Sr No.	MSc Computer Science
1	Find the missing term in the following series: 3,10,29,66,127…?
Alt1	164
Alt2	187
Alt3	216
Alt4	218

2	Choose word from the given options which bears the same relationship to the third word, as the first two bears: Flower : Butterfly :: Dirt :?
Alt1	Rats
Alt2	Fly
Alt3	Bugs
Alt4	Sweeper

3	Tiff is to Battle as Frugal is to …….?.....
Alt1	Sprint
Alt2	Vague
Alt3	Miserly
Alt4	Vital

4	Select the lettered pair that has the same relationship as the original pair of words: Expend: Replenish
Alt1	Exhort: Encourage
Alt2	Formant: Rebellion
Alt3	Defect: Rejoin
Alt4	Encroachment: Occupy

5	Choose the set that has the same relationship as in the original: Bone : Skeleton : Nerve
Alt1	House: Door: Window
Alt2	Spoke: Wheel: Handle
Alt3	Retina: Eye: Pupil
Alt4	Snow: Cloud: Ice

6	Spot the defective segment from the following:
Alt1	Only with your help
Alt2	I passed the test
Alt3	though you helped me
Alt4	at the last minute

7	The government proposes to ------- hanging.
Alt1	cancel
Alt2	nullify
Alt3	invalidate

Alt4	abolish

8	The burglar was hit ---------.
Alt1	on head
Alt2	on his head
Alt3	on the head
Alt4	in the head

9	Choose the option closest in meaning to the given word: COGENT
Alt1	consistent
Alt2	acceptable
Alt3	convincing
Alt4	weak

10	Choose the antonymous option you consider the best: PROVIDENT
Alt1	careful
Alt2	worldly
Alt3	prodigal
Alt4	frugal

11	Ravi's brother is 3 years senior to him. His father was 28 years of age when his sister was born while his mother was 26 years of age when he was born. If his sister was 4 years of age when his brother was born, what was the age of Ravi's father and mother respectively when his brother was born ?
Alt1	32 years, 23 years
Alt2	32 years, 29 years
Alt3	35 years, 29 years
Alt4	35 years, 33 years

12	In each of the following questions some statements are followed by two conclusions (i) and (ii). Read the statements carefully and then decide which of the conclsions follow beyond a reasonable doubt. Mark your answer as Statement: All my films are copies. I am happy to inform of the source when I copy – a producer Conclusions: (i) The producer does not make even a single film based on his own idea (ii) The producer copies domestic and foreign films
Alt1	If only conclusion (i) follows
Alt2	If only conclusion (ii) follows
Alt3	If neither conclusion (i) nor (ii) follows
Alt4	If both the conclusions follow

13	3. What value should come in place of question mark (?) in the following number series? 14, 28, 46, ?, 94, 124
Alt1	64
Alt2	68
Alt3	72
Alt4	76

14	In a certain code ADVENTURES is written as TDRESAUVEN. How is SURPRISINGwritten in that code ?
Alt1	IUIPGSRSNR
Alt2	IUINGSSRRP
Alt3	IUIPGSSRNR
Alt4	IRIPGSSNRR

15	Wax is related to Grease in the same way as Milk is related to
Alt1	Drink
Alt2	Ghee
Alt3	Curd
Alt4	Protein

16	The following information is given: Six persons A, B, C, D, E and F are sitting in two rows, three in each. E is not at the end of any row. D is second to the left of F. C, the neighbour of E, is sitting diagonally opposite to D. B is the neighbour of F. After interchanging seat with E, who will be the neighbours of D in the new position ?
Alt1	C and A
Alt2	F and B
Alt3	Only B
Alt4	Only A

17	If 30 students occupy 2/3 of the seats in a classroom, how many students would occupy 4/5 of the seats in the classroom?
Alt1	36
Alt2	32
Alt3	40
Alt4	48

18	Mean of the first 10 odd numbers is
Alt1	10
Alt2	13
Alt3	15
Alt4	9

19	Two numbers are in the ratio 2:3, If 4 be subtracted from each, they are in the ratio 3:5, Find the numbers.

Alt1	16,24
Alt2	20,30
Alt3	0.341666667
Alt4	None

20	It takes 30 seconds to cut the woodlock into 3 pieces.How much time does it takes to cut the same block into 4 pieces?
Alt1	40secs
Alt2	45secs
Alt3	50secs
Alt4	60secs

21	Which of the following is Java reserved words? 1. run 2. import 3. default 4. implement
Alt1	1 and 2
Alt2	2 and 3
Alt3	3 and 4
Alt4	2 and 4

22	Which of these keywords is not a part of exception handling?
Alt1	try
Alt2	finally
Alt3	thrown
Alt4	catch

23	void start() {
	A a = new A();
	B b = new B();
	a.s(b);
	b = null; /* Line 5 */
	a = null; /* Line 6 */
	System.out.println("start completed"); /* Line 7 */
	}
	When is the B object, created in line 3, eligible for garbage collection?

Alt1	after line 5
Alt2	after line 6
Alt3	after line 7
Alt4	There is no way to be absolutely certain.

24	publicclassX
	{
	publicstaticvoid main(String [] args)
	{
	X x = new X();
	X x2 = m1(x); /* Line 6 */
	X x4 = new X();
	x2 = x4; /* Line 8 */
	doComplexStuff();
	}
	static X m1(X mx)
	{
	mx = new X();
	return mx;
	}
	}
	After line 8 runs. how many objects are eligible for garbage collection?

Alt1	0
Alt2	1
Alt3	2
Alt4	3

25	In the HTTP Request method which is non-idempotent?
Alt1	GET
Alt2	POST
Alt3	BOTH A & B
Alt4	None of these

26	Which packages represent interfaces and classes for servlet API?
Alt1	javax.servlet
Alt2	javax.servlet.http
Alt3	Both A&B
Alt4	None of these

27	Which is a perfect example of runtime polymorphism?
Alt1	Method overloading
Alt2	Method overriding

Alt3	Constructor overloading
Alt4	None of these

28	The class string belongs to ..... package.
Alt1	java.awt
Alt2	java.lang
Alt3	java.applet
Alt4	java.string

29	Which of these methods is a part of Abstract Window Toolkit (AWT)?
Alt1	display()
Alt2	print()
Alt3	drawString()
Alt4	transient()

30	Which Of the Following attributes of the test box control allow to limit the maximum character?
Alt1	Size
Alt2	Len
Alt3	Max Length
Alt4	All of these

31	The first network that planned the seeds of internet was
Alt1	ARPANET
Alt2	NSFNET
Alt3	VNET
Alt4	Both A and B

32	IPV6 addressed have a size of
Alt1	32 bits
Alt2	64 bits
Alt3	128 bits
Alt4	265 bits

33	Markup tags tell the web browser
Alt1	How to organize the page
Alt2	How to display the page
Alt3	How to display message box on page
Alt4	None of these

34	Which of these standard collection classes implements a dynamic array?
Alt1	AbstractList
Alt2	Linked ist
Alt3	Arraylist
Alt4	Abstractset

35	The tags elements in XML are
Alt1	Case-insensitive

Alt2	Case-sensitive
Alt3	Browser dependent
Alt4	None of these

36	What does derived class does not inherit from the base class?
Alt1	constructor and destructor
Alt2	friends
Alt3	operator = () members
Alt4	All of these

37	Which design patterns benefit from the multiple inheritance?
Alt1	Adapter and observer pattern
Alt2	Code pattern
Alt3	Glue pattern
Alt4	None of these

38	If a constructor function is defined in private section of a class, then
Alt1	The object cannot be created
Alt2	Only member functions and friends may declare objects of the class
Alt3	Both (A) & (B)
Alt4	None of these

39	The following operators cannot be overloaded
Alt1	Unary operator
Alt2	Binary operator
Alt3	Ternary operator
Alt4	None of these

40	What is garbage collection in the context of Java?
Alt1	The operating system periodically deletes all of the java files available on the system.
Alt2	Any package imported in a program and not used is automatically deleted.
Alt3	When all references to an object are gone, the memory used by the object is automatically reclaimed.
Alt4	The JVM checks the output of any java program and deletes anything that does not make sense.

41	Which method is used to display text on the applet?
Alt1	println()
Alt2	showString()
Alt3	drawString()
Alt4	printString()

42	Which of these is not abstract?
Alt1	Thread
Alt2	AbstractList
Alt3	List
Alt4	None of these

43	Which of the following is the most commonly used http methods?

Alt1	PRE and POST
Alt2	GET and SET
Alt3	ASK and REPLY
Alt4	GET and POST

44	What is the correct HTML for inserting a background image?
Alt1	<imgsrc="background.gif" background />
Alt2	<body background="background.gif">
Alt3	<background img="background.gif">
Alt4	None of these

45	Microsoft XML Schema Data types for Hexadecimal digits representing octates
Alt1	UID
Alt2	UXID
Alt3	UUID
Alt4	XXID

46	What is the return type of Constructors?
Alt1	int
Alt2	float
Alt3	void
Alt4	None of these

47	Which of these keywords is used to refer to member of base class from a sub class?
Alt1	Upper
Alt2	super
Alt3	this
Alt4	None of these

48	Which of these operators is used to allocate memory for an object?
Alt1	Malloc
Alt2	alloc
Alt3	new
Alt4	give

49	Which of these is correct way of inheriting class A by class B?
Alt1	Class B + class A {}
Alt2	class B inherits class A {}
Alt3	class B extends A {}
Alt4	class B extends class A {}

50	What is the error in the following code?
	class Test
	{
	abstract void display( );
	}

Alt1	no error
Alt2	method display( ) should be declared as static
Alt3	test class should be declared as abstract
Alt4	test class should be declared as public

51	AppletSViewer tool is available in which of the folder of JDK :
Alt1	Bin
Alt2	Lib
Alt3	Source
Alt4	Class

52	Dynamic interception of requests and responses to transform the information is done by
Alt1	Servlet container
Alt2	servletconfig
Alt3	servlet context
Alt4	servlet filter

53	Which of these methods can be used to obtain a static array from a ArrayList object()?
Alt1	Array()
Alt2	convertArray()
Alt3	toArray()
Alt4	converttoArray()

54	Consider a simple connected graph G with n vertices and n-edges (n>2).Then, which of the following statement is true?
Alt1	G has no cycles.
Alt2	The graph obtained by removing any edge from G is not connected.
Alt3	The graph obtained by removing any two edges from G is not connected.
Alt4	G is connected

55	Suppose the numbers 7,5,1,8,3,6,0,9,4,2 are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers. What is the in-order traversal sequence of the resultant tree
Alt1	7 5 1 0 3 2 4 6 8 9
Alt2	0 2 4 3 1 6 5 9 8 7
Alt3	1 2 3 4 5 6 7 8 9
Alt4	9 8 6 4 2 3 0 1 5 7

56	Which of the following addressing modes permits relocation without any change whatsoever in the code
Alt1	Indirect addressing.
Alt2	indexed addressing.
Alt3	Base registers addressing
Alt4	PC relative addressing

57	The number of full and half adders required to add 16-bit numbers is
Alt1	8 half address, 8 full address
Alt2	1 half address, 15 full address
Alt3	16 half address, 0 full address
Alt4	4half address, 12 full address

58	A 48 bit instruction stored in byte organized memory which of the following decimal address is valid with respect to program counter.
Alt1	100
Alt2	200
Alt3	300
Alt4	400

59	Consider a disk pack with 16 surfaces, 128 tracks per surface and 256 sectors per track. 512 bytes of data are stored in a bit serial manner in a sector. The capacity of the disk pack and the no of bits required to specify a particular sector in the disk are respectively
Alt1	256MB, 19bits
Alt2	256MB, 28bits
Alt3	512MB,20bits
Alt4	64GB,28bits

60	A ROM is used to store the table for multiplication of two 8-bit unsigned integers. The size of ROM required is
Alt1	256 x 16
Alt2	64K x 8
Alt3	4K x 16
Alt4	64K x16

61	A memory page containing a heavily used variable that was initialized very early and is in constant use is removed when
Alt1	LRU page replacement algorithm is used
Alt2	FIFO page replacement algorithm is used
Alt3	LFU page replacement algorithm is used
Alt4	LFG used

62	A counting semaphore was initialized to 10. Then 6 P(wait) operations and 4 V(signal) operations were completed on this semaphore. The resulting value of the semaphore is
Alt1	0
Alt2	8
Alt3	10
Alt4	12

63	In a paged segment scheme of memory management, the segment table itself must have a page table because
Alt1	the segment table is often too large to fit in one page
Alt2	each segment is spread over a number of pages
Alt3	segment tables point to page table and not to the physical locations of the segment
Alt4	the processor's description base register points to a page table

64	For the daisy chain scheme of connecting I/O devices, which of the following statements is true?
Alt1	It gives non-uniform priority to various devices
Alt2	It gives uniform priority to all devices
Alt3	It is only useful for connecting slow devices to a processor device
Alt4	It requires a separate interrupt pin on the processor for each device

65	In a resident –OS computer, which of the following systems must reside in the main memory under all situations?
Alt1	Assembler
Alt2	Linker
Alt3	Loader
Alt4	Compiler

66	A linker is given object modules for a set of programs that were complied separately.What information need not be included in an object module?
Alt1	Object modules.

Alt2	Relocation bits.
Alt3	Names and location of all external symbols defined in the object modules.
Alt4	Absolute addresses of internal symbols.

67	The pass number for each of the following activities (i) object code generation (ii) literal added to literal table (iii) listing printed (iv) address resolution of local symbols that occur in a two pass assembler are
Alt1	1,2,1,2
Alt2	2,1,2,1
Alt3	2,1,1,2
Alt4	1,2,2,2

68	Let r be a relation instance with schema R=(A,B,C,D). We define r1=∏A,B,C (r) and r2=∏A,D(r) .Let s=r1*r2 where * denotes natural join .Given that the decomposition of r into r1and r2 is lossy, which one of the following is true ?
Alt1	s C r
Alt2	r U s = r
Alt3	r C s
Alt4	r*s=s

69	Given the relations employee(name, salary, deptno), and department(deptno, deptname, address) which of the following queries cannot be expressed using the basic relational algebra operations(6,Π,X,|X|, U, ∩, -)?
Alt1	Departmental address of every employee
Alt2	Employees whose name is the same as their department name
Alt3	The sum of all employee salaries
Alt4	All employees of a given department

70	Consider a schema R(A,B,C,D) and functional dependencies A->B and C->D, then the decomposition of R into R1(AB) and R2(CD) is
Alt1	Dependency preserving and lossless join
Alt2	lossless join but not Dependency preserving
Alt3	Dependency preserving but not lossless join
Alt4	not Dependency preserving and not lossless join

71	The situation where a transaction updates a database item and then later fails before completion is referred as the
Alt1	Temporary Update
Alt2	Incorrect Update
Alt3	Information for all
Alt4	Incorrect Summary

72	Which of the following is NOT true with respect to a transparent bridge and a router?
Alt1	Both bridge and router selectively forward data packets
Alt2	A bridge uses IP addresses while a router uses MAC addresses
Alt3	A bridge builds up its routing table by inspecting incoming packets
Alt4	A router can connect between a LAN and a WAN

73	The maximum window size for data transmission using the selective reject protocol with n-bit frame sequence numbers is
Alt1	2 power n
Alt2	2 power n-1
Alt3	(2 power n)-1
Alt4	2 power n-2

74	An organization has a class B network and wishes to form subnets for 64 departments. The subnet mask would be
Alt1	255.255.0.0
Alt2	255.255.64.0
Alt3	255.255.128.0
Alt4	255.255.252.0

75	In Ethernet when Manchester encoding is used, the bit rate is
Alt1	half the baud rate
Alt2	twice the baud rate
Alt3	same as the baud rate
Alt4	thrice the baud rate

76	What is the maximum size of data that the application layer can pass on to the TCP layer below?
Alt1	any size
Alt2	216 bytes – size of TCP header
Alt3	216 bytes
Alt4	1500 bytes

77	Which of the following is the most powerful parsing method?
Alt1	LL(1)
Alt2	Canonical LR
Alt3	SLR
Alt4	LALR

78	The formal model used for Lexical Analyzer is
Alt1	Finite Automata
Alt2	Push Down Automata
Alt3	two push down tape machine
Alt4	Turing Machine

79	In a bottom-up evaluation of a syntax directed definition, inherited attributes can
Alt1	always be evaluated
Alt2	be evaluated only if the definition is L-attributed
Alt3	be evaluated only if the definition has synthesized attributes
Alt4	never be evaluated

80	Given an arbitrary non-deterministic finite automaton (NFA) with N states, the maximum number of states in an equivalent minimized DFA is atleast
Alt1	N power 2
Alt2	2 power N
Alt3	2N
Alt4	N!

81	Turing machine made up of how many tuples.
Alt1	3
Alt2	2
Alt3	6
Alt4	7

82	Which of the following four regular expressions are equivalent? (i) (00)* (ε+0) (ii) (00)* (iii) 0* (iv) 0(00)*
Alt1	(i) and (ii)
Alt2	(ii) and (iii)

Alt3	(i) and (iii)
Alt4	(iii) and (iv)

83	The languages of primes in unary is
Alt1	regular
Alt2	CFL
Alt3	DCFL
Alt4	context sensitive

84	Which of the following set can be recognized by a Deterministic Finite-state Automaton?
Alt1	The numbers 1,2,4,8,…, 2n,… written in binary
Alt2	The numbers 1,2,4,8,…, 2n,… written in unary
Alt3	The set of binary string in which the number of zeros is the same as the number of ones
Alt4	The set {1, 101, 11011, 1110111,…}

85	Choose the function which is not continuous at some $x \in \mathcal{R}$. A. $f(x) = \sin x + \cos x$ B. $f(x) = \sin x - \cos x$ C. $f(x) = \sin x \cos x$ D. $f(x) = \cot x$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

86	The local maximum value of the function $f(x) = x^3 - 12x + 6$ is A. 11 B. 22 C. -10 D. 17
Alt1	A
Alt2	B
Alt3	C
Alt4	D

87	If $u = sin^{-1}\left(\frac{x-y}{x^2+y^2}\right)$ then $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} =$ A. $-\tan u$ B. $\tan u$ C. $\cot u$ D. $2\tan u$

Alt1	A
Alt2	B
Alt3	C
Alt4	D

88	The function $f: R \to R$ is not one-one for $f(x) =$ A. x B. $x + 1$ C. $\|x\|$ D. x^3
Alt1	A
Alt2	B
Alt3	C
Alt4	D

89	Consider the function $f(x) = 9x^2 + 6x - 5$ defined on R_+. The range of f is A. $[-5, \infty)$ B. $[5, \infty)$ C. $(5, \infty)$ D. $(-\infty, -5)$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

90	If $f: R \to R$ and $g: R \to R$ are given by $f(x) = \cos x$ and $g(x) = \frac{\pi}{2} + x$ then $(f \circ g)(x) =$ A. $-\sin x$ B. $-\cos x$ C. $\sin x$ D. $\frac{\pi}{2} + \cos x$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

91	Consider the following statements: S1. Any onto function $f: \{1,2,3\} \to \{a,b,c\}$ is always one-one. S2. Any one-one function $f: \{1,2,3\} \to \{a,b,c\}$ is always onto. Then the statements S1 and S2 are A. Both False B. Both True C. True and False, respectively D. False and True, respectively.
Alt1	A
Alt2	B
Alt3	C
Alt4	D

92	The function $f(x) = \begin{cases} cx(1-x)^3, & 0 < x < 1 \\ 0 & elsewhere \end{cases}$ is a p.d.f. for the constant $c =$ A. 10 B. 20 C. 30 D. 40
Alt1	A
Alt2	B
Alt3	C
Alt4	D

93	If the two mutually exclusive events A and B are such that $P(A) = \frac{1}{2}$, $P(A \cup B) = \frac{3}{5}$ and $P(B) = p$, then the value of p is A. $\frac{1}{5}$ B. $\frac{2}{5}$ C. $\frac{1}{10}$ D. $\frac{3}{10}$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

94	The points $(3,1,-2), (6,4,-5)$ and $(k,2,-3)$ are collinear if $k =$ A. -6 B. 6 C. -4 D. 4
Alt1	A

Alt2	B
Alt3	C
Alt4	D

95	The equation of the line parallel to the x-axis and passing through the origin is A. $x = y = z$ B. $\frac{x}{1} = \frac{y}{0} = \frac{z}{0}$ C. $\frac{x}{0} = \frac{y}{1} = \frac{z}{1}$ D. $\frac{x}{0} = \frac{y}{0} = \frac{z}{0}$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

96	The system of equations $x + y + 2z = 0, 2x + y - z = 0,$ $and\ 2x + 2y + \lambda z = 0$ has an unique solution for the value $\lambda \neq$ A. 1 B. 2 C. 3 D. 4
Alt1	A
Alt2	B
Alt3	C
Alt4	D

97	The interval in which the function $f(x) = 2x^3 + 3x^2 - 12x + 6$ is strictly decreasing is A. $(-\infty, -2)$ B. $(-2,1)$ C. $(1, \infty)$ D. $(-\infty, 1)$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

98	Let $A = \{1,2,3\}$. Then the number of equivalence relations containing $(2,3)$ is A. 1 B. 2 C. 3 D. 4
Alt1	A
Alt2	B

Alt3	C
Alt4	D

99	If X is the number obtained on a throw of an unbiased die, then $E(X^2) =$ A. $\frac{83}{6}$ B. $\frac{87}{4}$ C. $\frac{89}{4}$ D. $\frac{91}{6}$
Alt1	A
Alt2	B
Alt3	C
Alt4	D

100	If A and B are two independent events, then the probability of occurrence of at least one of A and B is given by A. $P(A')P(B')$ B. $1 - P(A')P(B')$ C. $P(A') - P(B')$ D. $\big(1 - P(A')\big)\big(1 - P(B')\big)$
Alt1	A
Alt2	B
Alt3	C
Alt4	D