This booklet consists of <u>100</u> questions and <u>12</u> printed pages.

RGUCET/2023/PG/27

Series

NIL

RGUCET 2023
Master of computer application (MCA)

Full Marks: 100   **Time: 2 Hours**

Roll No.

Day and Date of Examination   :

Signature of Invigilator(s)   :

Signature of Candidate   :

General Instructions:

PLEASE READ ALL THE INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ENTRY.

1.   DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.

2.   Candidate must write his/her Roll Number on the space provided.

3.   This Test Booklet contains 100 Multiple Choice Questions (MCQs). Each question carries 1 mark. There shall be negative marking of 0.25 against each wrong attempt.

4.   Please check the Test Booklet to verify that the total pages and total number of questions contained in the test booklet are the same as those printed on the top of the first page. Also check whether the questions are in sequential order or not.

5.   Candidates are not permitted to enter into the examination hall 15 minutes after the commencement of the entrance test or leave the examination hall before 30 minutes of end of examination.

6.   Making any identification mark in the OMR Answer Sheet or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.

7.   Candidates shall maintain silence inside and outside the examination hall. If candidate(s) is/are found violating the instructions mentioned herein or announced in the examination hall, they will be summarily disqualified from the entrance test.

8.   In case of any dispute, the decision of the Entrance Test Committee, RGU shall be final and binding.

9.   The OMR Answer Sheet consists of two copies, the Original copy and the Student's copy.

1	Our Teacher teaches us Mathematics _____ English.				B	Besides
	a) Across	b) Besides	c) Beside	d) Both		
2	I gave _____ one rupee coin to him.				A	A
	a) A	b) An	c) The	d) No article		
3	They began to fall on the ground in _____ heaps				D	No article
	a) A	b) An	c) The	d) No article		
4	Your diet is deficient _____ proteins and fats.				D	in
	a) Of	b) on	c) for	d) in		
5	The boy was cured _____ typhoid				B	of
	a) from	b) of	c) for	d) through		
6	The Synonym of Simulate is:				B	Imitate
	a) Excite	b) Imitate	c) Trick	d) Apelike		
7	Select the odd one out				B	Three Tier
	a) Bus	b) Three tier	c) Whistle	d) Conductor		
8	Write the Plural of Elf:				B	Elves
	a) elfs	b) elves	c) eles	d) none of these		
9	When are you going to Mumbai?				D	Present Continuous
	a) past perfect	b) simple future	c) present perfect	d) present continuous		
10	His legal _____ is Sheela.				A	Heir
	a) heir	b) hare	c) hair	d) here		
11	Adjective of Diplomacy is:				B	Diplomatic
	a) Diploma	b) Diplomatic	c) Diplomat	d) Diplomatically		
12	It is dangerous to enter _____ the enemy's camp.				D	into
	a) in	b) on	c) by	d) into		

13	"One Earth · One Family · One Future" is the theme for which of the following programme?				C	
	a)World Environment Day 2023	b) World Water Day 2023	c) G20 Summit 2023	d) World Population Day 2023		
14	In Oscars 2023, the Indian movie "All that Breathes" is nominated inwhich of the following category?				A	
	a)Best Documentary Feature Film	b)Best Documentary Short Film	c)Best International Feature Film	d)Best Original Song category		
15	Operation Kaveri is an operation conducted by the Indian Armed Forces to evacuate Indian citizens and foreign nationals from which country?				B	
	a) Sri Lanka	b) Sudan	c) Afghanistan	d) Ukraine		
16	In September 2022, as part of the cheetah reintroduction programme, eight cheetahs were released in which national park of India?				D	
	a) Jim Corbett National Park	b)Gir National Park	c) Ranthambore National Park	d) Kuno National Park		
17	Which of the following country become a NATO member state in April 2023?				B	
	a) Ukraine	b) Finland	c) Sweden	d) Georgia		
18	In which Indian city, did Tech giant Apple open its first retail store?				D	
	a) Delhi	b) Chennai	c) Hyderabad	d) Mumbai		
19	According to United Nation's projection, India surpassed China in population to become World's Most Populous Country. Which is the Third most populous country now?				A	
	a) USA	b) Indonesia	c) Brazil	d) Russia		
20	Which country hosted FIFA World Cup 2022?				C	

		a) Oman	b) UAE	c) Qatar	d) Bahrain		
21	Which tribe is playing a major role in 'Protect Hornbills Project'?					A	Nyishi Tribe
		a) Nyishi Tribe	b) Galo Tribe	c) Bodo Tribe	d) Apatani Tribe		
22	Which state secretariat that was inaugurated recently holds the name of Dr B R Ambedkar?					B	Telangana
		a) Tamil Nadu	b) Telangana	c) Kerala	d) Maharastra		
23	King Charles III, who was officially crowned recently, wore which crown?					B	St Edward's Crown
		a) St John's Crown	b) St Edward's Crown	c) St Charles' Crown	d) St Stephen's Crown		
24	Assam signed an agreement for settlement of inter-state boundary dispute, with which state?					B	Arunachal Pradesh
		a) Mizoram	b) Arunachal Pradesh	c) Meghalaya	d) West Bengal		
25	What was the theme of 'World Earth Day 2023'?					B	Invest in Our planet
		a) Our Planet; Our Pride	b) Invest in Our planet	c) Earnest Earth	d) Earth and Environment		

DOMAIN

26	Consider the following code		
	Int x=33,y=17;		
	x=(x>y)?(x+y):x-y;		
	what will be the value of x after executing this statement?		

	a) 16	b) 50	c) 33	d) 17	b)	50
27	A function that returns no value to the program that calls it is					
	a) not allowed in c++	b) type void	c) type barren	d) type empty	b)	Type void
28	Which of the following return-type cannot be used for a function in C?					
	a) char *	b) struct	c) void	d) none of the mentioned	d)	none of the mentioned
29	Declaration of pointer reserves memory for					
	a) the object	b) the pointer	c) both the object and pointer	d) none of the above	d)	none of the above
30	Mechanism of deriving a class from another derived class is known as					
	a) polymorphism	b) single inheritance	c) multi-level inheritance	d) message passing	c)	multi-level inheritance
31	In c++ dynamic memory allocation is achieved by the operator					
	a) new	b) this	c) malloc()	d) delete	a)	new
32	The statement that terminates the control from the loop is					
	a) continue	b) break	c)goto	d) delete	b)	break
33	A variable which is visible only in the function in which it is defined, is called					
	a) static variable	b) auto variable	c) external variable	d) local variable	d)	local variable
34	Which one of the following is not a keyword					a)	
	a) external	b) int	c) float	d) double		external
35	What is #include<stdio.h>					
	a)preprocessor directive	b) inclusion directive	c) File inclusion directive	d) none of the above	a)	Preprocessor directive

36	_____ is the use of two or more CPUs (processors) within a single Computer system					b
	a) Multithreading	b) Multiprocessing	c) Multiprogramming	d) Multiexecuting		
37	The virtual memory is					c
	a) An extremely large main memory	b) An extremely large secondary memory	c) An illusion of extremely large main memory	d) A type of memory used in super computer		
38	Swap space exists in					b
	a) primary memory	b) secondary memory	c) CPU	d) cache memory		
39	Small fastest data holding unit in CPU					a
	a) Register	b) Cache	c) Buffer	d)virtual memory		
40	The physical address space is conceptually divided into a number of fixed-size blocks, called					a
	a) Frames	b) Segments	c) Pages	d)cache		
41	The OS maintains all PCBs in?					a
	a) Process Scheduling Queues	b) Job queue	c) Ready queue	d) Device queues		
42	Virtual memory is					c
	a) simple to implement	b) used on all major commercial operating systems	c) less efficient in utilization of memory	d) useful when fast I/O devices are not available		
43	Thrashing					d
	a) is a natural consequence	b) can always be avoided by	c) always occurs on	d) can be caused by

	s of virtual memory system	swapping	large computers	poor paging algorithms		
44	Contiguous memory allocation having variable size partition suffers from					c
	a) External Fragmentation	b) Internal Fragmentation	c) Both A & B	d) None of these		
45	The Banker's algorithm is _____ than the resource allocation graph algorithm.					a
	a) less efficient	b) more efficient	c) equal	d) none of the mentioned		
46	Those processes should be aborted on occurrence of a deadlock, the termination of which?					b
	a) is more time consuming	b) incurs minimum cost	c) safety is not hampered	d) all of the mentioned		
47	In E-R diagram, Generalization is represented by				B	Triangle
	a) Ellipse	b) Triangle	c) Rectangle	d) Dashed ellipse		
48	Which of the following operation uses only certain columns of a table?				D	PROJECTION
	a) JOIN	b) SELECTION	c) UNION	d) PROJECTION		
49	Which of the following operations forms a basic set of operations for manipulating relational data?				B	Relational algebra
	a) Predicate calculus	b) Relational algebra	c) Relational calculus	d) All of the above		
50	The number of entities to which another entity can be related through a relationship set is called?				C	Cardinality
	a) Schema	b) Entity	c) Cardinality	d) Attributes		
51	If a single attribute is formed by many attributes then it is called :				D	Composite

	a) Multi-value attribute	b) Derived attribute	c) Single value attribute	d) Composite attribute			attribute
52	E-R modelling technique is a _____					C	Top-down approach
	a) Left-right approach	b) Bottom-up approach	c) Top-down approach	d) Right-left approach			
53	Relations produced from E-R model will always be in ____					A	1NF
	a) 1NF	b) 2NF	c) 3NF	d) 4NF			
54	Choose the correct command to delete an attribute A from a relation R.					C	alter table R drop A
	a) alter table R delete A	b) alter table drop A from R	c) alter table R drop A	d) delete A from R			
55	Related fields in a database are grouped to form a:					B	Data record.
	a) Data file	b) Data record.	c) Menu.	d) Data dictionary			
56	The way a particular application views the data from the database that the application uses is a:					C	Sub schema
	Module.	b) View	c) Sub schema	d) Schema.			
57	The 8051 microcontroller contains a single data type of _____					c	8 bits
	a) 2 bits	b) 4 bits	c) 8 bits	d) 16 bits			
58	A system program that combines the separately compiled modules of a program into a form suitable for execution ?					b	Linking Loader
	a) Assembler	b) Linking Loader	c) Cross Compiler	d) Load and Go			
59	Loading process can be divided into two separate programs, to solve some problems. The first is binder the other is ?						Module Loader
	a) Linkage editor	b) Module Loader	c) Relocator	d) None of these		b	

60	Which phase of the compiler is also known as Scanner?				a	Lexical Analysis
	a) Lexical Analysis	b) Semantic Analysis	c) Syntax Analysis	d) Code Generation		
61	Which of the following is sufficient to convert an arbitrary Context Free Grammar(CFG) to an LL(1) grammar?				d	None of the above
	a) Ambiguity	b) Left Recursion	c) Left Factoring	d) None of the above		
62	YACC stands for ___				c	Yet Another Compiler Compiler
	a) Yes Another Compiler Compiler	b) Yet Another Compile Compiler	c) Yet Another Compiler Compiler	d) None of the above		
63	YACC takes C code as input and outputs ___				b	Bottom up parsers
	a) Top down parsers	b) Bottom up parsers	c) Machine Code	d) None of the above		
64	The output of LEX is ____				c	lex yy.c.
	a)y.tab.c	b)lex.c	c) lex yy.c.	d) None of the above		
65	Which of the following class of statement usually produces no executable code when compiled?				a	Declaration
	a) Declaration	b) Assignment Statements	c) Input and Output Statements	d) Structural Statements		
66	Code optimization is responsibility of ____				b	System programmer
	a) Application programmer	b) System programmer	c) Operating System	d) All of the above		
67	In fiber optics, the signal source is ___ waves.					
	a) Waves	b) Light	c) wire	d) sound	b)	Light
68	This is the ability to increase system performance gradually as the workload grows just by adding processors.					

	a) Scalability	b) Inheritance	c) Vectorization	d) Multiplication	a)	Scalability
69	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
70	A network device which are used to connect multiple networks is known as_____?					
	a) Router	b) Hub	c) Gateways	d) Switch	c)	Gateways
71	DHCP (Dynamic Host Configuration Protocol) provides _____ to the client.					
	a) IP Address	b) MAC Address	c) Port Address	d) URL	a)	IP Address
72	DHCP uses UDP port _____ for sending data to the server.					
	a) 69	b) 68	c) 67	d) 66	c)	67
73	IPSec is designed to provide security at which layer of OSI model?					
	a) Transport layer	b) Application layer	c) Network layer	d) Presentation layer	c)	Network layer
74	Which of the following devices belongs at the OSI data link layer?					
	a) Gateway	b) Bridge	c) Repeater	d) Router	b)	Bridge
75	A device that can convert 'Digital signal' to 'Analog signal' is called?					
	a) Modem	b) Multiplexer	c) Gateway	d) Router	a)	Modem
76	The packet of information at the Application layer is called _____					
	a) Frame	b) Message	c) Bit Stream	d) Packet	b)	Message
77	A tree with n number of vertices can have _____ number of edges					
	a) n+1	b) n-1	c) 2n	d) 2n-1	B	
78	In a height balanced tree, which of the following is not a desired balanced factor of a node?				A	

	a) 2	b) -1	c) 0	d) 1	
79	Which of the following sorting algorithm has highest Space complexity?				D
	a) Insertion Sort	b) Heap Sort	c) Bubble Sort	d) Merge Sort	
80	A complete graph with four nodes has _____ number of edges.				C
	a) 4	b) 8	c) 6	d) 5	
81	Which of the following is a linear data structure?				A
	a) Linked List	b) Binary Tree	c) Planar Graph	d) AVL tree	
82	Time complexity of binary search is _____ .				B
	a) $O(n)$	b) $O(\log n)$	c) $O(n-1)$	d) $O(2^n)$	
83	Which of the following data structures is used in recursion?				A
	a) Stack	b) Queue	c) Array	d) Linked list	
84	Which of the following algorithm is used for finding minimum spanning tree?				C
	a) Dijkstra	b) RSA	c) Kruskal	d) Bellman-Ford	
85	Which of the following algorithms is used to find the shortest path from a single source node to all other nodes in a weighted graph?				
	a) Prims	b)Floyd-Warshall	c) Kruskal	d) Dijkstra	D

	The first step of SLDC is					
86	a) System Design	b) Coding	c) System Testing	d) Preliminary Investigation and analysis	Preliminary Investigation and analysis	D
	CASE stands for					
87	a) Control Aided Science and Engineering	Computer-Aided Software Engineering	c) Cost Aided System Experiments	d) None of the mentioned	Computer-Aided Software Engineering	B

88	What are the features of Software Code?					
	a)Simplicity	b) Accessibility	c) Modularity	d)Visibility	Modularity	C
89	Reverse engineering of data focuses on					
	a) Database structure	b)Internal data structures	c) Both a and b	d) All of the mentioned	Both a and b	C
90	Which of the following could be a deliverable for a software system?					
	a) source code	b) Reference mannual	c) Requirements Document	d) All of the mentioned	All of the mentioned	D
91	Any project usually has a timeline chart which was developed by					
	a)Henry Gantt	b) Berry Boehm	c) Ivar Jacabson	d) None of the mentioned	Henry Gantt	A
92	Code is checked in which type of testing?					
	a) White box testing	b) Black box testing	c) Green box testing	d) Red box testing	White box testing	A
93	Model selection is based on					
	a) Requirements	b) Development team & users	c)Project type & associated risk	d) All of the mentioned	All of the mentioned	D
94	When can white-box testing be started?					
	a) After SRS creation	b)After installation	c) After programming	d) After designing	After programming	C
95	A design is said to be a good design if the components are					
	a) Strongly coupled	b) Weakly cohesive	c) Strongly coupled and weakly cohesive	d) Strongly cohesive and weakly coupled		D
96	How does a software project manager need to act to minimize the risk of software failure?					
	a)Double the project team size	b) Request for more period of time	c)Track progress	d)Form a small software team	Request for more period of time	B
97	Black box testing is also called					
	a) Specification-based testing	b) Structural testing	c) Verification	d) Unit testing	Specification-based testing	A

98	Software measurement is useful to					
	a) Indicate quality of the product	b) Track progress	c) Assess productivity	d) All of the mentioned	All of the mentioned	D
99	What are attributes of good software?					
	a) Software functionality	b) Software functionality	c) Software functionality	d) Software functionality	Software functionality	C
	Which box specification is not associated with clean-room approach?					
100	a) Black box	b) Clear box	c) state box	d) White box	White box	D

SPACE FOR ROUGH WORK