

#### (Booklet Number)

4060005381

Duration: 2 Hours No. of MCQ: 100 Full Marks: 120

#### INSTRUCTIONS

- All questions are of objective type having four answer options for each.
- 2. Category-1: Carries 1 mark each and only one option is correct. In case of incorrect answer or any combination of more than one answer, ¼ mark will be deducted.
- 3. Category-2: Carries 2 marks each and one or more option(s) is/are correct. If all correct answers are not marked and no incorrect answer is marked, then score = 2 × number of correct answers marked ÷ actual number of correct answers. If any wrong option is marked or if any combination including a wrong option is marked, the answer will be considered wrong, but there is no negative marking for the same and zero mark will be awarded.
- 4. Questions must be answered on OMR sheet by darkening the appropriate bubble marked A, B, C, or D.
- 5. Use only Black/Blue ink ball point pen to mark the answer by filling up of the respective bubbles completely.
- 6. Write question booklet number and your roll number carefully in the specified locations of the OMR Sheet. Also fill appropriate bubbles.
- 7. Write your name (in block letters), name of the examination center and put your signature (as is appeared in Admit Card) in appropriate boxes in the OMR Sheet.
- 8. The OMR sheet is liable to become invalid if there is any mistake in filling the correct bubbles for question booklet number/roll number or if there is any discrepancy in the name/signature of the candidate, name of the examination center. The OMR Sheet may also become invalid due to folding or putting stray marks on it or any damage to it. The consequence of such invalidation due to incorrect marking or careless handling by the candidate will be the sole responsibility of candidate.
- 9. Candidates are not allowed to carry any written or printed material, calculator, pen, log-table, wristwatch, any communication device like mobile phones, bluetooth device etc. inside the examination hall. Any candidate found with such prohibited items will be reported against and his/her candidature will be summarily cancelled.
- 10. Rough work must be done on the question booklet itself. Additional blank pages are given in the question booklet for rough work.
- 11. Hand over the OMR Sheet to the invigilator before leaving the Examination Hall.

Signature of the Candidate:		1000	
(as in Admit Card)			
Signature of the Invigilator:	8		1808-82
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## **JECA-2024** SPACE FOR ROUGH WORK

Category's Carries I trail only and only one opposite to case of focured RIEWER OF ANY COMBINESSION OF MORE THAN ONE CONTRACTOR WILL BE DESCRIBED. Caragorges : Correle 2 marks each and ent or swone optiones in are correct. If all correct ensayers are not continued and no binorroot subsystem as about then score = 2 x number of New Francis and the State of Courses Servers to the servers of the considered when the cost in the cost of the cost of the some and some state because will be

Questions rough be answord on OMR sheet by darkering the appropriate bubble marked the only Black Hills only point gent of the down by thing up of the

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Signature of the Candidate:

JECA-2024

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## Category-1 (Q. 1 to 80)

(Carry 1 mark each. Only one option is correct. Negative marks: - 1/4)

(A) 8 kb (C) 24 kb  4. Each stage in pipelin (A) 1 (C) 3  5. Relational calculus in (A) Procedural lang (C) Data definition	ning should be co (I (I s a guage (F	(B) (D) (D) (D) (D) (D) (D) (D) (D) (D)	16 kb 32 kb
<ul> <li>(A) 8 kb</li> <li>(C) 24 kb</li> <li>4. Each stage in pipeling</li> <li>(A) 1</li> <li>(C) 3</li> <li>5. Relational calculus in (A) Procedural lange</li> </ul>	ning should be co (I (I s a guage (F	(B) (D) ompl B) D)	16 kb  32 kb  eted within cycle(s).  2
<ul> <li>(A) 8 kb</li> <li>(C) 24 kb</li> <li>4. Each stage in pipeling</li> <li>(A) 1</li> <li>(C) 3</li> <li>5. Relational calculus in the control of the</li></ul>	ning should be co	(B) (D) ompl B)	16 kb 32 kb eted within cycle(s). 2
<ul> <li>(A) 8 kb</li> <li>(C) 24 kb</li> <li>4. Each stage in pipeling</li> <li>(A) 1</li> <li>(C) 3</li> </ul>	ning should be co	(B) (D) ompl B)	16 kb 32 kb eted within cycle(s). 2
<ul> <li>(A) 8 kb</li> <li>(C) 24 kb</li> <li>4. Each stage in pipeling</li> <li>(A) 1</li> </ul>	ning should be co	(B) (D) ompl B)	16 kb 32 kb eted within cycle(s).
<ul><li>(A) 8 kb</li><li>(C) 24 kb</li><li>4. Each stage in pipeling</li></ul>	( ning should be co	(B) (D) (mpl	16 kb 32 kb eted within cycle(s).
(A) 8 kb (C) 24 kb	B (	(B) (D)	16 kb 32 kb MANAGE vlamsure Hame edf 10
(A) 8 kb	a (	(B)	16 kb
(A) 8 kb	a (	(B)	
3. A computer with a	32 bit wide dat memory this con	ta bu	20 20 20 20 20 20 20 20 20 20 20 20 20 2
(C) Sequential Cir	rcuit	(D)	Magnetic Circuit
To the leaves to be the same of	esce dad vital	(B)	Static Circuit
	y stial of the file		(D) the public section of a class.
2. ROM is a			where a manage sourced and (2)
(C) 65	Below	(D)	None of the above
(A) A	Jacajo n	(B)	A coresponding and the coresponding (A)  Zoresponding and the coresponding (B)
<b>}</b>	Busine		The heavy and inject does not early
printf("%c",*r);			
char *r=q;			(C) Linear Regression
	Logistic Regrel		(A) Valve Bayes
P - 002	k; eevT notabe(T		the car in front of it. Which method
int x = 65, *n = &n			Double in the Will by the season and and a season.
$main() \{$ int $x = 65$ , $*n = 87$	/ bes		and another and Ar around a way
	bakat baka at		No settidally intelligent on the

6. How many parameters does a def	fault constructor require?
(A) 1 January 2011 (A) 100 (100)	(B) 2, eno vino dese dram ( vino)
	(D) 3
	L. What is the output of the following code a
- An artificially intelligent car de	ecreases its speed based on its distance from
the car in front of it. Which metl	nou is usea.
(A) Naive – Bayes	(B) Decision Tree
, in	(D) Logistic Regression
(C) Linear Regression	char * peight in the chart
8. The keyword friend does not ap	near in
8. The keyword friend does not ap	o another class.
(A) the class allowing access to	onother class.
(B) the class desiring access to	
(C) the private section of a cla	
(D) the public section of a class	
atic Cheum	(B) (Conditional Circuit
9. What is the maximum numb	per of level-2 DFD possible if the number of
processes in level-1 DFD is n?	
n . n	(B) 2 biv id Se a day taluquo se
$(A) = \frac{1}{2}$	talling this somethest memory this computer in
(C) n <sup>2</sup>	(D) n
d2	(\$6. (0)
10. The small extremely fast RAN	I's are termed as
	(B) Accumulators
	(D) Cache
	1. (f)
nothod is	s an example of which type of clustering method?
	(B) Random
(A) Hierarchical	(D) Partitioning
(C) Density based	Ruch (II). I are special and the second
27 - 182 - 182 - 183 - 1	NATE Sheet of
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JEC	A-202		K		
	(C)	Reinforcement learning	(D)	None of the above	
	(A)	Supervised learning	(B)	Unsupervised learning	
17.	Regr	ession is a type of:		A DAIA translers the recurrence	
	(C)	Third normal form	(D)	Fourth normal form	
	(A)	First normal form	(B)	Second normal form	
10.		ch of the following should not			
10	W/L:			(A) To visualize the distribution of	
	(C)			auto o sull'in enograp addentes W	
. Ba	(A)	extend	(B)	extends	
15.		ch C keyword is used to exten-			
		Condition overdiscases		(C) Mono-alphabetic substitution	
	(C)	ls –a	(D)	All of these	
	(A)	find all	(B)	find—a ASA (A)	
14.		can you display a list of all fi	les in	cluding the hidden files?	.0
		Static member functions			
	(C)	Compilation Error	(D)	(C) 27, 6 and a construction of the constructi	
	(A)	27, 4	(B)	10 £ .8 (A)	
	}				
		return 0;		10 milion	
		printf("%d", ++a);		printf(%)d, 98d/n", a, b);	,
	{	const int a=10;		g(++d)IBUU = a	
	int	main()		Ned a mi	
	1	elude <stdio.h></stdio.h>	.g C p.	· · · · · · · · · · · · · · · · · · ·	
13.	Wha	at is the output of the followin	g C-ni	rogram ?	
	(0)	creat switching.	(D)	data gram switching.	
	(C)	circuit switching.	(B)	message switching.	
14.	(A)	packet switching.		Sursement and to indinio any strigg at	
12.	The	store and forward mechanism	n is us	sed in	

			. Total Color	act brawnit bas such ball .21
18. W	Vhat is	s the output of the f	ollowing C-program?	12. The store and forward me 12. (Y) "paties switching!
ш	أمددامسنا	ocetdin h>		(O) sericuit switching.
#	define	cube(x) (x*x*x)	Hanna 194	
i	nt ma	in()	ollowing Cornerson 2	18. What is the output of the f
{		Mostly intelligent	A TABLE ASSESSED BY	#include <stdio.b></stdio.b>
	ir	nt a, b=3;	(B) Decimo	e fire ( ) ( ) nism ini
Ò	a	= CUBE(b++);		o ten ini tenco
	p	rintf("%d, %d\n", a	, b);	(art, "5,12") tining
		eturn 0;		
	}	guid take a their	100 3 <b>()</b> 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
	634	9, 4	(B) 27, 4	(A) 11
		27, 6	(D) Error	toma rousiliano() (0)
		ne generale echico il		
10	The_	is an asymm	etric key cryptograph	ic algorithm.
19.		RSA	8- bañ (B)	Ils bath (A)
	1986	Huffman code		14 90 9 90 (A. A. A. al. (O)
		as lubabatio su	hetitution	Which O's community
	(C) (D)	Steganography	o villidisiv edi bestxa	Of Desn St Danw Core of troops
			(B) extends	Phintes /44
90	Who	t is the nurpose of t	he confusion matrix in	n machine learning?
20.	(A)	m . 1: - Abo die	stribution of the data	in a dataset
		m the ne	rformance of different	models
	(B)	- 1	wformance of a classifi	ication model
	(C)	To evaluate the pe	rformance of a regres	sion model
	(D)			and the second second second
	d) to s	internal design	and aignals and a	ddresses are given by the
21.	. In I		required signals and	rice drivers
	(A)	Processor		program itself
	(C)	DMA controllers	(D) The	program
	1 10 1		6	

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hta Herama (av	(C)	Beta dugavo est	(D)	Acce	ptance	88(88	ouri ouri	(A) (3)	- to-tains
		White Box	(B)		k Box				
		ware application in case of				("01	it("Fals	iiid -	
5.	In so	oftware engineering the tester	does	not k	now the i	nternal	design	s of th	е
		district Control				is emen Cos	Printer.	iliya	
	(C)	14 bits		15 bi	its			MI ] .	
	(A)	12 bits	(B)	13 bi	its		()diec		
24.	shou	nere are 32 segments each o ald have	of size	e 1K	bytes, the	n the l	ogical	addres	s
			( ( ( ) ) )				388	(0)	
	(D)	Constructor overloading	(B)				77.0	(A)	
	(C)	Predefined operator overload	ling	igsard		eion er		odT	Carlo
	(B)	Member functions overloadin				A 1000 10	STRUKE		
	(A)	Static member functions		ha dal	inem evoc			(A):	
23.		ich among the following can't	be use	ed for	polymorpl	nism?			17
		akus tite oor oor of sas C. p.d.s. C.desatala ah					Ola T		
	(C)	5 08	(C) (II)	(D)	6		6	(A)	
	(A)	Compilation error		(B)	Varies	n Com	lier		
	}					a ingir			
		printf("%d", x);			1/2, %	N <sup>on</sup> Ytania	ă ă		
		x * = x + y;	10 to		esilentos estretro	11 X			
		int $x = 2$ , $y = 1$ ;							
	<b>{</b> □	thative				()ai			
	int	main()				tuqtuo sd.oib			
22.	Wh	at is the output of following (	code	?	a la completa. La completa de la co				

```
What is the output of the following code snippet?
26.
    #include <stdio.h>
          int main()
               int x;
               x = 5 > 8 ? 10 : 1 != 2 < 5 ? 20 : 30;
               printf("%d",x);
               return 0;
                                              10
      (A)
                                              30
           20
      (C)
               is a measure of the degree of interdependence between modules.
 27.
                                         (B) Coupling A section of the (A)
           Cohesion
      (A)
          None of the above mentioned (D) Both (A) and (B)
      (C)
      The permission -rwx r--r-- represented in octal expression will be
  28.
                                              744 mibsolvero resembano)
                                          (B)
       (A) 777
                                               711
                                          (D)
            666
       (C)
      What will be the output of the C code?
  29.
       #include <stdio.h>
       int main()
        { int a=1;
       if(a--)
       printf("True");
        if(a++)
        print("False");
        }
                                                False
                                           (B)
             True
        (A)
                                               No output
                                           (D)
             True False
```

30.		uch command changes a file's	group	owner?	stiwoffel out to de	id White
	(A)	Polymorphism maingrounded	(B)	group	Abstraction	
	(C)	change socialmedal	(D)	chgrp	noitelluiquond	
31.	Whi	ich of the following is an exan	nple of	a classificatio	an problem 2	
*	(A)	Predicting the price of a hou				a 11
	(B)	Predicting the weight of a pe				
	(C)	Predicting whether a custom				(A)
	(D)					
		S and ange of a person	ii basc	d on their inc	ome	
32.	Wha	at is the output of the C-progr	am ?	n ontity set is	n ER disgram, si	sel .
		clude <stdio.h></stdio.h>				
					Diamond box	(0)
		{				
		int i=0;		tworq-D Sdf4	o hugano edifer ta	W. T
		int x=i++;			sitt of branchists	al#
		y=++i;			Optamini	
		printf("%d %d", x,	17).			47.7
		}	y),			
	(A)	0, 2	(B)	1 0		
	(C)	1, 1		1, 2		
	``		(D)	compile error	Cirigo de la casa de l	43.
33.	What	t is the difference between su	nomine.	d ond	lating v	161 1
	(A)	Supervised learning requires does not.	labell	ed data while	e unsupervised le	arning
	(B)	Unsupervised learning requiredoes not.	res lab	elled data wh	nile supervised le	arning
(0)	(C)	Supervised learning does not does.				arning
(	(D) '	There is no difference between			supervised learn	ing.
TECA	000	XX	The state of the s	mak dianggalan sebagainah sebagainah dianggalang dianggalang dianggalang	Matine .	

34. Which of the following feature is	shown by function overriding ?
(A) Abstraction	(B) Polymorphism
(C) Encapsulation	(D) Inheritance
in the second of the second of the second	and with a second of the secon
of If a file has read and write	permission for the owner, then the octal
representation of the permission	s will be:
(A) 7	3 (B) 5
The second section is a second of the second	(D) 3
on their income	(D), Predicting the ago of a person based
36. In an ER diagram, an entity set	is represented by a
(A) Rectangle	(B) Ellipse
(C) Diamond box	(D) Circle
(C) Diamenta 2011	(et Coulty to the Court of the
37. What is the output of the C-pro	gram ?
#include <stdio.h></stdio.h>	and the second of the second o
int main()	eested in oct. 7 santal 12 70.
IIIt inam()	To the Philip Later Parting
int i=0;	
while (i=0)	(A) 0 2
printf("\n True	m). (0)
printf("\n False	원 마스테이스 마스트 전 아름다면 다 보고 있는데 하는데 그는 그는 그는 그는 그를 하는데 그 없는데 그 없는데 그렇게 되었다.
printing (in raise	
	(B) Compiler dependent
(A) True (infinite time)	(D) True (1 time)
(C) False	december animal requires tabelle
	C Surreycond bases (C)
38. Identify the incorrect construc	
(A) Friend Constructor	- 1 Construictor
(C) Default Constructor	(D) Parameterized Constructor
	WE CARLAGE
	10

39.	specification is	also known as t	the SRS document.
ans.	(A) White-box	(B)	Grey-box
	(C) Black-box		None of the above mentioned
	( 48 tra - Leignel de		(A), Insertion Sor, with kine can
40.	What is the output of the	following code	snippet?
	main() {		*LHECO COMO ESTA PROCESSIFICIO (U)
	int i, k = 5;	CARCOLLONICAL	(D) Merge Sort with time complete.
	if(i = k) {	i bolika mengha	48. Which one of the following is a sy
	printf ("Y	ES\n");	the tobrest recurrent beard? (A) ist a
	line Meaning	Tailond (CL)	(C) Semaphore
eci	nodW.sorving else { oa r	of grillian state	beisold a miles sessono a gedW .AA
	prin	tf("NO\n");	service is completed, it goes to the
		(B) Suspen	$\infty$ (A) Terminated state $0.070 \times 0.070 \times 0.0$
	}	(D) Roady s	(C) Running state
	(A) 5	(B)	YES 11 gordanud ai arcecta A A
		(D)	Will give error
41.	Which of the following(s)	is/are not chare	d by threads?
	(A) Stack	The Part State	esu to whow respected as it (ii) or
20 o	(B) Program counter	i Not as lagranage	Maler of Englosse Jones (2007) 613 (1880)
	(C) Both program counte	er and stack	Ethios and Protosotonal Practical
	(D) None	or and space	(A) PRODUCTION (B)
	(D) INDIE		(C) Short OldBUFF (O)
EC4	A-2024	11	JE 2014/10
		11	

<ul> <li>42. Given an unsorted array. The array has the array is at most k distance from its positive integer smaller than the size can be easily modified for sorting this a complexity?</li> <li>(A) Insertion Sort with time complexity (B) Heap Sort with time complexity (C) Quick Sort with time complexity (D)</li> </ul>	of an array. Which sorting algorithm array and what is the obtainable time by O(kn)  (n log k)  O(k log k)
God with time complexity	O(k log k)
(D) Merge Sort with time source	19 = X T RD
a sy the a gymehro	mization tool?
43. Which one of the following is a synchro	Pi
(A) Thread	Mark that a present a second s
(D	) Socket
· · ""Dlogkod" state	waiting for some I/O service. When the
44. When a process is in a Blocked blass	and i
service is completed, it goes to the	
(A) Terminated state (F	
(C) Running state (I	O) Ready state
o++=0.	
45. A process is thrashing if	) (A) = 7
45. A process is thrashing in	rather than paging OM (0)
(A) it spends more time in execution	the standard in execution
(B) it spends more time in paging, I	ratner than in choosing
(C) it has no memory allocated to it	41. Which of the following(s) is/are not sh
	rce dom B (A)
among the eight D	rinciples followed by the Software Code of
Ethics and Professional Practice.	11-g 70)
	(B) ENVIRONMENT
(A) PRODUCT	DO Nome on (d)
(C) PUBLIC	(D) PROFESSION
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			- (14.808-AC)	II.
47.	Ma of:		ccessible to	nonmember functions is an example
	(A)	polymorphism	(B)	data hiding
	(C)	redundancy	(D)	recursion (F)
48.	Inε	a relational database, wh	at does the	
	(A)	Atomicity, Consistency	, Integrity, I	Durability
	(B)	Association, Constraint	, Index, Dat	abase and the technique and A
	(C)	Authorization, Compat	ibility, Isola	tion, Dependency
	(D)	Aggregate, Collection, 1	nheritance,	Design())
49.		ich of the given statemen	nt is the cor	rect recurrence for the worst case of
	(A)	T(n) = 2T(n/2) + O(1) &	T(1) = O(1)	= T(0).
	(B)	T(n) = T(n-1) + O(1) &	T(1) = O(1)	= T(0).
	(C)	T(n) = T(n/2) + O(1) & T	T(1) = T(0) =	
	(D)	T(n) = T(n-2) + O(1) &	T(1) = T(0)	
50.	Whi true	ich of the following state	ments abou	t primary key in a database table is
	(A)	A table can have multip	le primary l	eys.
	(B)	A primary key uniquely	identifies ea	ach record in a table.
	(C)	Primary keys can contain	in NULL val	(C) PAID level 2
	(D)	Primary keys are used t		relationships between tables.
51.		ch of the following data ression in infix form to its		s required to convert an arithmetic postfix form?
	(A)	Queue	(B)	Linked List
(C	(C)	Binary Search Tree		Stack

52.	Whi	ich is the correct statement about operator overloading?	
	(A)	Only arithmetic operators can be overloaded.	
	(B)	Only non-arithmetic operators can be overloaded.	
1	(C)	Precedence of operators are changed after overloading.	
	(D)	Associativity and precedence of operators does not change.	48,
53.	A cl	lustering index is defined on the fields which are of types	
	(A)	Non-key and ordering (B) Non-key and non-ordering	
	(C)	Key and ordering (D) Key and non-ordering	
54.	an :	ppose the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order initially empty binary search tree. The binary search tree uses us dering on natural numbers. What is the in-order traversal sequence of sultant tree?	sual
	(A)	7, 5, 1, 0, 3, 2, 4, 6, 8, 9 (B) 0, 2, 4, 3, 1, 6, 5, 9, 8, 7	
	(C)	0, 1, 2, 3, 4, 5, 6, 7, 8, 9 (D) 9, 8, 6, 4, 2, 3, 0, 1, 5, 7	
55.	Wh:	hich of the following is popular for applications such as storage of log a database management system since it offers the best write performar	files ace?
	(A)	) RAID level 0 (B) RAID level 1	
	(C)	) RAID level 2 (D) RAID level 3	
56.	Wh	hich of the following statement is correct?	
ni	(A)	and the second s	10
	(B)	Services to the land teclerity of attention of the Reliabilities	
	(C)	Outline Francisco Company (A) . (C) The Francisco Company (C)	)
	(D)	O blanty Scared Tweet (D. Stack S. Stack S.	) .

57.	Wh	ich one of the following is dead	dlock	avoidance algorithm ?						
	(A)	Elevator algorithm	(B)	Banker's algorithm						
	(C)	LRU algorithm	(D)	SCAN algorithm						
58.	Whi cate	ch command is used to segories of users of a file?	t the	three permissions for all the three						
	(A)	chgrp	(B)	chown q( (A)						
	(C)	chmod	(D)	chusr						
59.	Whi	ch command is used for printi	ng th	e current working directory ?						
	(A)	dir	(B)	HOME						
	(C)	cd	(D)	pwd						
	(A)	e is called  Race condition  Virtual condition	(B) (D)	Critical condition Linear condition						
		14 All more time that ad-	(2)	Emical condition						
61.	Baud means									
	(A) The number of bits transmitted per unit time									
	(B) The number of bytes transmitted per unit time									
	(C) The rate at which the signal changes									
	(D)	None of the above		A sastQ_ (A)						
62.	Whic colun	Which option will be used with sort command to start sorting after the $n^{th}$ column of the $(m + 1)^{th}$ field?								
	(A) -	-m ·n	(B)	+m · ln						
	(C) ·	+n ·m + 1	(D)	$+(m+1)\cdot n$						
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67. 68.	(A) (C)	Class A Class C ich command is used to extra	(B) (D) et spec	Class D  cific columns from the file?	
	(A) (C) Wh	Class A Class C ich command is used to extra	(B) (D)	Class B  Class D  crific columns from the file?	
	(A) (C)	Class A Class C	(B) (D)	Class B ovode entries and (C)  Class D  Saving Wilder and Him moltage storic W . 28	
	(A) (C)	Class A Class C	(B) (D)	Class B ovode and to smo (C) Class D	
67.		Class A	(B)	Class B evods and to show (d)	
67.	Wh		A STATE OF THE STA		
				(B) The number of bytes transmit	
	(C)	14 anul timu	(D)		
	(A)	16	(B)	12 agreen 500 5 18	
		ab*cd* + where a=2, b=2, c=			
66.	Wha	at is the result of the following	g postf		
	(0)		A COL	(A) Race condition	
	(C)	that order in which the series ${f \hat{s}}$		of the execution depends on the place at sold 4	
9.0	(A)	Arthus chierronico stubie	(B)	de wood everal precesses access de	
510 823	first	needed if the operating syst scheduling algorithm? Do a at the end.	em in	aplements a shortest remaining time unt the context switches at time zero	
35.	unit	s and arrive at times 0, 2 and	6 res	es, which require 10, 20 and 30 time pectively. How many context switches	
	(C)	pr talldo	(D)	head bomilo (0)	
	(A)	lp gwodo	(B)	begin (rigida (A)	
4.	Whi	ch command is used for displa	ying t	the beginning of a file in Unix?	
	Pre	cedence of operators are described.		Her overloading.	
	(C)	Data Link Layer (Layer 2)	(D)	Physical Layer (Layer 1)	
	(A)	Network Layer (Layer 3)	(B)	Transport Layer (Layer 4)	
		CIO -			
3.	which		s res	ponsible for routing and forwarding	

69.	In the OSI model, encryption and decryption are functions of the								
	(A)	Transport Layer	(B)	Session Layer					
	(C)	Presentation Layer	(D)	Application Layer	(4)				
70.	Wh	ich of the following is not a cor		ication command?	rev lar				
		write	(B)	mesg	(6)				
	(C)	mail	(D)	grep noitasifactsiV					
<b>71.</b>	A d	leadlock avoidance algorithn ure that a circular wait conditi	dyr.	namically examines the	to				
	(A)	Operating system	(B)	Resources Voscilla ous anniem	bie				
	(C)	System Storage State	(D)	Resource Allocation State					
72.	A Po	ort address in TCP/IP is	b	its long.	Oi .				
	(A)	32 . no došenico lampia em	(B)	48 are of Sour er recree	78.				
	(C)	16 Chas Coverselas Very	(D)	None of the above	(4)				
73.	emp	at is the worst case time cor ty linear linked list, if it nee y insertion?	nplexi	ty of inserting an elements i be maintained in sorted orde	nto an r after				
	(A)	$\theta(n)$	(B)	$\theta(n \log n)$					
	(C)	$\theta(n^2)$	(D)	θ(1)	(T)				
74.	In II	PV4 network ID and host ID in	class	A and best at about natural	M .08				
	(A) 8 bits. network ID, 24 bits host ID.								
	(B) 24 bits. network ID, 8 bits host ID.								
*	(C)	(C) 14 bits. network ID, 16 bits host ID.							
	(D)	16 bits. network ID, 14 bits he		Con horse engineering and July 7	(I)				
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. What is the worst case complexity	y of inserting a node in do	oubly miked hot
atti to ancomuni a compani		Trenaport (A)
(A) O(log n) (C) O(n log n)	$(D) \cap (1)$	(C) Presentaci
3. Virtual memory is normally impl (A) Demand Paging	lemented by	70. Which of the foll
(A) Demand Paging	(8)	etirw (A)
(B) Buses		fiam (O)
(C) Virtualization		
(D) All of the above mentioned		71. Acdendlook ave
7. Which of the following sorting	- algorithm will be the	most efficient if the
7. Which of the following sorting elements are already in sorted of	oraei .	
PROTEIN A LITTLE OF THE PROTEI	(B) Selection sort	(C) System Stop
(d) Incontion sort	77 77	72. A Port address in
	ate a secure tunnel conne	ction. 88 (A)
the of the execu-		di tu
(C) Proxy	(D) DNS	72. What is the worse
79. What is the prefix of the follow	ving expression A-B/(C*I	)^E)?
79. What is the prefix of the follow	(B) -A/BC*^DE	(n)0 (A)
(A) -A/B*C^DE (C) -ABCD*^DE	(D) -/*^ACBDE	(D).
80. Hamming code is used for	A sads of the lead bas	74. In IPV4 network II
(A) Error detection	ID: 24 bits host ID:	strowten abids (A)
(B) Error correction	It ID 8 bits nest ID	(ii) 24 bits, networ
(C) Error encapsulation	LID its bate lost ID.	
. ( )		sowier sidel (6)

### Category-2 (Q. 81 to 100)

# (Carry 2 marks each. One or more options are correct. No negative marks)

	(A)	Higher chical Inheritance								
	A	Hierarchical Inheritance	3.12							
	(C)	Multilevel Inheritance	(D)	Distributed Inheritance						
82.	The	re are three IP addresses as	given b	pelow:						
	(6)	X = 202.23.14.150		8. What are the valid shells in linux?						
	7.4	Y = 168.19.200.12	s - ZCIN							
		Z = 72.192.52.210		ar true about the country in the						
	Whi	ich of the following statement	s is co	rrect?						
	(A)	X is Class A, Y is class B, Z	is class	sice the tender of the valid levers of OS n						
	(B)	X is Class C, Y is class A, Z	is class							
	(C)	X is Class A, Y is class C, Z	is class	s Borner appropriate the free live of the contract of the cont						
	(D)	X is Class C, Y is class B, Z	is class	. (C) Data Lank layer A s						
	1- Car -	Reprinting the composition		of the state of th						
83.	A pr	rocess refers to 5 pages name	roled a	en tedt atend in sonerun brumiseer						
	121124			. If the page replacement algorithm is						
	is_	U, the number of page transf	ers wit	th an empty internal store of 3 frames						
	(A)	8 Hatti castati ive and it	(B)	10 + 12 10 10 Km up + 2						
	(C)	9 monor of relating out	(D)	7						
		tware Tearing Life Cycle) on	108)	a. Identify the incorrect phase of STL						
84.	What are non-linear data structure?									
	(A)	Graph uno primary Tree T	(B)	Linked List A transmiss A (0)						
	(C)	Queue	(D)	Tree						
Ei.			6.0	WE'M A THE RESERVE OF						
JEC	A-202	24	19							

85. Relation R has eight attributes ABCDEFGH. Field of R contain only atomic values.

 $X = \{CH \rightarrow G, A \rightarrow BC, B \rightarrow CFH, E \rightarrow A, F \rightarrow EG\}$ 

is a set of Functional Dependencies (FD's) so that F<sup>+</sup> is exactly the set of FD's that hold for R.

How many candidate keys does the relation R have?

- (A) 3
- 4 (B) Distributed Inheritance
- (C) 5

- (D) 6
- 86. What are the valid shells in linux?
  - (A) Kernel shell

(B) C shell

(C) Vi shell

- (D) Korn shell
- 87. What are the valid layers of OSI model?
  - (A) Internet layer

(B) Transport layer

Multilevel Inheritance

- (C) Data Link layer
- (D) Session layer
- 88. A subnet has been assigned a subnet mask of 255.255.255.192. What is the maximum number of hosts that can belong to this subnet?
  - (A) 14
- one stammer of page transfer (B) 30 mirrogay to redmire out OTH
- (C) 62

- (D) 126
- 89. Identify the incorrect phase of STLC (Software Testing Life Cycle).
  - (A) Test Closure

- (B) Coding and the same as a same
- (C) Requirement Analysis
- (D) Test Planning

- 90. For which one of the following reasons does Internet Protocol (IP) use the time-to-live (TTL) field in the IP datagram header?
  - (A) Ensure packets reach destination within that time.
  - (B) Discard packets that reach later than that time.
  - (C) Prevent packets from looping indefinitely.
  - (D) Limit the time for which a packet gets queued in intermediate router.
- 91. Which of the following is not supervised learning?
  - (A) PCA

- (B) Naive Bayesian
- (C) Linear Regression
- (D) Decision Tree
- 92. Which of the following statements is not true about the pruning in the decision tree?
  - (A) When the decision tree is created, many of the branches will reflect anomalies in the training data due to noise.
  - (B) The over fitting happens when the learning algorithm continues to develop hypothesis that reduce training set error at the cost of increased test set errors.
  - (C) It optimizes the computational efficiency.
  - (D) It reduces the classification accuracy.
- 93. If 2 classes derive one base class and redefine a function of base class, also overload some operators inside class body. Among these two things of function and operator overloading, where is polymorphism used?
  - (A) Function overloading only
  - (B) Operator overloading only
  - (C) Both (A) and (B) are using polymorphism
  - (D) Either function overloading or operator overloading because polymorphism can be applied only once in a program



94. What is the output of the following C-program?

```
#include<stdio.h>
int main()
{    int a = 20;
    printf ("CINEMA");
    return 1;
    printf ("DINOSAUR");
    return 1;
```

- (A) CINEMA DINOSAUR
- (B) CINEMA

(C) DINOSAUR

- (D) Compilation error
- 95. A CPU generates 32-bit virtual addresses. The page size is 4 KB. The processor has a translation look-aside buffer (TLB) which can hold a total of 128 page table entries and is 4-way set associative. The minimum size of the TLB tag is:
  - (A) 11 bits

(B) 13 bits

(C) 15 bits

- (D) 20 bits
- 96. Which of the following statements about polymorphism in C++ are correct?
  - (A) Polymorphism allows a function to perform different tasks based on the object that invokes it.
  - (B) C++ supports compile-time polymorphism through function overloading and runtime polymorphism through virtual functions.
  - (C) Polymorphism is achieved by hiding the implementation details of a class.
  - (D) In C++, polymorphism can only be achieved through inheritance.



97.	What is the	return	value	of f(p,	p),	if the	value	of p is	initialized	to 5	before
	the call?		25.40.11	S 47 14 1							

```
int f(int &x, int c) {
  c = c - 1;
  int (c==0) return 1;
  x = x+1;
  return f(x, c) * x;
}
```

(A) 3024

(B) 6561

(C) 55440

(D) 161051

98. What could ideally be the optimal page replacement algorithm?

- (A) Replace the page that has not been used for a long time.
- (B) Replace the page that has been used for a long time.
- (C) Replace the page that will not be used for a long time.
- (D) None of the above mentioned policies.
- 99. If memory access takes 20 ns with cache and 110 ns without cache, then the hit-ratio (cache uses a 10 ns memory) is:
  - (A) 87%

(B) 88%

(C) 90%

(D) 93%

100. What is the full form of PERT and CPM in Software Engineering?

- (A) Project Evaluation and Review Technique; Computer Program Management
- (B) Program Evaluation and Review Technique; Critical Path Method
- (C) Project Execution and Resource Tracking; Code Performance Monitoring
- (D) Program Execution and Regression Testing; Continuous Process Modeling

#### SPACE FOR ROUGH WORK

c = c - 1; int (c==0) return 1;

w # (a will remove)

(B) .6581

is committee and the second

(A) Replace the page that has not been used for a long time.

(G). Replace the page that has been used for a long time.

(C). Replace the page that will not be used for a long time.

(D) (None of the above mentioned policies, and a section of the

If memory access takes 20 us with eache and 110 as without cache, then the lateratio (cache uses a 10 us memory) is

A) 87% (B) 88%

e. What is the full form of PERT and CTM in Software connecting

(A) Project Evaluation and Review Technique: Computer Problemagement form mand were computed of the computer o

C) Project Execution and Resource Tracking Code Performante Monitoring

(D) Program Execution and Regression Testing: Continuous Provess Modeling.

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