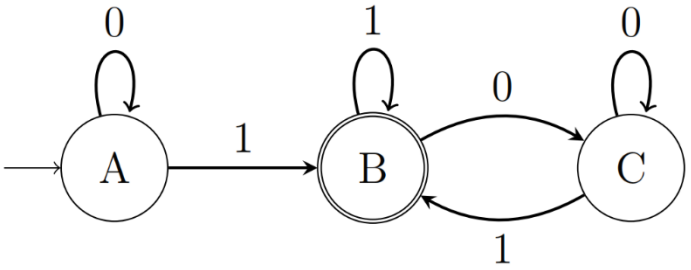
1	Find the odd word:					
	a) Eagle	b) Ostrich	c) Emu	d) Penguin	(a)	Eagle
2	Which of the following is a synonym of “continue”?					
	a) impede	b) last	c) final	d) desist	(b)	last
3	Sensible : Stupid Opaque :_____ Choose the correct word:					
	a) Cloudy	b) Transparent	c) Obscure	d) Dumb	(b)	Transparent
4	Choose the correct word from the options given below. The _____ damaged properties all along the coast.					
	a) hurricane	b) hurriccane	c) huriccane	d) huricane	(a)	hurricane
5	Which of the following nouns are countable?					
	a) Space	b) Water	c) People	d) Idea	(d)	Idea

6	If ‘-’ means ‘+’, ‘+’ means ‘-’, ‘*’ means ‘÷’ and ‘÷’ means ‘*’ then which of the following will be the correct equation?					
	a) 10 + 5 - 14 ÷ 10 * 15 = 158	b) 30 + 5 + 14 - 10 * 15 = 122	c) 30 - 5 + 14 ÷ 10 * 15 = 162	d) 30 * 5 - 4 ÷ 10 + 15 = 31		D
7	The following equation becomes mathematically correct when you interchange either the sign or the Numbers as indicated in the question. Find the correct alternative. Given equation; (16 - 4) x 6 ÷ 2 + 8 = 30					
	a)÷ and -	b)4 and 2	c)16 and 6	d)- and +		A
8	If > = ÷, < = +, ^ = -, x = <, - = >, + = = and v = x, then which of the following equation is correct?					
	a)6 > 3 < 2 ^ 4 v 8 - 13	b)6 ^ 3 < 2 > 4 v 8 + 13	c)6 v 3 ^ 2 > 4 < 8 x 13	d)6 v 3 > 2 < 4 ^ 8 x 13		D
9	In a certain language 'EXECUTIVE' is coded as 'TCIEUXVEE' then how is 'MAUSOLEUM' coded in that same language?					
	a)LSEUOAUMM	b)AUUCOSLMM	c)AUEUOSEMM	d)SLUEOAUMM		A
10	In a certain code language 'BREAKDOWN' is written as 'NWODKAERB' then how will 'TRIANGLES' be written in that language?					
	a)SELGNTRIA	b)AIRTNSELG	c)SELGNAIRT	d)AIRTGNSEL		C

11	The first term in a sequence is 1 and the second term is 5. From the third term on each term is the average (arithmetic mean) of all preceding terms. What is the 25th term in the sequence?					
	a)2.5	b)3	c)5	d)2.5		B
12	Introducing a man, a woman said, "He is the only son of the mother of my mother." How is the woman related to the man?					
	a) Niece	b)Mother	c)Sister	d)Maternal aunt		A
13	Pointing towards a girl, Abhisek says, "This girl is the daughter of only a child of my father." What is the relation of Abhisek's wife to that girl?					
	a)Mother	b)Daughter	c)Sister	d)Aunt		A
14	A is the son of C; C and Q are sisters; Z is the mother of Q and P is the son of Z. Which of the following statements is true?					
	a)P and A are cousins	b)P is the maternal uncle of A	c)Q is the maternal grandfather of A	d)C and P are sisters		B
15	P is the mother of K; K is the sister of D; D is the father of J. How is P related to J?					
	a)Mother	b)Grandmother	c)Aunt	d)Data is inadequate		B
16	Sanjay introduces Ravi as the son of the only brother of his father's wife. How is Ravi related to Sanjay?					
	a)Cousin	b)Son	c)Son-in-law	d)Uncle		A
17	How many terms are there in the series 201, 208, 215, ….., 369?					
	a)23	b)24	c)25	d)26		c
18	The set of real numbers ($x: a < x < b$) is called					
	a) Open interval	b) Closed interval	c) Semi-open interval	d) Semi-closed interval	A	Open interval
19	Let A and B be two sets such that n(A) = 0.25, n(B) = 0.15 and n(A U B) = 0.30 then, n(A∩B) is :					
	a) 0.3	b) 0.5	c) 0.05	d) 0.10	D	0.10
20	The value of $\frac{1-\tan^2 15^0}{1+\tan^2 15^0}$ is:					

	a) 1	b) $\sqrt{3}$	c) $\frac{\sqrt{3}}{2}$	d) 2	C	$\frac{\sqrt{3}}{2}$
21	In any triangle, if angle are in the ratio 1:2:3, then their corresponding sides are:					
	a) $1:2:\sqrt{3}$	b) $1:\sqrt{3}:2$	c) $2:\sqrt{3}:1$	d) $\sqrt{3}:2:1$	B	$1:\sqrt{3}:2$
22	The coefficient of variation (CV) is defined as:					
	a) CV= $\frac{\bar{x}}{\sigma}$ x 100	b) CV = $\frac{\sigma^2}{\bar{x}}$ x 100	c) CV = $\frac{(\sigma)^{1/2}}{\bar{x}}$ x 100	d) CV = $\frac{\sigma}{\bar{x}}$ x 100	D	CV = $\frac{\sigma}{\bar{x}}$ x 100
23	A coin is tossed twice. Then, the probability that atleast one tail occurs is:					
	a) $\frac{1}{4}$	b) $\frac{1}{2}$	c) $\frac{1}{3}$	d) $\frac{3}{4}$	D	$\frac{3}{4}$
24	Seven persons are to be seated in a row. The probability that two particular persons sit next to each other is					
	a) $\frac{1}{3}$	b) $\frac{1}{6}$	c) $\frac{2}{7}$	d) $\frac{1}{2}$	C	$\frac{2}{7}$
25	Roots of $x^2 + 2 = 0$ are:					
	a) $2i$	b) 2	c) $\pm\sqrt{2}$i	d) 0	C	$\pm\sqrt{2}$i

26	Consider the following statements about a DFA: P. There is at most one transition per input symbol from a state. Q. There can be more than one final state. R. The transition function δ can return a set of states of DFA. Which of these statements are true?					
	a) P and Q only	b)P only	c)Q only	d)P, Q and R		(a)

27	The minimum state DFA corresponding to the NFA below has ____ number of states. 					
	a)3	b)4	c)6	d)9		(b)
28	What is the language recognized the following Finite state automata? 					
	a)Binary strings starting with 0 and ending with 1.	b) Binary strings starting with 0 only.	c)Binary strings starting with 1 only	d)Binary strings ending with 1 only		(d)
29	Regular expressions can be used to describe the strings that are recognized by					
	a)FSA only	b)PDA and not FSA	c)LBA and not PDA	d)Turing machine and not LBA		(a)
30	Which regular expression describes the binary strings with odd number of bits?					
	a)((0 + 1)((0 + 1)(0 + 1))*	b)((0 + 1)*(0 + 1)(0 + 1))*	c)((0 + 1)(0 + 1)(0 + 1)*)	d) ((0 + 1)(0 + 1)(0 + 1))		(a)
31	Context sensitive languages are recognized by					
	a) FSA	b) LBA	c) DPDA	d) NPDA		(b)
32	$E \rightarrow E * E \mid E + E \mid b$ is an example of grammar which is P. Ambiguous due to associativity Q. Ambiguous due to precedence S. Unambiguous expression grammar					

	a) P only	b) Q only	c) Both P and Q	d) S only		(c)
33	Arden's theorem can be used to convert					
	a) NFA to PDA	b)PDA to NFA	c)NFA to Regular Expression	d)Regular Expression to NFA		(c)
34	Match all items in Group 1 with correct options in Group 2 **Group 1** / **Group 2** P. Lexical Analyzer / 1. Three address code Q. Parser / 2. Machine code R. Semantic Analyzer / 3. Type checking S. Intermediate code generator / 4. Abstract Syntax Tree 5. Decorated Syntax Tree 6. token					
	a) P-3, Q-5, R-1, S-2	b)P-6, Q-4, R-5, S-1	c) P-6, Q-5, R-4, S-2	d) P-3, Q-5, R-4, S-2		(b)
35	Compute the FIRST(G) set for the following grammar $G \rightarrow XY \mid Z$ $X \rightarrow 13 \mid Y4$ $Y \rightarrow 2 \mid \epsilon$ $Z \rightarrow 3 \mid \epsilon$					
	a) $\{1, 3, \epsilon\}$	b)$\{1,2, 3, \epsilon\}$	c)$\{1, 2, \epsilon\}$	d)$\{1, 2, 3, 4, \epsilon\}$		(d)

36	Which of these sets of logic gates are known as universal gates?					
	a) XOR, NAND, OR	b)OR, NOT, XOR	c)NOR, NAND, XNOR	d)NOR, NAND		d
37	In the toggle mode, a JK flip-flop has					
	a)J = 0, K = 1	b)J = 1, K = 1	c) J = 0, K = 0	d) J = 1, K = 0		b
38	The number of inputs in a half adder is?					
	a) 8	b)2	c) 11	d)32		b
39	How much input and output needed for demultiplexer?					
	a)Many outputs to one input	b)One input many outputs	c) One input one output	d) None of these		b

40	D flip flop can be made from a J-K flip flop by making					
	a) J = K	b)J = K'	c) J = 1, K =1	d)J = 0, K = 1		b
41	The following language uses mnemonic OP code					
	a) Assembly language	b)Machine Language	c)High Level Language(HLL)	d)BASIC Language		a
42	Which of the following instruction processing activity of the CPU can be pipelined? 1. Instruction encoding 2. Operand loading 3. Operand storing					
	a)1 and 2 only	b)2 and 3 only	c) 1 and 3 only	d) 1,2 and 3		b
43	A 26-bit address bus has maximum accessible memory capacity of					
	a) 64MB	b)16MB	c) 1GB	d)4GB		a
44	Which interrupt in 8085 Microprocessor is non-maskable?					
	a) RST 5.5	b)RST 7.5	c)TRAP	d) Both (a) and (b)		c
45	The full form of PCI in the context of microcontrollers is :					
	a)Peripheral Component Interconnect	b)Personal Computer Interface	c) Personal Computer Information	d) Peripheral and Component Information		a

46	The global variables are _____.					
	a) Internal	b)External	c)Both External and Internal	d)None of the above	b)	External
47	The definition of the function abort() is in which header file?					
	a)stdlib.h	b)assert.h	c)stdio.h	d)stdarg.h	a)	stdlib.h
48	Which of the following is not a valid C variable name?					
	a) int number;	b) float rate;	c) int variable_count;	d) int $main;	d)	int $main;
49	Which is valid C expression?					
	a) int my_num = 100,000;	b) int my_num = 100000;	c) int my num = 1000;	d) int $my_num = 10000;	d)	int $my_num = 10000;

50	What is the sizeof(char) in a 32-bit C compiler?					
	a) 1 bit	b) 2 bits	c) 1 Byte	d) 2 Bytes	c)	1 Byte
51	Entities whose values can be changed is called?					
	a) Constants	b) Variables	c) Modules	d) Tokens	b)	Variables
52	scanf() is a predefined function in_____header file.					
	a) stdlib.h	b) ctype.h	c) stdio.h	d) stdarg. h	c)	stdio.h
53	Which feature of OOP reduces the use of nested classes?					
	a) Inheritance	b) Binding	c) Abstraction	d) Encapsulation	a)	Inheritance
54	Which operator can be used to free the memory allocated for an object in C++?					
	a) Unallocate	b) Free()	c) Collect	d) delete	d)	delete
55	Which type of members can't be accessed in derived classes of a base class?					
	a) All can be Accessed	b) Protected	c) Private	d) Public	c)	private
56	Which of the following gets called when an object is being created?					
	a) Constructor	b) Virtual Function	c) Destructors	d) Main	a)	Constructor
57	All arrays consist of _____ memory locations.					
	a) Simple	b) Contiguous	c) Distant	d) Both (a) and (c)	b)	Contiguous

58	How many times do you visit a vertex when travelling a Hamilton path?					
	a) 0	b) 1	c) 3	d) 4	b)	1
59	What is the number of edges present in a complete graph having n vertices?					
	a) (n*(n+1))/2	b) (n*(n-1))/2	c) N	d) n-1	b)	(n*(n-1))/2
60	Finding the location of the element with a given value is:					

	a) Traversal	b) Search	c) Sort	d) Both (b) and (c)	b)	Search
61	The best-case complexity of merge sort algorithm is					
	a) O(n log n)	b) O(log n)	c) O(n2)	d) O(n)	a)	O(n log n)
62	In a forest if there are v vertices and q components, what is the minimum number of edges?					
	a) (v-q)/2	b) (v-1)+q	c) v+q	d) v-q	d)	v-q
63	If no other data structures are allowed except stack and queue then how many queues will be needed to implement a stack?					
	a) 1	b) 2	c) 3	d) 4	b)	2
64	If no other data structures are allowed except stack and queue then how many stacks will be needed to implement a queue?					
	a) 1	b) 2	c) 3	d) 4	b)	2
65	If several elements are competing for the same bucket in the hash table, what is it called?					
	a) Diffusion	b) Replication	c) Collision	d) Duplication	c)	collision

66	A relationship among students and courses is					
	a) Many to Many relationship	b) 1 to Many relationship	c) 1 to 1 relationship	**d)** None of these	**A**	Many to Many relationship
67	In SQL, the command used to recompile the view is					
	a) Create view	b) Compile view	c) Alter view	d) Define view	**C**	Alter view
68	The data dictionary identifies					
	a) Field names	b) Field formats	c) Field Types	d) All of these	**D**	All of these
69	Which command is used to delete a view?					
	a) REMOVE	b) DIGG	c) DROP	d) DELETE	**C**	DROP

	VIEW	VIEW	VIEW	VIEW		VIEW
70	The operation(s) that can be performed on SQL Views.					
	a) Filter	b) Sort	c) Join	d) All of the above	**D**	All of the above
71	Suppose the last row has the AUTO_INCREMENT column value 45. Suppose a new row is added by setting AUTO_INCREMENT value equal to 60. The next row added will have value					
	a) 45	b) 46	c) 61	d) 60	**C**	61

72	The network layer is concerned with _____ of data					
	a)Frames	b) Packets	c) Bits Stream	d) Bytes	b)	Packets
73	Physical or logical arrangement of network is _____					
	a) Networking	b) Topology	c) Architecture	d) Design	b)	Topology
74	Time Division Multiplexing(TDM), slots are further divided into _____					
	a) Seconds	b) Bits	c) Frames	d) Packets	c)	Frames
75	Frame relay provides error detection at the _____					
	a) Data link layer	b) Physical layer	c) Network layer	d) Transport layer	a)	Data link layer
76	The extension of an enterprise's private intranet across a public network such as the internet which creates, a secure private connection is known as_____?					
	a) VNP	b) VSN	c) VPN	d) VTN	c)	VPN
77	Local telephone network uses which types of network switching?.					
	a) Circuit switching	b) Message switching	c) Packet switching	d) Line switching	a)	Circuit switching
78	Datagrams are routed to their destinations with the help of_____?					
	a) Routing Table	b) Datagram Table	c) Switch Table	d)Segment Table	a)	Routing Table
79	Repeater is a network device, which is used at the _____ layer?					

	a) Application layer	b) Network layer	c) Transport layer	d) Physical layer	d)	Physical layer
80	A network device which are used to connect multiple networks is known as_____?					
	a) Router	b) Hub	c) Gateways	d) Switch	c)	Gateways
81	DHCP (Dynamic Host Configuration Protocol) provides _____ to the client.					
	a) IP Address	b) MAC Address	c)Port Address	d)URL	a)	IP Address
82	DHCP uses UDP port _____ for sending data to the server.					
	a) 69	b) 68	c) 67	d) 66	c)	67
83	The range of class C IP address is from _____?					
	a)0 to 127	b) 128 to 191	c) 192 to 233	d) Above to 234	c)	192 to 233
84	Bits can be sent over guided and unguided media as Analog signal by _____					
	a) Amplitude modulation	b) Analog modulation	c) Frequency modulation	d) Digital modulation	d)	Digital modulation
85	SSH uses _____ to authenticate the remote computer.					
	a)public-key cryptography	b)private-key cryptography	c) any public key	d) any private key	a)	public-key cryptography
86	Open Shortest Path First (OSPF) is also called as _____.					
	a)Error-correction protocol	b)Link state protocol	c) Routing Information protocol	d)Border gateway protocol	b)	Link state protocol
87	The computation of the shortest path in OSPF is usually done by _____.					
	a) Dijkstra's algorithm	b) Bellman-Ford algorithm	c) Distance vector	d) Kruskal's algorithm	a)	Dijkstra's algorithm
88	A proxy firewall filters at _____.					

	a) Application layer	b) Physical layer	c) Network layer	d) Transport layer	a)	Application Layer

89	Which of the following is incorrect for the actions of A LR-Parser I) shift s ii) reduce A->ß iii) Accept iv) reject?					
	a)Only I	b)I and II	c) I , II and III	d) I,II,III and IV		c
90	A simple two-pass assembler does which of the following in the first pass?					
	a) It allocates space for the literals	b) Calculates total length of the program	c)Symbol table is built for the symbols and their value	d) a,b and c		d
91	The following set S -> i A x {$} A -> i a {x} A -> i a A {x} Is a valid LR(1) item set.					
	a)True	b)False	c) Inclusive	d) iterative		a
92	The size of memory segment in 8086 microprocessor is					
	a)1KB	b)64KB	c)1MB	d)variable		b
93	What is the number of control flags present in 8086 microprocessor?					
	a)3	b)6	c)9	d)16		a

94	The _____ can be turned off by the CPU before the execution of critical instruction sequences that must not be interrupted.					
	a) non-maskable interrupt	b) blocked interrupt	c) maskable interrupt	d) invisible interrupt		C
95	A character stream device transfer _____					
	a) bytes one by one	b) block of bytes as a unit	c) with unpredictable response times	d) character one by one		A

96	A keyboard is an example of a device that is accessed through a _____ interface.					
	a) block stream	b) set of blocks	c) character stream	d) string stream		C

97	Which model can be selected if user is involved in all the phases of SDLC?					
	a) Waterfall Model	b) Prototyping Model	c) RAD Model	d) both Prototyping Model & RAD Model		C
98	Which of the following is the first step in SDLC framework?					
	a) Feasibility Study	b) Requirement Gathering	c) System Analysis	d) Communication		D
99	Which of these software engineering activities are not a part of software processes?					
	a) Software development	b) Software dependence	c) Software validation	d) Software specification		B
100	What are attributes of good software?					
	a) Software functionality	b) Software maintainability	c) Software development	d) Both (a) and (b)		D