Total No. of Printed Pages: 13

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M.Phil./Ph.D./URS-EE-2020

SUBJECT: Computer Science

SET-Y

10005

		Sr. No		
Time: 11/4 Hours	Max. Marks : 100	Total Questions: 100		
Roll No. (in figures)	(in words)			
Name	Father's Name			
Mother's Name	Date of Examination_			
(Signature of the Candidate)		(Signature of the Invigilator)		

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MPH/PHD/URS-EE-2020/(Computer Science)(SET-Y)/(A)

simple graph with n	vertices?			
		(2)	DFA-regular	
What is the maximum (1) 24	nm number of edges i			aving 10 vertices? (4) 16
		(3)	$\neg p \rightarrow \neg q$	$(4) \neg p \rightarrow q$
(1) Arden's theorem	n	(2)	Pumping Lemn	na
What is the 2's com (1) (0100) ₂		(3)	$(0111)_2$	(4) (1100) ₂
		(2)	0.110000, 011	to represent '5' in binary
cycles, which of the	G having v vertices e following statement	s is	true ?	is connected and has no
(3) $v + 1 = e$		-		ove
The set of positive (1) Infinite			Subset	(4) Empty
The compound protautology.	opositions p and q are	e ca	illed logically eq	uivalent if is a
$(1) p \leftrightarrow q$	$(2) p \to q$	(3)	$\neg (p \lor q)$	$(4) \neg p \lor \neg q$
3G W-CDMA is a				
(1) UMTS	(2) DECT	(3)	DCS-1800	(4) ETACS
	simple graph with n (1) $(n*(n-1))/2$ If L is DFA-regular (1) Non-regular (3) Non-finite What is the maximum (1) 24 $p \lor q$ is logically equal to $q \to q$ Which of the technic (1) Arden's theorem (3) Ogden's Lemm What is the 2's comm (1) $(0100)_2$ What are the manifloating point repred (1) $011, 0.110000$ (3) $011, 0.101000$ For a given graph cycles, which of the $(1) \ v = e$ (3) $v + 1 = e$ The set of positive $(1) \ Infinite$ The compound pretautology. (1) $p \leftrightarrow q$ 3G W-CDMA is a second of the $(1) \ p \leftrightarrow q$	simple graph with n vertices? (1) $(n*(n-1))/2$ (2) $(n*(n+1))/2$ If L is DFA-regular, L' is: (1) Non-regular (3) Non-finite What is the maximum number of edges if (1) 24 (2) 21 $p \vee q$ is logically equivalent to: (1) $\neg q \rightarrow \neg p$ (2) $q \rightarrow p$ Which of the technique can be used to prove the state of the st	simple graph with n vertices? (1) $(n*(n-1))/2$ (2) $(n*(n+1))/2$ (3) If L is DFA-regular, L' is: (1) Non-regular (2) (3) Non-finite (4) What is the maximum number of edges in all (1) 24 (2) 21 (3) $p \vee q$ is logically equivalent to: (1) $\neg q \rightarrow \neg p$ (2) $q \rightarrow p$ (3) Which of the technique can be used to prove (1) Arden's theorem (2) (3) Ogden's Lemma (4) What is the 2's complement of $(1001)_2$? (1) $(0100)_2$ (2) $(0011)_2$ (3) What are the mantissa and exponent requificating point representation? (1) $011, 0.110000$ (2) (3) $011, 0.101000$ (4) For a given graph G having v vertices and cycles, which of the following statements is $(1) v = e$ (2) (3) $v + 1 = e$ (4) The set of positive integers is	(1) $(n^*(n-1))/2$ (2) $(n^*(n+1))/2$ (3) $n^*(n-1)$ If L is DFA-regular, L' is: (1) Non-regular (2) DFA-regular (3) Non-finite (4) None of the above that is the maximum number of edges in a bipartite graph in (1) 24 (2) 21 (3) 25 $p \lor q$ is logically equivalent to: (1) $\neg q \to \neg p$ (2) $q \to p$ (3) $\neg p \to \neg q$ Which of the technique can be used to prove that a language (1) Arden's theorem (2) Pumping Lemm (3) Ogden's Lemma (4) None of the above that is the 2's complement of $(1001)_2$? (1) $(0100)_2$ (2) $(0011)_2$ (3) $(0111)_2$ What are the mantissa and exponent required respectively floating point representation? (1) $011, 0.110000$ (2) $0.110000, 011$ For a given graph G having V vertices and E edges which cycles, which of the following statements is E true? (1) $V = E$ (2) $V = E + E$ (3) $V + E = E$ (4) None of the above the set of positive integers is

12.	To increase the speed of memory access	in pipelining, we make use of				
	(1) Special memory locations(3) Cache	(2) Special purpose registers(4) Buffers				
13.	Which instruments are used for perceiving (1) Sensors and Actuators (3) Perceiver	ng and acting upon the environment? (2) Sensors (4) None of the mentioned				
14.	In which agent does the problem generate (1) Learning agent (3) Reflex agent					
15.	Which application we will use to make p (1) WindowsAPI (3) MFC	rogram more portable ? (2) WindowApp (4) None of these				
16.	What does an HTML tag do? (1) It specifies formatting and layout instructions for your web page. (2) It hides programming instructions from view. (3) It determines the organizational structure of your web site. (4) It connects your web site to an operating environment.					
17.		ns. What are the tags called that create these (2) html tags (4) body tags				
18.	What should be the first and last pair of tags in your Web document? (1) https://document.com/html/document ? (1)					

20.	For every Web document, you can add your browser. What set of tags allows you	words that appear in the upper left bar area of ou to provide this information?
	(1) <head></head>	(2) <head><head></head></head>
	(3) <label><label></label></label>	(4) <title></title>
21.	is a high speed cache used to part of paged virtual memory.	o hold recently referenced page table entries a
	(1) Translation Lookaside buffer	(2) Inverse page table
	(3) Segmented page table	(4) All the above
22.	does the job of allocating a pro-	cess to the processor.
	(1) Long term scheduler	(2) Short term scheduler
	(3) Medium term scheduler	(4) Dispatcher
23.	provide reasonably good response time	
	(3) Round Robin Scheduling(4) None of the above	
	In the multi-programming environment number of process.	t, the main memory consisting of
	(1) Greater than 100	(2) Only one
	(3) Greater than 50	(4) More than one
	In a multithreaded environment	emory from main memory. nination of child threads. ead.
	Which of the following is <i>not</i> a 'concern' Money Time Product quality Product quantity	during the management of a software project?

2	7. A Business Intelligence system require	s data from:
	(1) Data warehouse	anization and possibly from external sources
28	Data mining application domains are: (1) Biomedical (3) Financial data analysis	(2) DNA data analysis(4) All above
29.	The state of the s	al attributes of a complex object class can be generalizing each attribute to simple-value data ta cube is called as
30.	Which of the following project is process/department that is very critical formula (1) High risk high reward (3) Low risk low reward	a building a data mart for a business for your organization? (2) High risk low reward (4) Low risk high reward
31.	Which of the following tools a business (1) OLAP tool (3) Reporting tool	intelligence system will have ? (2) Data mining tool (4) Both (1) and (2) above
32.	Which of the following is/are the Data in (1) Regression (3) Clustering	nining tasks? (2) Classification (4) All above
33.	In a data warehouse, if D1 and D2 are tw (1) D1 may be an exact replica of D2 (2) D I may be at a rolled up level of gra (3) Columns of D1 may be a subset of D (4) Rows of D1 may be a subset of D2 a	nularity compared to D2 2 and vice versa
	The anti - aliasing technique which allowenabling a closer path of a line is: (1) Pixel phasing	ws shift of 1/4,1/2 and 3/4 of a pixel diameter
	(3) Intensity compensation	(2) Filtering(4) Sampling technique

35.	The simply reads each successi (1) Digital Controller (3) Display Controller	ve byte of data from the frame buffer. (2) Data Controller (4) All of above					
36.	If you wanted to create text that was a Web page, what type of tag would you u (1) layout (3) design	different color or font than other text in your use? (2) basic formatting (4) outline					
37.	Which among the following is used functionalities? (1) Shell Commands (3) Filters	to write small programs to control Unix (2) Shell Script (4) C Language					
38.	Which of the following is considered as (1) sysinit (2) init	the super daemon in Unix ? (3) inetd (4) proc					
39.	How do you get help about the comman (1) help cp (3) cp?	d "cp" in Unix ? (2) man cp (4) none of the mentioned					
40.	page replacement algorithm (1) LRU (2) MRU	suffers from Belady's anamoly. (3) FIFO (4) LIFO					
41.	Software configuration activities would <i>not</i> include: (1) Identify change (2) Control change (3) Ensure improper implementation of change (4) Report change to interested parties						
42.	 Find ways to produce results using limited resources Pad the schedule to accommodate errors Overestimate the budget Structure the team to prevent administrative interference 						
43.	A systematic approach to software do cycle models, is useful in: (1) Helping us understand the nature of (2) Convincing the customer that we ket (3) Filling texts on software engineering (4) Managing the various activities need to software the cycle of the cycle o	ng					
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44.	A process view in software engineering would consider which of the following?					
	(1) Product performance	(2) Staffing				
	(3) Functionality	(4) Reliability				
45.	Software measurement is useful to:					
	(1) Indicate quality of the product	(2) Track progress				
	(3) Assess productivity	(4) All of the above				
46.	What is the worst-case time for heapsor					
	(1) $O(\log n)$ (2) $O(n)$	(3) $O(n \log n)$ (4) $O(n^2)$				
47						
47.	In AVL tree the balance factor of every					
	(1) 0 (2) 0 or 1	(3) -1, 0 or 1 $(4) -1 or 1$				
48.	and state of finded hat the stored hi					
	(1) Successive memory locations					
	(3) Alternate memory locations	(4) None of the above				
49.	Queue data structure is based on the principle of:					
	(1) Last Come First Serve	(2) First Come First Serve				
	(3) Both (1) & (2) above	(4) None of the above				
50.	Which of the following is a non-linear data structure?					
	(1) Tree	(2) Array				
	(3) Linked list	(4) None of the above				
51.	Which of the following is the fastest log	ic?				
	(1) TTL (2) ECL	(3) CMOS (4) LSI				
52.	The linker:					
· .	(1) is similar to interpreter	(2) uses source code as its input				
	(3) is required to create a load module					
53.		(2) Search tree				
	(1) Linear list					
	(3) Hash Table	(4) Self Organisation				
54.	Which concept of grammar is used in th	e compiler ?				
	(1) Lexical analysis	(2) Parser				
	(3) Code generation	(4) Code optimization				

	55. The behaviour of a (1) Always	NFA can be stimula (2) Sometimes	ited by DFA:	(4) Depends on NFA
5	56. To store your pictur	re in a database requ		
	(1) BLOB	(2) text	(3) image	(4) logical
5	7. The is use (1) query	d to access one reco	rd at a time. (3) form	(4) report
58	(1) Can not hide set (2) Keep its logical (3) Keeps its physic (4) Both (2) and (3)	nsitive information to structure hidden from cal structure hidden	im licere	
59	dimornanzed re	lation contains value	es:	
	(1) Atomic			
60.	attribute of the relat	ion are atomic?		es in the domain of each
	(1) Unnormalized	(2) First Normal	(3) Boyce CODD	(4) None of these
61.	attribute and the rela	tion key?		cy between a non-prime
	(1) Partial	(2) Multi	(3) Functional	(4) Valued
62.	A relation scheme is fully functionally dep			Il non-prime attributes are
	(1) First Normal For		No. No. of the last of the las	
	(3) Boyce Codd Nor	mal Form	(4) Fourth Normal I	Form
63.			attribute is n	on - transitively and fully
	dependent on the ever (1) Prime	ry candidate key? 2) Non-Prime	(3) Unique	(4) None of these
64.	In the IEEE standards	802.5 standard is a	also called	
	(1) Ethernet	NT to and	(2) Token Bus(4) Token Ring	
	(3) Wireless Token A	rea Network		-1 h all the years on the
	have a sing network?	gle communication		ed by all the users on the
	(1) Point-to-Point		(2) Broadcast Netw	OFK
	(3) Protocol		(4) PAN	P. T. O.
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66	. Analysis which determines the meaning	g of	a statement once its grammatical structure
	becomes known is termed as: (1) Semantic analysis (3) Regular analysis	(2) (4)	Syntax analysis General analysis
67.	Load address for the first word of the pro (1) Linker addression origin (3) Phase library	(2)	m is called: Load addression origin Absolute library
68.	Symbolic names can be associated with (1) Information (3) operand	(2)	data or instruction mnemonic operation
69.	The translator which perform macro exp (1) Macro processor (3) Micro pre-processor	(2)	on is called a : Macro pre-processor Assembler
70.	An assembler is: (1) programming language dependent (3) machine dependant		syntax dependant data dependant
71.	Which of the following transmission individual device? (1) Computer bus (3) Voice and mode	(2)	ems provide the highest data rate to in Telephone lines Lease lines
72.	Communication circuits that transmit d are operating in: (1) a simplex mode (3) a full duplex mode	(2)	a half duplex mode an asynchronous mode
73.	What type of information should you av (1) links to sites of interest (3) work and academic experience	(2)	ncluding on your Web site ? private personal information graphical
74.	Which of the following Web elements Web site? (1) the web audience (2) the operating environment of your I (3) the operating system of your visitor (4) each consideration should determine	SP	uld you know about before building your

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75. What is the language of the Web?
           (1) Basic
                                                 (2) C++
           (3) MS Visual Basic
                                                 (4) HTML
      76. Write the output of:
          main ()
          int nl = 4:
          printf(" % d ", sizeof (n 1));
          (1) 2
                              (2) 4
                                                 (3) 1
                                                                    (4) 8
    77. Which of the following operator can't be overloaded?
         (1) Scope resolution operator
                                                 (2) Arrow operator
         (3) Equality operator
                                                 (4) Assignment operator
    78. How do we declare an interface class?
         (1) By declaring the class as interface with keyword interface
         (2) By making all the methods abstract using the keyword abstract in class
         (3) By making all the methods pure virtual in class
         (4) It is not possible to create interface classes in c++
   79. What is the right way to declare a copy constructor of a class if the name of class is X?
                                                 (2) X(const X& arg)
         (1) X(const X* arg)
                                                 (4) X(X* arg)
         (3) X(X arg)
   80. Which statement is most appropriate for C++ language?
                                                 (2) Statically types Language
        (1) Type Less language
        (3) Dynamically typed language
                                                 (4) Both (2) and (3)
  81. Program generation activity aims at:
        (1) Automatic generation of program
        (2) Organize execution of a program written in PL
        (3) Skips generation of program
        (4) Speed generation of program
       Which of the following loader is executed when a system is first turned on or restarted?
  82.
        (1) Boot loader
                                                 (4) Relating loader
        (3) Bootstrap loader
                                                                                      P. T. O.
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83.	A parser which is a	variant of top-down	n parsing without back	ktracking is:
	(1) Recursive Desc	cend	(2) Operator Prece	dence
	(3) LL(I) parser		(4) LALR Parser	
84.	is used	d to build 'intuitive'	queries.	
	(1) SQL	(2) Xbase	(3) QBE	(4) XML
85.	To print information	n from a table, the.	tool is the best	t choice.
	(1) form	(2) report		(4) macro
86.	In regular expressio	ns, the operator '*' s	tands for :	
	(1) Concatenation		(2) Selection	
	(3) Iteration		(4) Addition	
87.	A system program execution is:	that set-up an exc	ecutable program in	main memory ready for
	(1) Assembler	(2) Linker	(3) Loader	(4) Text editor
	 Software deliver Software exceed Unreliable All of the above 			
9. Y	Which of the follow paradigm for softwar	ving projects would e development?	l be a good one for	adopting the prototyping
	1) Accounting Syste		(2) Spreadsheet	
(3	3) Automobile Crui	se Control	(4) Algebra Tutor	
). V	iews of quality softw	ware would not incl	lude :	
(1) Optimizing price	and performance		
(2) Minimizing the ex	xecution errors		
(3)) Conformance to s	pecification		
(4)	Establishing valid	requirements		
To	implement recursion	on, which of the fol	lowing data structure	is required?
	Stack	1000	(2) Queue	
	Tree		(4) None of the abov	e

1						
92.	. Array passed as an argument to a function is interpreted as:					
	aray					
	(2) Values of the first elements of the array					
	(3) Address of the first element of the array					
	(4) Number of element of the array					
93.						
	(1) O(1) (2) O(n)					
	(3) O(log n) (4) None of these options					
94.						
	(1) floor address (2) foundation address					
	(3) first address (4) base address					
95.	How is a J-K flip-flop made to toggle?					
	(1) $J = 0, K = 0$					
	(2) $J = 1, K = 0$					
	(3) $J = 0, K = 1$ (4) $J = 1, K = 1$					
96.	Error detection at the data link level is achieved by: (1) Bit stuffing (2) Hamming codes					
	(I) Dit sturing					
	(3) Cyclic Redundancy codes (4) Equalization Which of the following is an advantage to using fibre optics data transmission?	?				
7.						
	(1) resistance to data theft					
	(2) fast data transmission rate					
	(3) low noise level					
	(4) all of above Which of the following is required to communicate between two computers?					
8.	Which of the following is required to common which of the following is required to common the common the following is required to common t					
	(1) communications software					
	(2) protocol					
	(3) communication hardware(4) all of above including access to transmission medium					
	(4) all of above including access					

99.	Which of the f	ollowing t	types of	channels	moves	data	relatively	y slowly	1?
-----	----------------	------------	----------	----------	-------	------	------------	----------	----

(1) wide band channel

(2) voice band channel

(3) narrow band channel

(4) all of above

100. A protocol is a set of rules governing a time sequence of events that must take place?

(1) between peers

(2) between an interface

(3) between modems

(4) across an interface

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В

M.Phil./Ph.D./URS-EE-2020

SET-Y

SUBJECT: Computer Science 10010

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MPH/PHD/URS-EE-2020/(Computer Science)(SET-Y)/(B)

1.	Which of the following transmission individual device?	systems provide the highest data rate to in
	(1) Computer bus	(2) Telephone lines
	(3) Voice and mode	(4) Lease lines
2.	Communication circuits that transmit d are operating in:	ata in both directions but not at the same time
	(1) a simplex mode	(2) a half duplex mode
	(3) a full duplex mode	(4) an asynchronous mode
3.	What type of information should you av	oid including on your Web site?
	(1) links to sites of interest	(2) private personal information
	(3) work and academic experience	(4) graphical
4.	Which of the following Web elements Web site?	should you know about before building your
	(1) the web audience	
	(2) the operating environment of your Is	SP
	(3) the operating system of your visitor	
	(4) each consideration should determine	e your web design choices
5.	What is the language of the Web?	
	(1) Basic	(2) C++
	(3) MS Visual Basic	(4) HTML
6.	Write the output of:	
	main()	
	{	
	int $nl = 4$;	
	printf(" % d ", sizeof (n 1));	
	(2) 4	(3) 1 (4) 8
	(1) 2 (2) 4	
7.	Which of the following operator can't be	e overloaded ?
	(1) Scope resolution operator	
	(2) Arrow operator	
	(3) Equality operator	
	(4) Assignment operator	
	HD/URS-EE-2020/(Com. Sci.)(SET-Y)/(B)	P. T. O.
MPH/PI	HD/URS-EE-2020 (Com	

8.	How do we declare an interface class?			
	 By declaring the class as interface with keyword interface By making all the methods abstract using the keyword abstract in class By making all the methods pure virtual in class It is not possible to create interface classes in c++ 			
9.	What is the right way to declare a copy constructor of a class if the name of class is X (1) X(const X* arg) (2) X(const X& arg) (3) X(X arg) (4) X(X* arg)			
10.	 Which statement is most appropriate for C++ language? (1) Type Less language (2) Statically types Language (3) Dynamically typed language (4) Both (2) and (3) 			
11.	Which of the following is the fastest logical (1) TTL (2) ECL	ic ? (3) CMOS (4) LSI		
12.	The linker: (1) is similar to interpreter (3) is required to create a load module	(2) uses source code as its input(4) None of the mentioned		
13.	The symbol table implementation is base (1) Linear list (3) Hash Table	ed on the property of locality of reference is: (2) Search tree (4) Self Organisation		
14.	Which concept of grammar is used in the (1) Lexical analysis (3) Code generation	(2) Parser (4) Code optimization		
15.	The behaviour of a NFA can be stimulated (1) Always (3) Never	(2) Sometimes (4) Depends on NFA		
16.	To store your picture in a database requi (1) BLOB (3) image	(2) text (4) logical		
17.	The is used to access one record (1) query (3) form	rd at a time. (2) filter (4) report		

18.	(1) Can not hide sensitive information of (2) Keep its logical structure hidden from (3) Keeps its physical structure hidden (4) Both (2) and (3)	om users
19.	An unnormalized relation contains value (1) Atomic (2) Non - Atomic	
20.	A relation scheme is said to be in attribute of the relation are atomic? (1) Unnormalized (2) First Normal	form if the values in the domain of each (3) Boyce CODD (4) None of these
21.	Which of the following tools a business (1) OLAP tool (3) Reporting tool	
22.	Which of the following is/are the Data in (1) Regression (3) Clustering	(2) Classification (4) All above
23.	In a data warehouse, if D1 and D2 are tw (1) D1 may be an exact replica of D2 (2) D I may be at a rolled up level of gra (3) Columns of D1 may be a subset of D2 at (4) Rows of D1 may be a subset of D2 at	anularity compared to D2 O2 and vice versa
24.	The anti - aliasing technique which alloenabling a closer path of a line is: (1) Pixel phasing (3) Intensity compensation	ws shift of 1/4,1/2 and 3/4 of a pixel diameter (2) Filtering (4) Sampling technique
25.	The simply reads each succession (1) Digital Controller (3) Display Controller	(2) Data Controller(4) All of above
26.	If you wanted to create text that was a Web page, what type of tag would you u (1) layout (3) design	different color or font than other text in your se? (2) basic formatting (4) outline

27.	Which among the following is used functionalities? (1) Shell Commands (3) Filters	to write small programs to control U _I (2) Shell Script (4) C Language
		the super daemon in Unix ?
28.	(1) sysinit (2) init	(3) inetd (4) proc
29.	How do you get help about the command (1) help cp (3) cp?	1 "cp" in Unix ? (2) man cp (4) none of the mentioned
30.	page replacement algorithm s (1) LRU (2) MRU	uffers from Belady's anamoly. (3) FIFO (4) LIFO
31.	3G W-CDMA is also known as: (1) UMTS (2) DECT	(3) DCS-1800 (4) ETACS
32.	To increase the speed of memory access (1) Special memory locations (3) Cache	
33.	Which instruments are used for perceiving (1) Sensors and Actuators (3) Perceiver	ng and acting upon the environment? (2) Sensors (4) None of the mentioned
34.	In which agent does the problem generat	or is present ?
	(1) Learning agent	(2) Observing agent
	(3) Reflex agent	(4) None of the mentioned
35.	Which application we will use to make p	program more portable ?
	(1) WindowsAPI	(2) WindowApp
	(3) MFC	(4) None of these
6.	What does an HTML tag do? (1) It specifies formatting and layout ins. (2) It hides programming instructions fr. (3) It determines the organizational structions.	om view.
	(1) It connects your was site to an oper	

31.	sections?	ons. What are the tags called that create these
	(1) structure tags	(2) html tags
	(3) heading tags	(4) body tags
38.	What should be the first and last pair of (1)	

MI

45. How is a J-K flip-flop made to toggle?

	(1) $J = 0, K = 0$	
	(2) $J = 1, K = 0$	
	(3) $J = 0, K = 1$	
	(4) $J = 1, K = 1$	
4	16. Error detection at the data link level i	s achieved by:
	(1) Bit stuffing	(2) Hamming codes
	(3) Cyclic Redundancy codes	(4) Equalization
4	7. Which of the following is an advantage	ge to using fibre optics data transmission?
	(1) resistance to data theft	
	(2) fast data transmission rate	
	(3) low noise level	
	(4) all of above	
48	Which of the following is required to	communicate between two computers?
	(1) communications software	communicate between two computers?
	(2) protocol	
	(3) communication hardware	
	(4) all of above including access to tra	ansmission medium
49.		
	(1) wide band channel	(2) voice band channel
	(3) narrow band channel	(4) all of above
50.	A protocol is a set of rules governing s	a time sequence of events that must take place?
	(1) between peers	(2) between an interface
	(3) between modems	(4) across an interface
51.		rmit dependency between a non-prime
	(1) Partial	(2) Multi
	(3) Functional	(4) Valued
oti/Di	HD/URS-EE-2020/(Com. Sci.)(SET-Y)/(B)	
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52		s in the 1 NF and if all non-prime attributes are ion key?
	(1) First Normal Form(3) Boyce Codd Normal Form	(2) Second Normal Form(4) Fourth Normal Form
53.	- F	attribute is non - transitively and fully
	(1) Prime (3) Unique	(2) Non-Prime(4) None of these
54.	In the IEEE standards 802.5 standard is	also called
	(1) Ethernet	(2) Token Bus
	(3) Wireless Token Area Network	(4) Token Ring
55.	have a single communication network?	channel that is shared by all the users on the
	(1) Point-to-Point	(2) Broadcast Network
	(3) Protocol	(4) PAN
56.	Analysis which determines the meaning becomes known is termed as:	g of a statement once its grammatical structure
	(1) Semantic analysis	(2) Syntax analysis
	(3) Regular analysis	(4) General analysis
57.	Load address for the first word of the pro-	ogram is called:
	(1) Linker addression origin	(2) Load addression origin
	(3) Phase library	(4) Absolute library
58.	Symbolic names can be associated with	
	(1) Information	(2) data or instruction
	(3) operand	(4) mnemonic operation
59.	The translator which perform macro exp	ansion is called a:
	(1) Macro processor	(2) Macro pre-processor
	(3) Micro pre-processor	(4) Assembler
00		
60.	An assembler is:	(2) syntax dependant
	(1) programming language dependent	(4) data dependant
	(3) machine dependant	(1) data depondent

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ous life-
g ?
5.

70. Views of quality software would not include: (1) Optimizing price and performance (2) Minimizing the execution errors (3) Conformance to specification (4) Establishing valid requirements **71.** Software configuration activities would *not* include : (1) Identify change (2) Control change (3) Ensure improper implementation of change (4) Report change to interested parties **72.** In planning a software project one would: (1) Find ways to produce results using limited resources (2) Pad the schedule to accommodate errors (3) Overestimate the budget (4) Structure the team to prevent administrative interference 73. A systematic approach to software development, as epitomized by the vari cycle models, is useful in: (1) Helping us understand the nature of the software product (2) Convincing the customer that we know what we are doing (3) Filling texts on software engineering (4) Managing the various activities necessary to get the job done 74. A process view in software engineering would consider which of the followin (2) Staffing (1) Product performance (4) Reliability (3) Functionality 75. Software measurement is useful to: (1) Indicate quality of the product (2) Track progress (4) All of the above (3) Assess productivity **76.** What is the worst-case time for heapsort to sort an array of n elements? (3) $O(n \log n)$ (4) $O(n^2)$ (1) $O(\log n)$ (2) O(n)77. In AVL tree the balance factor of every node should be: (4) - 1 or 1 (3) -1, 0 or 1(2) 0 or 1 (1) 0

78	3. The elements of linked list are stored	in:				
	(1) Successive memory locations(3) Alternate memory locations	(2) Random memory locations(4) None of the above				
79	Queue data structure is based on the p	Queue data structure is based on the principle of:				
	(1) 7	(2) First Come First Serve				
	(3) Both (1) & (2) above	(4) None of the above				
80	. Which of the following is a non-linear	data structure ?				
	(1) Tree	(2) Array				
	(3) Linked list	(4) None of the above				
81	part of paged virtual memory.	l to hold recently referenced page table entries a				
	(1) Translation Lookaside buffer	(2) Inverse page table				
	(3) Segmented page table	(4) All the above				
82.	a pi	rocess to the processor.				
	(1) Long term scheduler	(2) Short term scheduler				
	(3) Medium term scheduler	(4) Dispatcher				
83.	provide reasonably good response ti	me-sharing systems, the primary requirement is to me and in general, to share system resources buling algorithm that is most popularly applied is				
	 Shortest Remaining Time Next (SI) Priority Based Preemptive Schedul Round Robin Scheduling None of the above 					
34.	In the multi-programming environme number of process.	nt, the main memory consisting of				
	(1) Greater than 100	(2) Only one				
	(3) Greater than 50	(4) More than one				
5.	In a multithreaded environment	memory from main memory.				

86.	(1) Money (2) Time (3) Product quality (4) Product quantity	uring the management of	of a software project?
87.	A Business Intelligence system requires data from: (1) Data warehouse (2) Operational systems (3) All possible sources within the organization and possibly from external sources (4) Web servers		
88.		(2) DNA data analysis(4) All above	
89.	The generalization of multidimensional performed by examining each attribute, g and constructing a multidimensional data (1) Object cube (3) Transactional cube	generalizing each attributed cube is called as	ute to simple-value data
90.	Which of the following project is process/department that is very critical for (1) High risk high reward (3) Low risk low reward	(2) High risk low rew (4) Low risk high rev	vard vard
91.	What is the maximum number of possible simple graph with n vertices? (1) $(n*(n-1))/2$ (2) $(n*(n+1))/2$		an adjacency matrix of a (4) $n * (n + 1)$
92.	If L is DFA-regular, L' is: (1) Non-regular (3) Non-finite	(2) DFA-regular (4) None of the above	ve
93.	(3) Non-finite What is the maximum number of edges (1) 24 (2) 21	in a bipartite graph ha (3) 25	(4) 16
	$p \lor q$ is logically equivalent to: (1) $\neg q \rightarrow \neg p$ (2) $q \rightarrow p$	$(3) \neg p \rightarrow \neg q$	$(4) \neg p \rightarrow q$ P. T. 0
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95.	Which of the technique	ne technique can be used to prove that a language is non-regular?			
	(1) Arden's theorem		(2)	Pumping Lemm	a
	(3) Ogden's Lemma		(4)	None of the abo	ve
96.	What is the 2's complen				(A) (1100)
	$(1) (0100)_2$ (2)	$(0011)_2$ ((3)	$(0111)_2$	$(4) (1100)_2$
97.	What are the mantissa floating point representa		quir	ed respectively	to represent '5' in binary
	(1) 011, 0.110000	((2)	0.110000, 011	
	(3) 011, 0.101000	(4)	0.101000, 011	
98.	8. For a given graph G having v vertices and e edges which is connected and ha cycles, which of the following statements is <i>true</i> ?		is connected and has no		
	(1) v = e	(2)	v = e + 1	
	(3) $v + 1 = e$	(4	4)	None of the above	ve
99.	The set of positive integ	ers is:			
	/4 4 4 4	Finite (3)	Subset	(4) Empty
00.	The compound proposit tautology.	ions p and q are	call	led logically equ	nivalent if is a
	$(1) p \leftrightarrow q \qquad (2)$	$p \to q$ (3)	3) -	$\neg (p \lor q)$	$(4) \neg p \lor \neg a$

Total No. of Printed Pages: 13

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M.Phil./Ph.D./URS-EE-2020

SET-Y

10003

SUBJECT: Computer Science

	Sr. No
Max. Marks : 100	Total Questions: 100
(in words)	
Father's Name	
Date of Examination_	
-	(Signature of the Invigilator)
	(in words) Father's Name

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

- 1. All questions are compulsory.
- 2. The candidates *must return* the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfairmeans / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
- 3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
- 4. Question Booklet along with answer key of all the A, B, C & D code will be got uploaded on the University website after the conduct of Entrance Examination. In case there is any discrepancy in the Question Booklet/Answer Key, the same may be brought to the notice of the Controller of Examination in writing/through E.Mail within 24 hours of uploading the same on the University Website. Thereafter, no complaint in any case, will be considered.
- 5. The candidate *must not* do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers *must not* be ticked in the question booklet.
- 6. There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
- 7. Use only Black or Blue Ball Point Pen of good quality in the OMR Answer-Sheet.
- 8. Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained 30 minutes after starting of the examination.

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١.	(1) Identify change (2) Control change (3) Ensure improper implementation of change (4) Report change to interested parties	
2.	In planning a software project one would: (1) Find ways to produce results using limited resources (2) Pad the schedule to accommodate errors (3) Overestimate the budget (4) Structure the team to prevent administrative interference	
3.	A systematic approach to software development, as epitomized by the various life cycle models, is useful in: (1) Helping us understand the nature of the software product (2) Convincing the customer that we know what we are doing (3) Filling texts on software engineering (4) Managing the various activities necessary to get the job done	
4.	A process view in software engineering would consider which of the following? (1) Product performance (2) Staffing (3) Functionality (4) Reliability	
5.	Software measurement is useful to: (1) Indicate quality of the product (2) Track progress (3) Assess productivity (4) All of the above	
6.	What is the worst-case time for heapsort to sort an array of n elements?	
	(1) $O(\log n)$ (2) $O(n)$ (3) $O(n \log n)$ (4) $O(n^2)$	
7	. In AVL tree the balance factor of every node should be:	
	(1) 0 (2) 0 or 1 (3) -1 , 0 or 1 (4) -1 or 1	
8	3. The elements of linked list are stored in :	
	 Successive memory locations Alternate memory locations None of the above 	
, 9	Queue data structure is based on the principle of:	
	(1) Last Come First Serve (2) First Come First Serve	
	(3) Both (1) & (2) above (4) None of the above	

10.	Which of the following is a non-linear d	ata structure ?	
	(1) Tree	(2) Array	
	(3) Linked list	(4) None of the above	
11.	is a high speed cache used	to hold recently referenced page table entries	
	part of paged virtual memory. (1) Translation Lookaside buffer	(2) Inverse page table	
	(3) Segmented page table	(4) All the above	
12.	does the job of allocating a pro	cess to the processor.	
	(1) Long term scheduler	(2) Short term scheduler	
	(3) Medium term scheduler	(4) Dispatcher	
13.	In interactive environments such as time-sharing systems, the primary requiremen provide reasonably good response time and in general, to share system rescupitably. In such situations, the scheduling algorithm that is most popularly apple		
	(1) Shortest Remaining Time Next (SR)	ΓN) Scheduling	
	(2) Priority Based Preemptive Schedulin		
	(3) Round Robin Scheduling		
	(4) None of the above		
14.	In the multi-programming environmen number of process.	t, the main memory consisting of	
	(1) Greater than 100	(2) Only one	
	(3) Greater than 50	(4) More than one	
15.	In a multithreaded environment		
	(1) Each thread is allocated with new memory from main memory.		
	(2) Main thread terminates after the term		
	(3) Every process can have only one thro	ead.	
	(4) None of the above		
16.	Which of the following is not a 'concern'	during the management of a software project?	
	(1) Money		
	(2) Time	보통 한 왕인다가 말을 꾸게 하셨다. 그리는 네티란	
	(3) Product quality		
	(4) Product quantity		
	gar and garage and the second of the second		

17. A Business Intelligence system requires data from:		data from :
	 Data warehouse Operational systems 	
	•	nization and possibly from external sources
	(4) Web servers	median and possiony from external sources
18.	Data mining application domains are:	
	(1) Biomedical	(2) DNA data analysis
	(3) Financial data analysis	(4) All above
19.	performed by examining each attribute, and constructing a multidimensional dat	
	(1) Object cube	(2) Relational cube
	(3) Transactional cube	(4) Tuple
20.	Which of the following project is process/department that is very critical for	a building a data mart for a business for your organization?
	(1) High risk high reward	(2) High risk low reward
	(3) Low risk low reward	(4) Low risk high reward
21.	What is the maximum number of possi simple graph with n vertices?	ble non-zero values in an adjacency matrix of a
	(1) $(n*(n-1))/2$ (2) $(n*(n+1))/2$	(3) $n*(n-1)$ (4) $n*(n+1)$
22	If L is DFA-regular, L' is:	
	(1) Non-regular	(2) DFA-regular
	(3) Non-finite	(4) None of the above
23	. What is the maximum number of edges	in a bipartite graph having 10 vertices?
	(1) 24 (2) 21	(3) 25 (4) 16
24	$p \vee q$ is logically equivalent to:	
	$(1) \neg q \rightarrow \neg p \qquad (2) \ q \rightarrow p$	$(3) \neg p \rightarrow \neg q \qquad (4) \neg p \rightarrow q$
25	6. Which of the technique can be used to	prove that a language is non-regular?
	(1) Arden's theorem	(2) Pumping Lemma
	(3) Ogden's Lemma	(4) None of the above

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26.		replement of $(1001)_2$? (2) $(0011)_2$		(4) (1100) ₂
27.	What are the man floating point repre	tissa and exponent esentation?	required respectiv	ely to represent '5' in binary
	(1) 011, 0.110000 (3) 011, 0.101000		(2) 0.110000, 0 (4) 0.101000, 0	
28.	28. For a given graph G having v vertic cycles, which of the following stateme(1) v = e		es and e edges whats is $true$? (2) $v = e + 1$	nich is connected and has no
	(3) $v + 1 = e$		(4) None of the	above
29.	The set of positive	integers is	:	
	(1) Infinite		(3) Subset	(4) Empty
30. The compound propositions p and q are called logically equivalent if tautology.		equivalent if is a		
	(1) $p \leftrightarrow q$	(2) $p \rightarrow q$	$(3) \neg (p \lor q)$	$(4) \neg p \lor \neg q$
31.	 Program generation activity aims at: (1) Automatic generation of program (2) Organize execution of a program written in PL (3) Skips generation of program (4) Speed generation of program 		•	
32.	Which of the follow	ving loader is execut	ed when a system i	s first turned on or restarted?
	(1) Boot loader		(2) Compile and	
	(3) Bootstrap load	er	(4) Relating loa	der
33.	A parser which is a	variant of top-down	n parsing without b	acktracking is:
	(1) Recursive Des	cend	(2) Operator Pr	ecedence
	(3) LL(I) parser		(4) LALR Parso	er
34.	is used to build 'intuitive' queries.			
	(1) SQL	(2) Xbase	(3) QBE	(4) XML
35. To print information from a table, the tool is the best c		best choice.		
	(1) form	(2) report	(3) query	(4) macro

36.	In regular expressions, the operator '*' st	ands for :
	(1) Concatenation	(2) Selection
	(3) Iteration	(4) Addition
37.	A system program that set-up an exe execution is: (1) Assembler (2) Linker	cutable program in main memory ready for (3) Loader (4) Text editor
38.	Symptoms of the software crisis would in (1) Software delivered behind schedule (2) Software exceeding cost estimate (3) Unreliable (4) All of the above	
39.	Which of the following projects would paradigm for software development?	d be a good one for adopting the prototyping
	(1) Accounting System	(2) Spreadsheet
	(3) Automobile Cruise Control	(4) Algebra Tutor
40.	Views of quality software would not inc	clude :
	(1) Optimizing price and performance	
	(2) Minimizing the execution errors	
	(3) Conformance to specification	
	(4) Establishing valid requirements	
41.	attribute and the relation key?	mit dependency between a non-prime
	(1) Partial (2) Multi	(3) Functional (4) Valued
42	A relation scheme is in if it is fully functionally dependent on the rela	s in the 1 NF and if all non-prime attributes are tion key?
	(1) First Normal Form	(2) Second Normal Form
	(3) Boyce Codd Normal Form	(4) Fourth Normal Form
43	In a Third Normal Form relation, every dependent on the every candidate key?	
	(1) Prime	(2) Non-Prime
	(3) Unique	(4) None of these

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53.	In a data warehouse, if D1 and D2 are two conformed dimensions, then: (1) D1 may be an exact replica of D2 (2) D I may be at a rolled up level of granularity compared to D2 (3) Columns of D1 may be a subset of D2 and vice versa (4) Rows of D1 may be a subset of D2 and vice versa	
54.	enabling a closer path of a line is:	ows shift of 1/4,1/2 and 3/4 of a pixel diameter
	 (1) Pixel phasing (3) Intensity compensation 	(2) Filtering
		(4) Sampling technique
55.	The simply reads each success	
	(1) Digital Controller	(2) Data Controller
	(3) Display Controller	(4) All of above
56.	If you wanted to create text that was a Web page, what type of tag would you	different color or font than other text in your use?
	(1) layout	(2) basic formatting
	(3) design	(4) outline
57.	Which among the following is used functionalities?	d to write small programs to control Unix
	(1) Shell Commands	(2) Shell Script
	(3) Filters	(4) C Language
58.	Which of the following is considered as	the super daemon in Unix ?
	(1) sysinit (2) init	(3) inetd (4) proc
59.		nd "cp" in Unix ?
٠.	(1) help cp	(2) man cp
	(3) cp?	(4) none of the mentioned
60.		suffers from Belady's anamoly
	(1) LRU	(2) MRU
	(3) FIFO	(4) LIFO
61.	Which of the following transmission individual device?	systems provide the highest data rate to in
	(1) Computer bus	(2) Telephone lines
	(3) Voice and mode	(4) Lease lines

62	are operating in:	a in both directions but not at the same time
	(1) a simplex mode	(2) a half duplex mode(4) an asynchronous mode
63	(1) miks to sites of meetes	d including on your Web site? (2) private personal information (4) graphical
64	Which of the following Web elements si Web site? (1) the web audience (2) the operating environment of your ISP (3) the operating system of your visitor (4) each consideration should determine y	
65.	(1) Basic (2	2) C++ 4) HTML
66.	main () { int nl = 4; printf(" % d ", sizeof (n 1)); }	(4) 8
67.) 1 (4) 8
o/.	(1) Scope resolution operator (2)	Arrow operator Assignment operator
8.	ciuso ,	
	(1) By declaring the class as interface with k(2) By making all the methods abstract using	g the keyword abstract in class
	(3) By making all the methods pure virtual i	n class
	(4) It is not possible to create interface class.	

69.	What is the right way to declare a copy	constructor of a class if the name of class is X?	
	(1) X(const X* arg)	(2) X(const X& arg)	
	(3) X(X arg)	(4) X(X* arg)	
70.	Which statement is most appropriate for	·C++ language ?	
	(1) Type Less language	(2) Statically types Language	
	(3) Dynamically typed language	(4) Both (2) and (3)	
71.	To implement recursion, which of the fo	ollowing data structure is required?	
	(1) Stack	(2) Queue	
	(3) Tree	(4) None of the above	
72.	Array passed as an argument to a function	on is interpreted as:	
	(1) Address of the array		
	(2) Values of the first elements of the array		
	(3) Address of the first element of the array		
	(4) Number of element of the array		
73.	Time taken for addition of element in qu	ieue is :	
	(1) O(1)	(2) O(n)	
	(3) $O(\log n)$	(4) None of these options	
74.	The memory address of the first elemen	t of an array is called:	
	(1) floor address	(2) foundation address	
	(3) first address	(4) base address	
75.	How is a J-K flip-flop made to toggle?		
	(1) $J = 0, K = 0$		
	(2) $J = 1, K = 0$		
	(3) $J = 0, K = 1$		
	(4) $J = 1, K = 1$		
76.	Error detection at the data link level is a	chieved by:	
	(1) Bit stuffing	(2) Hamming codes	
	(3) Cyclic Redundancy codes	(4) Equalization	

ic.		
77.	Which of the following is an advanta (1) resistance to data theft (2) fast data transmission rate (3) low noise level (4) all of above	ige to using fibre optics data transmission?
78.	Which of the following is required to (1) communications software (2) protocol (3) communication hardware (4) all of above including access to the	communicate between two computers?
79.	Which of the following types of chan	nels moves data relatively slowly?
	(1) wide band channel	(2) voice band channel
	(3) narrow band channel	(4) all of above
80.	A protocol is a set of rules governing	a time sequence of events that must take place
	(1) between peers	(2) between an interface
	(3) between modems	(4) across an interface
81.	3G W-CDMA is also known as :	
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83.	Which instruments are used for percei	ving and acting upon the environment?
	(1) Sensors and Actuators	(2) Sensors
	(3) Perceiver	(4) None of the mentioned
84.	In which agent does the problem gener	rator is present?
	(1) Learning agent	(2) Observing agent
	(3) Reflex agent	(4) None of the mentioned
85.	Which application we will use to make	e program more portable ?
	(1) WindowsAPI	(2) WindowApp
	(3) MFC	(A) None of these

(4) Self Organisation

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(3) Hash Table

Which concept of grammar is used in the compiler?		
(1) Lexical analysis	(2) Parser	
(3) Code generation	(4) Code optimization	
The behaviour of a NFA can be stir	nulated by DFA:	
(1) Always	(2) Sometimes	
(3) Never	(4) Depends on NFA	
To store your picture in a database	requires a(n) field.	
(1) BLOB (2) text	(3) image (4) logical	
The is used to access one	record at a time.	
(1) query (2) filter	(3) form (4) report	
A transparent DBMS?		
(1) Can not hide sensitive information from users		
(2) Keep its logical structure hidde	n from users	
(4) Both (2) and (3)	den from users	
	(2) Non - Atomic	
	(4) None of these	
A relation scheme is said to be in attribute of the relation are atomic	form if the values in the domain of each	
(1) Unnormalized	(2) First Normal	
(3) Boyce CODD	(4) None of these	
	(1) Lexical analysis (3) Code generation The behaviour of a NFA can be stir (1) Always (3) Never To store your picture in a database of the your picture in a database of the store your picture in a database of the your	

Total No. of Printed Pages: 13

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

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M.Phil./Ph.D./URS-EE-2020

SET-Y

10012

SUBJECT: Computer Science

		Sr. No
Time : 11/4 Hours	Max. Marks : 100	Total Questions: 100
Roll No. (in figures)	(in words)	
Name	Father's Name	
Mother's Name	Date of Examination_	
(Signature of the Candidate)	-	(Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

- 1. All questions are compulsory.
- 2. The candidates must return the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfairmeans / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
- 3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
- 4. Question Booklet along with answer key of all the A, B, C & D code will be got uploaded on the University website after the conduct of Entrance Examination. In case there is any discrepancy in the Question Booklet/Answer Key, the same may be brought to the notice of the Controller of Examination in writing/through E.Mail within 24 hours of uploading the same on the University Website. Thereafter, no complaint in any case, will be considered.
- The candidate must not do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers must not be ticked in the question booklet.
- There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
- 7. Use only Black or Blue Ball Point Pen of good quality in the OMR Answer-Sheet.
- Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained 30 minutes after starting of the examination.

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1.	1. 3G W-CDMA is also known as:		
	(1) UMTS (2) DECT (3) I	OCS-1800 (4) ETACS	
2.	2. To increase the speed of memory access in pip	elining, we make use of	
	(1) 6	Special purpose registers	
	(2) (2 1	Buffers	
3.	3. Which instruments are used for perceiving and	acting upon the environment?	
	(1) 5	Sensors	
	(3) Perceiver (4)	None of the mentioned	
4.	4. In which agent does the problem generator is	present?	
	/1\ T	Observing agent	
	(2) P (3)	None of the mentioned	
5.	5. Which application we will use to make progra		
	(1) Windows A Dr	WindowApp	
	(2) MEC	None of these	
6.	6. What does an HTML tag do?		
	(1) It specifies formatting and layout instructions for your web page.		
	(2) It hides programming instructions from view.		
	(3) It determines the organizational structure		
	(4) It connects your web site to an operating		
7	7. A Web document is broken into sections. V sections?	What are the tags called that create these	
	(1) structure tags (2)	html tags	
	(2) booding to	body tags	
	8. What should be the first and last pair of tags		
	(1) <html></html> and <body></body>	y and document !	
	(2) <start><end> and <body></body></end></start>		
	(3) <head><body> and <title></title></body></head>		
	(4) <title></title> and <body></body>		

		2
9.	When you use a heading tag in a	document, what does the Web browser assumes?
	(1) heading information is to ap	pear in bold letters
	(2) heading information is to ap	pear on its own line
	(3) heading information has a hy	perlink
	(4) heading information is show	
10.	10. For every Web document, you can add words that appear in the upper left bar are your browser. What set of tags allows you to provide this information?	
	(1) <head></head>	(2) <head><head></head></head>
	(3) <label><label></label></label>	(4) <title></title>
11.	To implement recursion, which of	of the following data structure is required?
	(1) Stack	(2) Queue
	(3) Tree	(4) None of the above
12.	Array passed as an argument to a	a function is interpreted as:
	(1) Address of the array	
	(2) Values of the first elements	of the array
	(3) Address of the first element	
	(4) Number of element of the ar	ray
13.	Time taken for addition of eleme	ent in queue is:
	(1) O(1)	(2) O(n)
	(3) $O(\log n)$	(4) None of these options
14.	The memory address of the first	element of an array is called:
	(1) floor address	(2) foundation address
	(3) first address	(4) base address
15.	How is a J-K flip-flop made to to	oggle ?
	(1) $J = 0, K = 0$	(2) $J = 1, K = 0$
	(3) $J = 0, K = 1$	(4) $J = 1, K = 1$
16.	Error detection at the data link le	evel is achieved by:
	(1) Bit stuffing	(2) Hamming codes
	(3) Cyclic Redundancy codes	(4) Equalization

17.	Which of the following is an advanta	age to using fibre optics data transmission?			
	(1) resistance to data theft				
	(2) fast data transmission rate				
	(3) low noise level				
	(4) all of above				
18.	Which of the following is required to	Which of the following is required to communicate between two computers?			
	(1) communications software				
	(2) protocol				
	(3) communication hardware				
	(4) all of above including access to	transmission medium			
19.	Which of the following types of channels moves data relatively slowly?				
	(1) wide band channel	(2) voice band channel			
	(3) narrow band channel	(4) all of above			
20.	A protocol is a set of rules governing	A protocol is a set of rules governing a time sequence of events that must take place?			
	(1) between peers	(2) between an interface			
	(3) between modems	(4) across an interface			
21.	Which of the following transmiss individual device?	ion systems provide the highest data rate to in			
	(1) Computer bus	(2) Telephone lines			
	(3) Voice and mode	(4) Lease lines			
22.	Communication circuits that transmare operating in:	nit data in both directions but not at the same time			
	(1) a simplex mode	(2) a half duplex mode			
	(3) a full duplex mode	(4) an asynchronous mode			
23.	What type of information should you	u avoid including on your Web site?			
	(1) links to sites of interest				
	(2) private personal information				
	(3) work and academic experience				
	(4) graphical				

		Ţ,
24.	Which of the following Web elements Web site? (1) the web audience (2) the operating environment of your IS (3) the operating system of your visitor (4) each consideration should determine	
25.	What is the language of the Web? (1) Basic (3) MS Visual Basic	(2) C++ (4) HTML
26.	<pre>Write the output of: main() { int nl = 4; printf(" % d ", sizeof (n 1)); } (1) 2 (2) 4</pre>	(3) 1 (4) 8
27.	c.i. c.ii. anarotor can't he	overloaded? (2) Arrow operator (4) Assignment operator
28.	 (1) By declaring the class as interface with (2) By making all the methods abstract ut (3) By making all the methods pure virtue (4) It is not possible to create interface of 	using the keyword abstract in class ual in class lasses in c++
29.	What is the right way to declare a copy constant (1) X(const X* arg) (3) X(X arg)	onstructor of a class if the name of class is X? (2) X(const X& arg) (4) X(X* arg)
30.	Which statement is most appropriate for (1) Type Less language (3) Dynamically typed language	C++ language? (2) Statically types Language (4) Both (2) and (3)
31.	Which of the following is the fastest logical (1) TTL (2) ECL	c? (3) CMOS (4) LSI

32.	The linker: (1) is similar to int (3) is required to c	erpreter reate a load module		uses source coo		_	
33.	The symbol table implementation is bas(1) Linear list(3) Hash Table			the property of Search tree Self Organisation		ty of reference is :	
34.	Which concept of g (1) Lexical analysi (3) Code generation		e coi (2)				
35.	The behaviour of a (1) Always	NFA can be stimulated (2) Sometimes		y DFA : Never	(4) D	Depends on NFA	
36.	To store your pictu (1) BLOB	re in a database requi		(n) field image		ogical	
37.	The is use (1) query	ed to access one record (2) filter		a time. form	(4) re	eport	
38.	(2) Keep its logica	ensitive information for a structure hidden from a structure hidden in a structure hidde	m us	ers			
39.	An unnormalized re	elation contains value (2) Non - Atomic		Classified	(4) N	None of these	
40.	attribute of the rela	is said to be in		form if the val	ues in	the domain of ea	ach
41.		ving tools a business	intel (2)		will ha ol	ve?	
42.	Which of the follow (1) Regression (3) Clustering	ving is/are the Data n	ninin (2)				

		\boldsymbol{v}
*8.	in a data warehouse, if D1 and D2 are to 1 D1 may be an exact replied of D2 (2) D4 may be at a rolled up level of g (3) (3) (3) may be a subset of (4) Rows of D1 may be a subset of D2	ranularity compared to 172 172 and vice versa
44.	The anti-aliaxing technique which all enabling a closer path of a line is: (1) Pixel phasing (3) Intensity compensation	ows shift of 1/4,1/2 and 3/4 of a pixel dismeter (2) Filtering (4) Sampling technique
45.	The simply reads each success (1) Digital Controller (3) Display Controller	(2) Data Controller (4) All of above
46.	Web page, what type of tag would you (1) layout (3) design	(2) basic formatting (4) outline
47.	Which among the following is use functionalities? (1) Shell Commands (3) Filters	(2) Shell Script (4) C Language
	and the second darket	is the super daemon in Unix?
48.	(1) sysinit (2) init	(3) inetd (4) proc
49.	How do you get help about the comma	and "cp" in Unix?
	(1) help cp (3) cp?	(2) man cp(4) none of the mentioned
50.	page replacement algorithm	n suffers from Belady's anamoly.
	(1) LRU (2) MRU	(3) FIFO (4) LIFO
51.	part of paged virtual memory.	d to hold recently referenced page table entries a
	(1) Translation Lookaside buffer	(2) Inverse page table
	(3) Segmented page table	(4) All the above

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(3) Financial data analysis

D

		t	
59.	The generalization of multidimensional performed by examining each attribute, and constructing a multidimensional data (1) Object cube (3) Transactional cube	attributes of a complex object class can be generalizing each attribute to simple-value data cube is called as	
60.	Which of the following project is process/department that is very critical f (1) High risk high reward (3) Low risk low reward	a building a data mart for a business or your organization? (2) High risk low reward (4) Low risk high reward	
61.	 61. Software configuration activities would <i>not</i> include: (1) Identify change (2) Control change (3) Ensure improper implementation of change (4) Report change to interested parties 		
62	2. In planning a software project one would (1) Find ways to produce results using (2) Pad the schedule to accommodate (3) Overestimate the budget (4) Structure the team to prevent administration.	limited resources errors	
63	 A systematic approach to software decycle models, is useful in: (1) Helping us understand the nature o (2) Convincing the customer that we k (3) Filling texts on software engineering (4) Managing the various activities needs 	now what we are doing	
6	4. A process view in software engineering(1) Product performance(3) Functionality	g would consider which of the following? (2) Staffing (4) Reliability	
6	5. Software measurement is useful to:(1) Indicate quality of the product(3) Assess productivity	(2) Track progress(4) All of the above	
6	6. What is the worst-case time for heapso $(1) O(\log n)$ $(2) O(n)$	ort to sort an array of n elements? (3) $O(n \log n)$ (4) $O(n^2)$	

67.	In A	VL tree the balance factor of every no	ode should be :
	(1) ((2) 0 or 1	(3) -1, 0 or 1 $(4) -1 or 1$
68.	(1)	elements of linked list are stored in: Successive memory locations Alternate memory locations	(2) Random memory locations(4) None of the above
69.	(1)	Last Come First Serve Both (1) & (2) above	ciple of : (2) First Come First Serve (4) None of the above
70	(1)	nich of the following is a non-linear da Tree Linked list	ata structure ? (2) Array (4) None of the above
7	at	tribute and the relation key? 1) Partial (2) Multi	mit dependency between a non-prime (3) Functional (4) Valued
7	f (A relation scheme is in if it is fully functionally dependent on the relation of the re	is in the 1 NF and if all non-prime attributes are attributes are (2) Second Normal Form (4) Fourth Normal Form
	73.	In a Third Normal Form relation, ever dependent on the every candidate key (1) Prime (2) Non-Prime	y attribute is non - transitively and fully? (3) Unique (4) None of these
	74.	In the IEEE standards 802.5 standard i (1) Ethernet (3) Wireless Token Area Network	(2) Token Bus(4) Token Ring
	75.	network? (1) Point-to-Point (3) Protocol	(2) Broadcast Network (4) PAN
	76.	Analysis which determines the mean becomes known is termed as: (1) Semantic analysis (3) Regular analysis	(2) Syntax analysis (4) General analysis P. T. O.

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0		
77.	Load address for the first word of the pro (1) Linker addression origin (3) Phase library	(2) Load addression origin (4) Absolute library
78.	Symbolic names can be associated with (1) Information (3) operand	(2) data or instruction (4) mnemonic operation
79.	The translator which perform macro exp (1) Macro processor (3) Micro pre-processor	ansion is called a: (2) Macro pre-processor (4) Assembler
80.	An assembler is: (1) programming language dependent (3) machine dependant	(4) data dependant
81.	What is the maximum number of possill simple graph with n vertices? (1) $(n*(n-1))/2$ (2) $(n*(n+1))/2$	ole non-zero values in an adjacency matrix of a (3) $n*(n-1)$ (4) $n*(n+1)$
82.	If L is DFA-regular, L' is: (1) Non-regular (3) Non-finite	(2) DFA-regular(4) None of the above
83.	What is the maximum number of edges (1) 24 (2) 21	in a bipartite graph having 10 vertices? (3) 25 (4) 16
84.	$p \lor q$ is logically equivalent to: (1) $\neg q \rightarrow \neg p$ (2) $q \rightarrow p$	$(3) \neg p \rightarrow \neg q \qquad (4) \neg p \rightarrow q$
85.	Which of the technique can be used to p (1) Arden's theorem (3) Ogden's Lemma	(2) Pumping Lemma (4) None of the above
86.	What is the 2's complement of $(1001)_2$? (1) $(0100)_2$ (2) $(0011)_2$	(3) (0111)2 (4) (1100)2
87.	What are the mantissa and exponent in floating point representation? (1) 011, 0.110000 (3) 011, 0.101000	(2) 0.110000, 011 (4) 0.101000, 011

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				ch is connected and has no				
		ne following stateme						
	(1) v = e		(2) v = e + 1					
	(3) $v + 1 = e$		(4) None of the a	bove				
89.	The set of positive	e integers is	:					
	(1) Infinite	(2) Finite	(3) Subset	(4) Empty				
90.	The compound p tautology.	ropositions p and q	are called logically	equivalent if is a				
	$(1) \ p \leftrightarrow q$	$(2) \ p \to q$	$(3) \neg (p \lor q)$	$(4) \ \neg p \lor \neg \ q$				
	(1) Automatic ge		n					
92	Which of the following (1) Boot loader (3) Bootstrap loader		(2) Compile and Go loader (4) Relating loader					
93	A parser which	is a variant of top-do	own parsing without b	acktracking is:				
	(1) Recursive I		(2) Operator Pro					
	(3) LL(I) parse		(4) LALR Parse	er				
9	4. is	used to build 'intuitiv	ve' queries.					
-		(2) Xbase		(4) XML				
9	5. To print inform	ation from a table, th	ne tool is the	best choice.				
	(1) form	(2) report	(3) query	(4) macro				
9	6. In regular expr	essions, the operator	'*' stands for :					
	(1) Concatena	tion	(2) Selection					
	(3) Iteration		(4) Addition					
Ş	77. A system pro execution is: (1) Assembler		executable program (3) Loader	n in main memory ready for (4) Text editor				

- **98.** Symptoms of the software crisis would include:
 - (1) Software delivered behind schedule
 - (2) Software exceeding cost estimate
 - (3) Unreliable
 - (4) All of the above
- **99.** Which of the following projects would be a good one for adopting the prototyping paradigm for software development?
 - (1) Accounting System

- (2) Spreadsheet
- (3) Automobile Cruise Control
- (4) Algebra Tutor
- **100.** Views of quality software would *not* include :
 - (1) Optimizing price and performance
 - (2) Minimizing the execution errors
 - (3) Conformance to specification
 - (4) Establishing valid requirements

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Paper Code: PHD/URS-EE-2020 Code-A

Question	Key	Question	Key	Question	Key	Question	Key
1	c	26	d	51	b	76	a
2	b	27	a	52	c	77	a
3	c	28	d	53	c	78	c
4	d	29	a	54	b	79	b
5	b	30	a	55	a	80	b
6	c	31	a	56	a	81	a
7	d	32	d	57	c	82	c
8	b	33	a	58	c	83	a
9	a	34	a	59	c	84	c
10	a	35	c	60	b	85	b
11	a	36	b	61	d	86	c
12	c	37	b	62	a	87	c
13	a	38	b	63	c	88	d
14	a	39	b	64	d	89	d
15	a	40	С	65	b	90	b
16	a	41	c	66	a	91	a
17	a	42	a	67	b	92	c
18	a	43	d	68	b	93	c
19	b	44	b	69	b	94	d
20	d	45	d	70	c	95	d
21	a	46	С	71	a	96	a
22	d	47	С	72	b	97	d
23	С	48	b	73	b	98	d
24	d	49	b	74	a	99	c
25	b	50	a	75	d	100	a

Ph.D.(Computer Science) Entrance Exam,2020

Paper Code: PHD/URS-EE-2020 Code-B

Question	Key	Question	Key	Question	Key	Question	Key
1	a	26	b	51	d	76	С
2	b	27	b	52	a	77	С
3	b	28	b	53	С	78	b
4	a	29	b	54	d	79	b
5	d	30	С	55	b	80	a
6	a	31	a	56	a	81	a
7	a	32	с	57	b	82	d
8	c	33	a	58	b	83	c
9	b	34	a	59	b	84	d
10	b	35	a	60	С	85	b
11	b	36	a	61	a	86	d
12	С	37	a	62	С	87	a
13	С	38	a	63	a	88	d
14	b	39	b	64	С	89	a
15	a	40	d	65	b	90	a
16	a	41	a	66	С	91	c
17	с	42	c	67	с	92	b
18	c	43	с	68	d	93	c
19	c	44	d	69	d	94	d
20	b	45	d	70	b	95	b
21	a	46	a	71	С	96	С
22	d	47	d	72	a	97	d
23	a	48	d	73	d	98	b
24	a	49	С	74	b	99	a
25	С	50	a	75	d	100	a

Ph.D.(Computer Science) Entrance Exam,2020

Paper Code: PHD/URS-EE-2020 Code-C

Question	Key	Question	Key	Question	Key	Question	Key
1	С	26	С	51	a	76	a
2	a	27	d	52	d	77	d
3	d	28	b	53	a	78	d
4	b	29	a	54	a	79	С
5	d	30	a	55	с	80	a
6	с	31	a	56	b	81	a
7	с	32	С	57	b	82	С
8	b	33	a	58	b	83	a
9	b	34	С	59	b	84	a
10	a	35	b	60	С	85	a
11	a	36	С	61	a	86	a
12	d	37	С	62	b	87	a
13	С	38	d	63	b	88	a
14	d	39	d	64	a	89	b
15	b	40	b	65	d	90	d
16	d	41	d	66	a	91	b
17	a	42	a	67	a	92	С
18	d	43	С	68	С	93	С
19	a	44	d	69	b	94	b
20	a	45	b	70	b	95	a
21	С	46	a	71	a	96	a
22	b	47	b	72	С	97	С
23	С	48	b	73	С	98	С
24	d	49	b	74	d	99	С
25	b	50	С	75	d	100	b

Ph.D.(Computer Science) Entrance Exam,2020

Paper Code: PHD/URS-EE-2020 Code-D

Question	Key	Question	Key	Question	Key	Question	Key
1	a	26	a	51	a	76	a
2	С	27	a	52	d	77	b
3	a	28	С	53	С	78	b
4	a	29	b	54	d	79	b
5	a	30	b	55	b	80	c
6	a	31	b	56	d	81	c
7	a	32	С	57	a	82	b
8	a	33	С	58	d	83	c
9	b	34	b	59	a	84	d
10	d	35	a	60	a	85	b
11	a	36	a	61	С	86	С
12	с	37	С	62	a	87	d
13	С	38	С	63	d	88	b
14	d	39	С	64	b	89	a
15	d	40	b	65	d	90	a
16	a	41	a	66	С	91	a
17	d	42	d	67	С	92	С
18	d	43	a	68	b	93	a
19	С	44	a	69	b	94	С
20	a	45	С	70	a	95	b
21	a	46	b	71	d	96	С
22	b	47	b	72	a	97	С
23	b	48	b	73	С	98	d
24	a	49	b	74	d	99	d
25	d	50	С	75	b	100	b