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SET-X

PHD-EE-2023-24

Computer Science

10021

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

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(gdf	(1) p AND ~p (2) p OR~p	andle is us.
	(3) pXOR~p $ (4) p \leftrightarrow \neg p $	
	100 7 1814	gasaf) i ti on ?
2.	2. Which property is not necessarily satisfied by an equivalence relation	beat the
	(1) Reflexivity (2) Symmetry	
	(3) Transitivity of the resemble of boil (4) Asymmetry:	nogla distrib
4	48.5	Ling College of W
3.	Pigeophole Principle?	
	(1) Some pigeonhole is empty.	muchid (t)
	(2) Some pigeonhole has more than one pigeon.	tribed and 7 B
	(3) Each pigeonhole has exactly one pigeon.	rs Fent Or
	(4) Each pigeonhole has at most one pigeon.	is) Am evel
4.	4. In cryptography, which concept from group theory is utilized to see	cure communication
	1 lie Irov grantagraphy ?	
	210.8075	Great Marketon
	(1) 100111011	
	(3) Automorphism (4) Discrete logarithm pro	oblem was to sa
5.	5 What is the chromatic number of a graph?	
0.	to the state of th	Lubok (I)
	(1) The minimum number of colors needed to color the vertices of no two adjacent vertices have the same color.	the graph such that
	(2) The maximum degree of any vertex in the graph.	town that of
	(3) The minimum degree of any vertex in the graph.	41-1
	(4) The maximum number of vertices that are pairwise adjacent.	

1. Which of the following is an example of a tautology?

		where
6.	Which algebraic structure has both	addition and multiplication operations, where
	multiplication is distributive over addi	tion, and it may not have multiplicative inverses
	for all elements?	
	(1) Group	(2) Ring (4) Integral Domain
	(3) Field guaranteed the	(4) Integral Domain
7.	Which algorithm is commonly used to	o find the shortest path between two vertices in a
	weighted graph?	(2) Depth-First Search (DFS)
1 427	(1) Breadth-First Search (BFS)	(2) Depth-First Search (DFS)
	(3) Dijkstra's algorithm	(4) Kruskal's algorithm
8.	What does the expression V'x∃y P(x,	y) mean in terms of nested quantifiers?
	(1) There exists an x such that for eve	ery y, P(x, y) is true.
	(2) For every x, there exists a y such	that P(x, y) is true.
	(3) There exists an x and a y such that	at P(x, y) is true.
	(4) For every x and y, P(x, y) is true.	and the second s
9.	Which rule of inference is represen	ted by the statement "p implies q, and p is true
	therefore q is true"?	t does , in seligate of manifes at a mylet . &
	(1) Modus Ponens	(2) Modus Tollens
it) il	(3) Hypothetical Syllogism	(4) Disjunctive Syllogism
10.	If $C = A \cap B$, what is the compleme	nt of set C with respect to the universal set U?
	(1) A∩B	(2) A UB
	(3) A-B	(4) $\mathbf{A}' \cup \mathbf{B}'$

11	1. What is the primary characteristic of combinational circuits?	
	(1) Feedback (2) Memory elements	
	(3) Sequential operation (4) No feedback	
12		
	(1) Transfer data from one register to another the state of the state	
	(2) Shift bits within a register	
	(3) Perform arithmetic operations	
	(4) Move data within a register	
13.	What is the primary function of the control unit in a computer?	
	(1) Execute arithmetic operations	
	(2) Manage input-output operations	
	(3) Control the flow of data within the CPU	
	(4) Manage the memory hierarchy	
	Zeros of Suits plant more and for 2	
14.		
	(1) To store program instructions	
	(2) To store intermediate data during program execution	
	(3) To manage input-output operations	
	(4) To store permanent data	
15.	What is the primary advantage of pipelining in computer architecture?	
, 25	(1) Improved instruction set	
	(2) Faster clock speed	
	(3) Increased throughput	
	(4) Reduced power consumption	
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16.	What is the purpose of DMA (Direct Memory Access) in computer systems?
	(1) Execute arithmetic operations
	(2) Manage input-output operations
	(3) Transfer data between main memory and auxiliary memory
	(4) Control the flow of data within the CPU
17.	What is the role of cache memory in the memory hierarchy?
	(1) Store permanent data
	(2) Provide fast access to frequently used data
	(3) Manage input-output operations frames affine notionally ensuring and visited to the
	(4) Control the flow of data within the CPU
4.5	in the second of the second
18.	What is a characteristic feature of a multicore processor?
	(1) Single processor with multiple cores
	(2) Multiple processors with single cores
	(3) Multiple processors with multiple cores
	(4) Single processor with single core
	The contract of the contract o
19.	What is the primary characteristic of combinational circuits?
	(1) Feedback (2) Memory elements
	(3) Sequential operation (4) No feedback
	The companies of the property of the property of the companies of the comp
20.	In a 4-to-1 multiplexer, how many input lines can be selected using the control lines?
	(1) 1
	(3) 3 (4) 4 days and a support of the support of th

21					
	mathematical functions and avoids changing state and mutable data?				
	(1) Imperative	(2) Declarative			
	(3) Procedural	(4) Object-Oriented			
22.	Which formal model is often used to a	describe the syntax of programming languages?			
	(1) Finite State Machine (FSM)	(2) Turing Machine			
	(3) Context-Free Grammar (CFG)	(4) Pushdown Automaton (PDA)			
23.	Which property of a type allows an object	ect of that type to be modified after its creation?			
	(1) Mutable	(2) Immutable			
	(3) Static	(1) Dynamic			
X	antar many man (4)				
24.	1 2 8,				
	(1) Declare a new type	(2) Define a constant			
	(3) Declare a variable	(4) Define a function			
25.	Which keyword is used in C++ to defi	ne a function?			
	(1) method	(2) function			
	(3) def	(4) define			
26.	What is the purpose of a destructor in	C++?			
	(1) Initialize an object	Alikhigar shiga (a)			
	(2) Perform cleanup tasks when an object	ject goes out of scope			
	(3) Define the structure of a class				
	(4) Overload operators	e grand and the second of the			

27.	In C++, which keyword is used to handle	e exc	ceptions?	9 10 TE	Ser Japan Co.	
	(1) throw	(2)	catch	1 2 to 1		
	(3) exception	(4)	try			
28.	In 2-D geometrical transforms, what does	es sh	ear refer to?			1 h
	(1) Changing the position of an object	(2)	Changing t	he size o	f an object	
	(3) Changing the orientation of an object	ct(4)	Distorting t	the shape	of an object	
29.	Which illumination model is commonly surfaces in computer graphics?	y us	ed to simula	te the in	teraction of light	t with
	(1) Flat shading	(2)	Gouraud sh	nading		
	(3) Phong shading		Lambertiar	•		
30.	What is the purpose of using quadric su	rface	es in 3D obje	ct repres	entation?	
	(1) Representing flat surfaces			e leg me	a substitute ()	
		x sha	npes	hero si t	1971, 2004 - 4 AM	E 5''
	(3) Representing cubic surfaces					
	(4) Representing polygonal surfaces					
31.	What is the primary goal of the three-so	chem	a architectur	re in a da	tabase system?	
	(1) Data integrity		G	to Meri	on a delpated.	
	(2) Data independence	die		KH T FLAME	Carping Water	
	(3) Data security		Raul-a file	and the Market	ran annat di i	
	(4) Data consistency				· Los renvis (f)	

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32.	In a client/server architecture for a DBMS, what is the role of the client?		
	(1) Manage database transactions	(2) Execute database queries	
	(3) Store and retrieve data	(4) Provide database security	
33.	In an Entity-Relationship Diagram (ERI	D), what does a diamond shape represent?	
	(1) Entity	(2) Attribute	
	(3) Key	(4) Relationship	
34.	What is the role of HDFS (Hadoop Distr	ributed File System) in big data processing?	
	(1) Real-time data analytics	(2) Batch processing of large datasets	
	(3) Database querying	(4) Streamlining data integration	
35.	•	databases, what does the third rule ensure?	
	(1) Data independence	(2) Data security	
	(3) Data consistency	(4) Data integrity	
36.	In the context of database transactions, v	what is the purpose of concurrency control?	
	(1) Ensure data consistency	I ni ber wassaya sin menena a cha di will a la	
	(2) Avoid deadlocks	H) NIES	
	(3) Manage transaction isolation(4) Optimize query performance	orani di	
37.	What is the main challenge in managing	multimedia databases ?	
	(1) Limited storage capacity	(i) Reduces are supply	
	(2) Complexity of data types	the control of the second seco	
	(3) Lack of query languages	Completed once an assembly the	
	(4) Inability to handle text data	deblace to demail (a)	
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38.	What is the primary application of Hidden Markov Models (HMM) in data mining?			
	(1) Classification (2) Regression			
	(3) Time-series analysis (4) Clustering			
39.	What is the primary function of OLAP (Online Analytical Processing) in data warehousing?			
	(1) Data retrieval for decision support			
ि कुर	(2) Data entry for transaction processing			
	(3) Data storage for long-term archiving			
	(4) Data encryption for security			
40.	Which NoSQL database is known for its document-oriented data model?			
	(1) Cassandra (2) MongoDB			
	(3) Couchbase (4) Redis (5) Couchbase (6) Redis			
41.	What is a common file system used in Linux?			
	(1) NTFS (2) FAT32			
	(3) Ext4 (4) HFS+			
42.	What is a key benefit of virtualization in computing environments?			
	(1) Reduced security			
	(2) Increased hardware costs			
	(3) Improved resource utilization			
	(4) Limited scalability			
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43.	What is the Access Matrix used for in s	ecurity ?	25
	(1) Cryptography	(2) Access control	
	(3) File compression	(4) Network routing	
44.	What is the primary role of I/O controll	ers in file systems ?	10.
	(1) Manage file access permissions	gradubortus skilb hau gradubing	
	(2) Convert logical addresses to physic	al addresses community much abbroast (l	
Without a	(3) Control disk scheduling	and tobesis, associate grandinas, doing	V .18
	(4) Implement RAID algorithms	od incompelatob and an adiation alian	ka I
45.	What is a necessary condition for deadl	ock occurrence?	
70.	(1) Mutual exclusion		,
	(3) No preemption has been allow being		2 95 °
46.	In multiple-processor scheduling, what	is load balancing?	
701	(1) Assigning equal CPU time to all pro		
12.54	(2) Distributing processes evenly amon	g processors and seeming to the original to	v Si
	(3) Reducing the number of threads	\$ \$1855 A 163	3)
	(4) Adjusting thread priorities	. Dala is atovolt a mingratificat	}
	for any terminant of the second	ay Caring on a mandaus	. 3
47.	What is a potential issue in multithreadi	ng related to shared data?	
	(1) Excessive power consumption	(2) Race conditions	
	(3) Lack of thread safety	(4) Limited parallelism	
	Which part of the operating system i programs through system calls?		plication
	(1) User interface	(2) Shell	
	(3) Compiler	(4) Kernel	
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49.	Which mechanism allows processes to exchange data and synchronize their actions?
	(1) Paging (2) Segmentation
	(3) Interprocess communication (4) Process scheduling
50.	In RAID configurations, what is the purpose of parity information?
	(1) Improve disk scheduling (2) Enhance file access speed
	(3) Provide fault tolerance (4) Encrypt data on the storage device
51.	Which prescriptive process model is characterized by defining all stages and their specific activities before development begins?
	(1) Waterfall model (2) Incremental model
	(3) Spiral model (4) Agile model
52.	What is the primary focus of aspect-oriented software development?
	(1) Data modeling (2) User interface design
	(3) Separation of concerns (4) Component reuse
53.	What is the primary purpose of the Software Requirement Specification (SRS) document?
	(1) Designing software architecture
	(2) Coding software modules
	(3) Documenting user manuals
	(4) Describing the functional and non-functional requirements of the software
54.	Which design principle is focused on minimizing the dependencies between different modules in a software system?
	(1) Separation of Concerns (2) Modularity
	(3) Information Hiding (4) Cohesion

55.	. Which model is not a software estimation n	model?	afrai maW	
	(1) (10(10))(0)		danse	
	(3) Function Point Analysis (4)	LOC-based Estimation	ino ili	
56.	. What is the primary purpose of Quality Ass	surance in software develo	opment?	
	(1) Identifying and fixing defects	tell o hat or the remi for a	iorinif nl	扩 语
	(2) Evaluating the performance of the softw		lasH (I)	
	(3) Managing project risks	or the established of the form	m fluid (f)	
	(4) Ensuring that the software meets specifi			
57.	. Which testing technique involves execu knowledge of its internal code?			
	(1) White-box Testing (2)) Black-box Testing	deletati (E)	
Son	(3) Grey-box Testing (4)) Glass-box Testing	ma who at	.64.
58.	What is Reverse Engineering in the context	of software development	?alinoşl/	
	(1) The process of creating software from s	scratch	iden i	
	(2) The process of reusing software component	nents	Jan Dayl	
	(3) The process of understanding and analy	zing existing software	englika	
o min	(4) The process of documenting software co	ode		
59.	What is a key principle of Extreme Program	nming (XP) ?		
	(1) Heavy documentation (2)) Frequent and small rele	ases	
	(3) Sequential development phases (4)	Strict adherence to a pla	an Table by	.tp
60.	1 1 Cd C - M	•		
	(1) Managing the development team	e kendingalika	1	
	(2) Ensuring the delivery of features		na Perku	
	(3) Facilitating the Scrum process and remo			
	(4) Defining project requirements		1 - 1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	
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61.	What is the time complexity of searching for an element in a sorted array using binary
011	search?
	(1) O(1) (2) O(log n) (3) (4) (4)
	(3) O(n) (4) O(n log n)
62.	In a linked list, what is the term for the node that does not point to any other node?
	(1) Head
	(3) Null node (4) Sentinel node
	s attenue tiuper boldice in arens a conflorieris tust animoral (1).
63.	Which algorithm is commonly used for sorting large datasets in external storage?
pudi:	(1) QuickSort (2) MergeSort
	(3) BubbleSort garden rod-length (5) (4) InsertionSort and research (6)
	Creedy Cereins
64.	In the context of Design Techniques, what is the primary characteristic of a Greedy
	Algorithm ? serregate year energite. To the more subtract and the service of the control of the
	(1) Backtracking
	(2) Divide and Conquer
	(3) Optimally solves subproblems
	(4) Makes locally optimal choices at each stage with the hope of finding a global
	optimum (17.6 Ipplie respectables out of the displacement Automorphism and
	to an about the first things of Albania and the appropriate of the second of the secon
65.	Which algorithmic technique is commonly used for optimization problems where the
	goal is to find the best solution from a set of feasible solutions?
	(1) Divide and Conquer
	(2) Greedy Algorithms
	(3) Backtracking
	(4) Branch and Bound
	one of the transfer of the
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66.	Maximum Flow is a concept often appli	ed to solve problems related to:
	(1) Network connectivity	and the second of the second o
	(2) Shortest paths	eradi o konski (č.
	(3) Sorting algorithms (1990) (3)	72. What dress the Pumpered counse on Res
	, , , , , , , , , , , , , , , , , , ,	Straig of no etginged winner he. 115
67.	a deterministic Turing machine?	plems that can be solved in polynomial time by
	kagaugania	(2) P
	(3) NP-completeness	(4) Exponential
68.	What is the primary application of the computer science?	e Fast Fourier Transform (FFT) algorithm in
	(1) Sorting a swented guiombe (L)	(2) String Matching
	(3) Polynomial Arithmetic	(4) Number Theoretic Algorithms
69.	What is the primary goal of algorithms d	esigned for NP-completeness and reducibility?
	(1) Minimize time complexity	
	(2) Maximize space complexity	of the visit week of the
	(3) Identify problems that are difficult to	o solve i-n polynomial time
	(4) Solve problems in constant time	againgn sellen is test not be a
70.	Approximation Algorithms are often use	ed when:
	(1) Exact solutions are required	aldevice of i
	(2) Problems are NP-complete	· · · · · · · · · · · · · · · · · · ·
•	(3) The problem size is small	Market Barrell Control of the second
	(4) Polynomial-time solutions are not fe	
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71.	Russel's Paradox is related to:	el son nemo inpuntiva a a kroli i ma maveta.
	(1) Set theory	(2) Graph theory
	(3) Number theory	(4) Formal languages
72.	What does the Pumping Lemma for Reg	gular Languages state?
	(1) All regular languages can be pumpe	
4		guage can be divided into parts that can be the language
	(3) Regular expressions can be pumped	to produce additional patterns
	(4) Pumping is not applicable to regular	
73.	The Equivalence of Duch days Assessed	All the interesting for the Co.
let)	as:	a (PDA) and Context-Free Grammars is known
	(1) Chomsky Normal Form	(2) Pumping Lemma
	(3) Greibach Normal Form	(4) Cook-Levin Theorem
74.	What type of language is recognized by	a Turing Machine in a single head, single tape
	configuration?	variatime, also aspected to
	(1) Regular language	(2) Context-Free language
	(3) Context-Sensitive language	(4) Recursively Enumerable language
75.	The Halting Problem is an example of a	problem that is:
	(1) Solvable	besides our important of a fig.
	(2) Tractable	ultilett og hel av er søyen i g
	(3) Unsolvable	Marks or successory and and
	(4) Context-Free	is the simple setting the control of the setting and the
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76.	In the context of parsing, which type	of parser is LL(l)?	
	(1) Top-down parser	(2) Bottom-up parser	
	(3) LR parser	(4) LALR(1) parser	
77	In the content CM : 20 c.	. + , * (+ 6 mis sparover the must +/.)	
77.	Machine?	what is the significance of the Universal Turing	,
e., ha	(1) It recognizes only regular language	nderes locatores, util mid enerti uni cultat \$0 ges Cartiera enert	
	(2) It can simulate any other Turing N		
	(3) It is less powerful than a standard	Turing Machine	
	(4) It is designed for practical comput	tations	
	•	93. In the risk Redinance Mistal reliefs for a	
78.	What does Peep-Hole Optimization fo	ocus on ?	
	(1) Global optimization	(2) Loop optimization	
	(3) Local optimization (2)		
79.	Instruction Scheduling in code optimiz	zation is concerned with:	
	(1) Reordering instructions to improve	e parallelism og hen ott var ver tyde var.	
	(2) Adding new instructions for better	r performance	
	(3) Removing unnecessary instruction	ns មួយដែលស្ថិត ដោយ ដែនដែ	
	(4) Optimizing loops	residence on world (1)	
80.		ol Table in a compiler's Run Time System?	
	(1) Managing storage organization	88. In the PUPP Protocol Store, which ha	
	(2) Storing intermediate code	the second secon	
	(3) Storing lexical tokens		
	(4) Managing information about identi	ifiers in the source program harmonical transfers	
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	v die wha	t is characteristic of Broadband Transmission?
81.		
	(1) High bandwidth and multiple channel	eis
	(2) Single channel with low bandwidth	
	(3) Limited coverage area	The second secon
i jar	(4) Analog signal transmission only	e generalistic in the land of
82.	transmission?	oining multiple signals into a single channel for (2) Demodulation
	(3) Multiplexing	(4) Encoding
83.	and provides services like flow control a (1) Network Layer	(2) Transport Layer
84.	two devices for the entire duration of the	(4) Presentation Layer eating a dedicated communication path between eir communication?
	 (1) Circuit Switching (2) Packet Switching (3) Message Switching (4) Virtual Switching 	And the state of t
85.	In the TCP/IP Protocol Suite, which routing?	layer is responsible for logical addressing and
	(1) Data Link Layer	(2) Network Layer
	(3) Transport Layer	(4) Application Layer
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86.	Which multiple access technique is used in Ethernet networks and involves collision detection?
	(1) CCNA (CA
	(1) CSMA/CA (2) Token Passing
	(3) FDMA (4) CSMA/CD
87.	In the context of email communication, which protocol is commonly used for retrieving emails from a mail server?
	(1) SMTP (2) IMAP
	(3) POP (4) HTTP Line 10 gardening (5)
88.	Which type of algorithms use a single key for both encryption and decryption in network security?
	(1) Public-Key Algorithms (2) Secret-Key Algorithms
	(3) Digital Signature (4) Cryptographic Hash Functions
89.	What is the primary purpose of a Digital Signature in network security?
	(1) Ensuring confidentiality of data gainers a that identity me narriate (2)
	(2) Verifying the authenticity and integrity of a message
	(3) Hiding information within other information(4) Preventing malware attacks
90.	What is the primary goal of Cloud Computing?
	(1) Ensuring the privacy of data
	(2) Centralized management of local servers
	(3) Facilitating collaborative development
	(4) Efficient use of physical hardware resources

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91.	In Rational Agent Approaches to AI, what criterion is used to evaluate the performance
	of an agent?
	(1) Execution speed (2) Memory utilization
	(3) Rationality (4) Complexity of the algorithm
92.	In the context of Game Playing, what is the purpose of the Min-Max Search algorithm?
	(1) Maximizing the number of moves
	(2) Minimizing the number of search nodes
ei ngl	(3) Maximizing the chances of winning
	(4) Minimizing the opponent's chances of winning
	The Control of Section (1995) And Control of the Section (1995) Section (1995) And Control of Contr
93.	In Expert Systems, how is uncertainty in knowledge typically handled?
	(1) Utilizing deterministic rules
	(2) Relying on probabilistic reasoning
	(3) Avoiding the representation of uncertain knowledge
	(4) Using only factual information
	Latter par integration of the
94.	Ontologies in knowledge representation refer to:
	(1) Representations of rules
	(2) Formal specifications of procedures
	(3) Hierarchical structures of concepts and relationships

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(4) Frames for knowledge representation

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- Goal Stack Planning is based on: 95.
 - (1) Linear programming techniques
 - (2) A stack-based approach to goal achievement
 - (3) Hierarchical decomposition of tasks
 - (4) Nonlinear optimization
- In Multi-Agent Systems, what is the purpose of Agent Communication? 96.
 - (1) Representing knowledge using ontologies move and school man and sold to the
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 The combining fuzzy rules

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- (1) Crossover
- (2) Mutation
- (3) Encoding strategy that I have a supported which is a strategy from the grant of
- (4) Fitness function

Total No. of Printed Pages: 21

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PHD-EE-2023-24

Computer Science

SET-X

10018

		Sr. No
Time: 11/4 Hours Roll No. (in figures)	Max. Marks : 100 (in words)	Total Questions : 100
Name	Date of Birth	Alsa' L. C
Father's Name	Mother's Name	
Date of Examination	(A * 108-25)	
(Signature of the Candidate)	I FAMILY TO A	,
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1.	What is a common file system used in		
	(1) NTFS	(2) FAT32	
	(3) Ext4	(4) HFS+	
2.	en produka gregorieno, nobeli distraci. A c	n computing environments ?	
	(1) Reduced security	(2) Increased hardware costs	
	(3) Improved resource utilization	(4) Limited scalability	
3.	What is the Access Matrix used for in s	ecurity?	
	(1) Cryptography	(2) Access control	
	(3) File compression	(4) Network routing	
4.	What is the primary role of I/O controlle	ers in file systems ? hearthus Carl dal	, a \$ 1
	(1) Manage file access permissions	Same set program of the program of	
	(2) Convert logical addresses to physical	al addresses manufacturated complete	
	(3) Control disk scheduling	reserved to the second	
	(4) Implement RAID algorithms	Authority) in section (1)	
5.	What is a necessary condition for deadle	ock occurrence?	
	(1) Mutual exclusion	(2) Hold and wait	the last
	(A) NT	(4) Circular wait	
6. 2	In multiple-processor scheduling, what is	s load balancing?	
, ((1) Assigning equal CPU time to all pro	cesses the storm turned on to come	
	2) Distributing processes evenly among		
(3) Reducing the number of threads	elicja, ist ji bishlega tarki e acabali dec	
(4) Adjusting thread priorities		
PHD-EE	E-2023-24/(Computer Sci.)(SET-X)/(B		P. T. O.

7.	What is a potential issue in multithreading	ng related to shared data?
	(1) Excessive power consumption	(2) Race conditions
	(3) Lack of thread safety	(4) Limited parallelism
8.	· · · · · ·	s responsible for interacting with application
,	(1) User interface that the around (1)	(2) Shell
	(3) Compiler Addition Laura Line	(4) Kernel (1) A company of the comp
9.	Which mechanism allows processes to e	exchange data and synchronize their actions?
	(1) Paging animo casto A 15)	(2) Segmentation
	(3) Interprocess communication	(4) Process scheduling
10.	In RAID configurations, what is the pur	pose of parity information?
	(1) Improve disk scheduling	(2) Enhance file access speed
	(3) Provide fault tolerance	(4) Encrypt data on the storage device
11.	Russel's Paradox is related to:	grifts horten starte book or star
	(1) Set theory	(2) Graph theory
	(3) Number theory	nd (4) Formal languages
12.	What does the Pumping Lemma for Re	gular Languages state?
	(1) All regular languages can be pump	ed parament of the
	(2) Any sufficiently large regular la pumped to generate more strings in	nguage can be divided into parts that can be a the language
	(3) Regular expressions can be pumpe	ed to produce additional patterns
	(4) Pumping is not applicable to regul	ar languages has to bottom with the control of the con-

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13	. The Equivalence of Pushdown Automa	ta (PDA) and Context-Free Grammars is known
	as: deste contago qualitati	
	(1) Chomsky Normal Form	(2) Pumping Lemma
	(3) Greibach Normal Form	(4) Cook-Levin Theorem
14		a Turing Machine in a single head, single tape
	configuration?	and indentification of the second
	(1) Regular language	(2) Context-Free language
	(3) Context-Sensitive language	(4) Recursively Enumerable language
15.	The Halting Problem is an example of a	problem that is: 100 3002 and and 11
	(1) Solvable	(2) Tractable
	(3) Unsolvable	(4) Context-Free
		imedia mode normaniamin' generale di
16.		
	(1) Top-down parser	(2) Bottom-up parser
	(3) LR parser	(4) LALR(l) parser
17.	In the context of Turing Machines, who Machine?	at is the significance of the Universal Turing
		22 in the case of their Paper, a fully
	(2) It can simulate any other Turing Ma	newar or odding a site galskilling it is a
	(2) It can simulate any other Turing Ma	cnine
	(3) It is less powerful than a standard Tu	
	(4) It is designed for practical computati	ons
		grand the management profession with a little

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P. T. O.

18.	What does Peep-Hole Optimization focus on?
	(1) Global optimization (2) Loop optimization
	(3) Local optimization (4) Instruction scheduling
19.	Instruction Scheduling in code optimization is concerned with:
	(1) Reordering instructions to improve parallelism
701 107	(2) Adding new instructions for better performance
•	(3) Removing unnecessary instructions
	(4) Optimizing loops
20.	What is the primary goal of the Symbol Table in a compiler's Run Time System?
	(1) Managing storage organization was the storage of the storage o
	(2) Storing intermediate code
	(3) Storing lexical tokens
	(4) Managing information about identifiers in the source program
	a Section to consist of nursing, which type of pursuance (U. (4) ?
21.	In Rational Agent Approaches to AI, what criterion is used to evaluate the performance
	of an agent?
	(1) Execution speed (2) Memory utilization
wajest.	(3) Rationality containing and (4) Complexity of the algorithm
	wanted.
22.	In the context of Game Playing, what is the purpose of the Min-Max Search algorithm?
	(1) Maximizing the number of moves
	(2) Minimizing the number of search nodes
	(3) Maximizing the chances of winning
	(4) Minimizing the opponent's chances of winning
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- In Expert Systems, how is uncertainty in knowledge typically handled? 23.
 - (1) Utilizing deterministic rules
 - (2) Relying on probabilistic reasoning
 - (3) Avoiding the representation of uncertain knowledge
 - (4) Using only factual information Which ture is inautry in Actificial Neural Networks involves tear
- 24. Ontologies in knowledge representation refer to:
 - (1) Representations of rules
 - (2) Formal specifications of procedures
 - (3) Hierarchical structures of concepts and relationships
 - (4) Frames for knowledge representation
- 25. Goal Stack Planning is based on:
 - (1) Linear programming techniques
 - (2) A stack-based approach to goal achievement tim yesot ac beard anoisiant catality of t
 - (3) Hierarchical decomposition of tasks
 - (4) Nonlinear optimization
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	(2) Defuzzification of outputs
	(3) Making decisions based on fuzzy rules
	(3) Hierarchical decomposition of tasks
	(4) Combining fuzzy rules
00	
30.	What function guides the evolution of solutions in a Genetic Algorithm by measuring the quality of individuals?
	(1) Crossover
	(2) Mutation
	(3) Encoding strategy
	(4) Fitness function
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31.	Which of the following is an example of a tautology?		
	(1) p AND ~p	(2) p OR~p	
	(3) pXOR~p	$(4) p \leftrightarrow \sim p$	
32.	Which property is not necessarily satisf	ied by an equivalence relation?	
	(1) Reflexivity	(2) Symmetry	
	(3) Transitivity of the texture of the	(4) Asymmetry	
33.	Pigeonhole Principle ?	nholes, what is guaranteed according to the	
	(1) Some pigeonhole is empty.		
	(2) Some pigeonhole has more than one	e pigeon.	
	(3) Each pigeonhole has exactly one pi	geon.	
	(4) Each pigeonhole has at most one pi	geon. Aftigana y caratago oroden e green and e a	
34.	In cryptography, which concept from guthrough public-key cryptography?	roup theory is utilized to secure communication	
	(1) Isomorphism	(2) Homomorphism	
	(3) Automorphism	(4) Discrete logarithm problem	
35.	What is the chromatic number of a grap	h?	
	(1) The minimum number of colors need no two adjacent vertices have the sa	me color.	
	(2) The maximum degree of any vertex	in the graph.	
	(3) The minimum degree of any vertex	in the graph.	
	(4) The maximum number of vertices the		

36	36. Which algebraic structure has both addition and multiplication operations, multiplication is distributive over addition, and it may not have multiplicative ir for all elements?		
	(1) Group (3) Field	(2) Ring (2) Ring (4) Integral Domain	
37.	weighted graph?	find the shortest path between two vertices in a	
	(1) Breadth-First Search (BFS)	(2) Depth-First Search (DFS)	
	(3) Dijkstra's algorithm	(4) Kruskal's algorithm	
38.	(2) For every x, there exists a y such that	y, P(x, y) is true.	
39.	therefore q is true"?	by the statement "p implies q, and p is true,	
10 to	(1) Modus Ponens	(2) Modus Tollens(4) Disjunctive Syllogism	
40.	If $C = A \cap B$, what is the complement of set C with respect to the universal set U?		
	(1) A \cap B	(2) A U B	
	(3) A-B	(4) A'∪B'	
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41.	Which prescriptive process model is characterized by defining all stages and their			
	specific activities before development begins?			
	(1) Waterfall model	(2) Incremental model		
	(3) Spiral model	(4) Agile model sping ungasali (8)		
	en e	protection out-witten senticular earthaise. It if his		
42.	What is the primary focus of aspect-ories	nted software development?		
民医培养	(1) Data modeling	(2) User interface design		
	(3) Separation of concerns	(4) Component reuse		
43.	What is the primary purpose of the	Software Requirement Specification (SRS)		
	document?	Martal Reverse Britainer his Bio ch		
	(1) Designing software architecture	rionwing arts as in according to It al		
	(2) Coding software modules	or mewas a great a liquid some off. (5)		
	(3) Documenting user manuals	the galamization by zzucongulf (L)		
	(4) Describing the functional and non-functional requirements of the software			
44.	Which design principle is focused on m	inimizing the dependencies between different		
44.	modules in a software system?	deductors a provide the state of the state o		
	(1) Separation of Concerns	(2) Modularity		
	(3) Information Hiding	(4) Cohesion		
		ness demonstrated a typique.M. (1)		
45.	Which model is not a software estimation	SAMPLE OF ASSARDED OFF PROPERTY FOR		
	(1) COCOMO	(2) Waterfall Model		
	(3) Function Point Analysis	(4) LOC-based Estimation		
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46.	What is the primary purpose of Quality Assurance in software development?
	(1) Identifying and fixing defects
	(2) Evaluating the performance of the software
	(3) Managing project risks
	(4) Ensuring that the software meets specified requirements
47.	Which testing technique involves executing the software's functionality without knowledge of its internal code?
	(1) White-box Testing (2) Black-box Testing
	(3) Grey-box Testing (4) Glass-box Testing
48.	What is Reverse Engineering in the context of software development?
	(1) The process of creating software from scratch
	(2) The process of reusing software components and the second are the second and the second are
	(3) The process of understanding and analyzing existing software
	(4) The process of documenting software code
49.	What is a key principle of Extreme Programming (XP)?
9100	(1) Heavy documentation (2) Frequent and small releases
	(3) Sequential development phases (4) Strict adherence to a plan
50.	In Scrum, what is the role of the Scrum Master?
	(1) Managing the development team
	(2) Ensuring the delivery of features
	(3) Facilitating the Scrum process and removing impediments
	(4) Defining project requirements
	· · · ·

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51.	What is the time complexity of searching for an element in a sorted array using binary search?		
	(1) O(1)	(2)	O(log n)
	(3) O(n)	(4)	O(n log n)
52.	In a linked list, what is the term for the	node	that does not point to any other node?
	(1) Head	(2)	Tail
(d 54)	(3) Null node baselos ed mas sent eme-	(4)	Sentinel node
53.	Which algorithm is commonly used for	sorti	ng large datasets in external storage?
	(1) QuickSort Initionoges (1)	(2)	MergeSort *** (2) MP-configuration (2)
117	(3) BubbleSort	(4)	InsertionSort
54.	In the context of Design Techniques, Algorithm?	what	is the primary characteristic of a Greedy
	(1) Backtracking (4)		oir mailt framos doil (C)
	(2) Divide and Conquer and the long in	de eile	drogb. averg garante at 17 17 18
	(3) Optimally solves subproblems		vix signop and using oil / 11.
	(4) Makes locally optimal choices at	each	stage with the hope of finding a global
	optimum in lenno ylog i a sylosi		
55.	Which algorithmic technique is comm	only	used for optimization problems where the
	goal is to find the best solution from a s	et of	feasible solutions?
	(1) Divide and Conquer	< 3 gr	boniupars mentaline conthet pto
	(2) Greedy Algorithms		stafgator. We as see identify (2)
	(3) Backtracking		Henry dashen they sell (6)
	(4) Branch and Bound	i ion	are an author order than a glott (1)
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56.	Maximum Flow is a concept often applie	d to solve problems rela	ited to:
	(1) Network connectivity		
	(2) Shortest paths		Thus rig
	(3) Sorting algorithms		(10/12/14)
	(4) Dynamic programming	that only it is not	and bedoment in
	furt (X)		12. 411 + 11
57.	Which complexity class represents prob a deterministic Turing machine?	lems that can be solved	in polynomial time b
Z.	(1) INP and a market in a real griffing	(2) P	ing tracestories
	(3) NP-completeness honorpaid (1)		
58.	What is the primary application of the computer science?	e Fast Fourier Transform	
	(1) Sorting	(2) String Matching	t malinests
	(3) Polynomial Arithmetic		
59.	What is the primary goal of algorithms do	esigned for NP-complete	eness and reducibility
	(1) Minimize time complexity	anishtanjita zvita	
Estaly	(2) Maximize space complexity	John laminga ça	2201 - 9024 - L)
	(3) Identify problems that are difficult to solve i-n polynomial time		
ads are	(4) Solve problems in constant time		
60.	Approximation Algorithms are often use		
	(1) Exact solutions are required		Fune doubt as
	(2) Problems are NP-complete		
	(3) The problem size is small		profession and a
	(4) Polynomial-time solutions are not fe		Charrishan ka si
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61.	Which programming paradigm emphasizes defining computation as the evaluation of mathematical functions and avoids changing state and mutable data?		
	(1) Imperative	(2) Declarative	
	(3) Procedural	(4) Object-Oriented	
62.	Which formal model is often used to de	scribe the syntax of programming languages?	
	(1) Finite State Machine (FSM)	(2) Turing Machine	
	(3) Context-Free Grammar (CFG)	(4) Pushdown Automaton (PDA)	
63.		t of that type to be modified after its creation?	
	(1) Mutable	(2) Immutable	
1100	(3) Static on the advantage of books	(4) Dynamic and archaeles de la	
64.	In C programming, what is the purpose	of the "typedef' keyword?	
	(1) Declare a new type	(2) Define a constant	
	(3) Declare a variable	(4) Define a function	
65.	Which keyword is used in C++ to define	a function?	
	(1) method	(2) function in the state of th	
	(3) def	(4) define	
66.	What is the purpose of a destructor in C-	++?	
00.	(1) Initialize an object	er, mitte innegylog griftmannesi (4).	
	(2) Perform cleanup tasks when an obje	ct goes out of scope	
	(3) Define the structure of a class	Aprillary) - 1	
	(4) Overload operators		

67.	In C++, which keyword is used to handle exceptions?			
	(1) throw	(2) catch		
	(3) exception	(4) try	etas provides	
68.	In 2-D geometrical transforms, what does	es shear refer to ?	into make one of	
	(1) Changing the position of an object	rMZ4) chulosM		
	(2) Changing the size of an object	Comman (Ph)	oridaates) siis	
E n	(3) Changing the orientation of an object			
	(4) Distorting the shape of an object	national services in the con-	Should H	i a ti
69.	Which illumination model is commonly	used to simulate the	interaction of ligh	t with
	surfaces in computer graphics?			
	(1) Flat shading	(2) Gouraud shading	ente parto il ele-	
	'	(4) Lambertian shadi		,
70.	What is the purpose of using quadric sur	faces in 3D object repr	esentation?	
	(1) Representing flat surfaces			
	(2) Representing surfaces with complex	shapes	세 구설	
	(3) Representing cubic surfaces	Same and the same of the same of		
	(4) Representing polygonal surfaces	Jan retaining to 1950		
	VIII		* Table 25 27 15 8 1 15 1 1 1 1	
71. '	What is the primary characteristic of cor	noinational circuits?	selan metrojil (1)	
	(1) Feedback	(2) Memory element	S	
	(3) Sequential operation	(4) No feedback	no. Laufatto de	
			*	

72	what is the purpose of a shift microoperation?	
	(1) Transfer data from one register to another	
	(2) Shift bits within a register	
	(3) Perform arithmetic operations has younged along recovered and and and are	
	(4) Move data within a register	
73.	What is the primary function of the control unit in a computer?	17
	(1) Execute arithmetic operations (1)	
	(2) Manage input-output operations	
	(3) Control the flow of data within the CPU	
	(4) Manage the memory hierarchy	
	The second residual and the second residual and the second	16.
74.	In a general register organization, what are the registers used for?	
	(1) To store program instructions	
	(2) To store intermediate data during program execution	
	(3) To manage input-output operations	
	(4) To store permanent data	.ev
75.	What is the primary advantage of pipelining in computer architecture?	
	(1) Improved instruction set flow (b)	
	(2) Faster clock speed	
	(3) Increased throughput	
	(4) Reduced power consumption	

PHD-EE-2023-24/(Computer Sci.)(SET-X)/(B)

76.	What is the purpose of DMA (Direct Memory Access) in computer systems?
	(1) Execute arithmetic operations
	(2) Manage input-output operations
	(3) Transfer data between main memory and auxiliary memory
	(4) Control the flow of data within the CPU
77.	What is the role of cache memory in the memory hierarchy?
	(1) Store permanent data
	(2) Provide fast access to frequently used data
	(3) Manage input-output operations
	(4) Control the flow of data within the CPU
78.	What is a characteristic feature of a multicore processor?
	(1) Single processor with multiple cores
	(2) Multiple processors with single cores
	(3) Multiple processors with multiple cores
	(4) Single processor with single core
79.	What is the primary characteristic of combinational circuits?
	(1) Feedback (2) Memory elements
	(3) Sequential operation (4) No feedback
BO.	In a 4-to-l multiplexer, how many input lines can be selected using the control lines?
	(1) 1 (2) 2
	(4) 4 may a contract to the fact of the fa

81. In the context of transmission media, what is characteristic of Br	oadband Transmission?
(1) High bandwidth and multiple channels	t rom sta
(2) Single channel with low bandwidth	4.3.4M2.3.ft
(3) Limited coverage area	AMOF (E)
(4) Analog signal transmission only	וה יים וים וים וים וים וים וים וים וים וים
82. What term describes the process of combining multiple signals	into a single channel for
transmission?	94 (4.8 - 1)
(1) Modulation (2) Demodulation	304 (1)
(3) Multiplexing (4) Encoding	
incompressed the money road for hold accompanies on description.	
83. In the OSI Reference Model, which layer is responsible for end	
and provides services like flow control and error correction?	ons Assertion 100
(1) Network Layer (2) Transport Layer	
(3) Data Link Layer (4) Presentation Layer	r
் பாகரை செக்கின்கள் காயமருக்கி கரும். மின் உருக்கு மக	在11年初12月前百年 海里
84. Which switching technique involves creating a dedicated comm	nunication path between
two devices for the entire duration of their communication?	Arrama Arras Official
(1) Circuit Switching	
(2) Packet Switching	
(3) Message Switching	(1) 101/024 11 1
Commence of the Commence of th	arvicalisi saya ng
(4) Virtual Switching	disament in
85. In the TCP/IP Protocol Suite, which layer is responsible for	***
routing?	APPROXIMENTAL OF THE PROPERTY
Description of the second of t	gradul about 1 177
(1) Data Link Layer (2) Network Layer	en resident rt.
(3) Transport Layer (4) Application Layer	
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86.	Which multiple access technique is us	ed in Ethernet networks and involves collision
	detection?	grado sigilare has rainvibri a dit (1)
	(1) CSMA/CA	(2) Token Passing
	(3) FDMA	(4) CSMA/CD
87.	In the context of email communication	tion, which protocol is commonly used for
UE THE	retrieving emails from a mail server?	may figure young suit so through the mit. Sa
	(1) SMTP	(2) IMAP
	(2) Pop	(4) HTTP
	gailson H	agrass subject to the
88.	network security?	e key for both encryption and decryption in
	(1) Public-Key Algorithms	(2) Secret-Key Algorithms
	(3) Digital Signature	(4) Cryptographic Hash Functions
	tion from the best (4)	reg. I had a 3 th
89.	What is the primary purpose of a Digital	Signature in network security?
. 41	(1) Ensuring confidentiality of data	no e jedovec se p <mark>ina</mark> jos enidem se double. Mb.: do kojimo jos kamo se bilo na estidos a ed
	(2) Verifying the authenticity and integrated	rity of a message
	(3) Hiding information within other info	ormation Spin Allow Spin (1)
	(4) Preventing malware attacks	me. Jak Palan C.
	(4) 110Volume	and the state of the
90.	What is the primary goal of Cloud Comp	outing?
	(1) Ensuring the privacy of data	
	(2) Centralized management of local ser	rvers
	(3) Facilitating collaborative developme	
	(4) Efficient use of physical hardware re	
	(4) Efficient also of physical marginals	

PHD-EE-2023-24/(Computer Sci.)(SET-X)/(B)

91.	What is the primary goal of the three-	schema architecture in a database system?
	(1) Data integrity	charge exemple termined (1)
	(2) Data independence	energy on the proper description of a
	(3) Data security	especial group (1) (1)
	(4) Data consistency	and was dimension given at whe
92.	In a client/server architecture for a DE	BMS, what is the role of the client?
	(1) Manage database transactions	(2) Execute database queries
	(3) Store and retrieve data	(4) Provide database security
93.	In an Entity-Relationship Diagram (El	RD), what does a diamond shape represent?
d ti	(1) Entity handlest transfer 97	(2) Attribute Carrier and I led of the
	(3) Key	(4) Relationship
94.	What is the role of HDFS (Hadoop Dis	stributed File System) in big data processing?
	(1) Real-time data analytics	(2) Batch processing of large datasets
	(3) Database querying	(4) Streamlining data integration
95.	According to Codd's rules for relationa	al databases, what does the third rule ensure?
	(1) Data independence	(2) Data security
	(3) Data consistency	(4) Data integrity
00	Edizyanik (1)	(1) Casander.
4h	In the contout of database transportions	
		what is the purpose of concurrency control?
	(1) Ensure data consistency	what is the purpose of concurrency control?
	 Ensure data consistency Avoid deadlocks 	what is the purpose of concurrency control?
	(1) Ensure data consistency	what is the purpose of concurrency control?

97.	• What is the main challenge in managing multimedia databases?			
	(1) Limited storage capacity			
	(2) Complexity of data types	number to a sign		
	(3) Lack of query languages	The transfer of the		
	(4) Inability to handle text data			
98.	What is the primary application of Hidd	en Markov Models (HMM) in data mining?		
	(1) Classification	(2) Regression		
	(3) Time-series analysis	(4) Clustering		
(Ret agrand sides sold makes as to		
99.	What is the primary function of OLAP (Online Analytical Processing) in data			
	warehousing?			
	(1) Data retrieval for decision support	Jane with Mills in the standard in		
	(2) Data entry for transaction processing	Serving in the terminal of the terminal of the servine of the serv		
	(3) Data storage for long-term archiving	gm, to endanc€ G•		
	(4) Data encryption for security	erin negocial elección del griffer el colt		
100.	Which NoSQL database is known for its	document-oriented data model?		
	(1) Cassandra	(2) MongoDB		
ohja t _o	(3) Couchbase	(4) Redis		
		CHO MARKETER STORY		

Total No. of Printed Pages: 21

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SET-X

PHD-EE-2023-24 Computer Science

10015

		Sr. No
Time: 11/4 Hours	Max. Marks : 100	Total Questions: 100
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Father's Name	Mother's Name	
Date of Examination	the second of th	
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1.	. Which programming paradigm emphasize mathematical functions and avoids changing	s defining g state an	g computat d mutable	ion as the evaludata?	ation o
	(1) Imperative (2	2) Declara	ative	result vive (E.)	
	(3) Procedural (4)) Object-	-Oriented	nisinog Genden	.8
2.	2. Which formal model is often used to descri	be the syn	ntax of prog	gramming langu	ages?
	(1) Finite State Machine (FSM) (2)) Turing	Machine	Panagnut (L)	
1,5 1	(3) Context-Free Grammar (CFG) (4) Pushdo	wn Autom	aton (PDA)	.0
3.	3. Which property of a type allows an object of	that type t	to be modifi	ied after its creat	ion?
	(1) Mutable (2)) Immuta	ble	obsikami (I)	
	(3) Static griffed reinschmaß (4)) Dynami	ic	tia). Phong shad	
4.		ie "typede	ef keyword	177 octral ton W	111
	(1) Declare a new type (2)) Define	a constant	(i) Representi	
	(3) Declare a variable			(2) Mojudantin	
5.	Which keyword is used in C++ to define a f	unction?		(3) Reprisent	
		function	Mo Shipin	urisempf (L)	
	(3) def lle grittalide en bantic marcin (4)	define	esono, evin b omisel ve	Whice, present specific service	. 1 1
6.			t plik n	(1). Westerfall to	
	(1) Initialize an object			translenge (E)	
	(2) Perform cleanup tasks when an object g	oes out of	scope	100 min 100 mi	b town
	(3) Define the structure of a class				
	(4) Overload operators			normalist (1)	

7.	In C++, which keyword is used to handle	e exceptions?	actional days of a
	(1) throw	(2) catch	Plant Orania
	(3) exception		alve affind 14
	e 171 (21		businessed the
8.	In 2-D geometrical transforms, what doe	s shear refer to !	
	(1) Changing the position of an object	(2) Changing the size	of an object W
	(3) Changing the orientation of an object	t(4) Distorting the shap	pe of an object
9.	Which illumination model is commonly	used to simulate the i	interaction of light with
(DV	surfaces in computer graphics?		
	(1) Flat shading sidement (1)	(2) Gouraud shading	चित्रकारी स् त ीः
	(3) Phong shading	(4) Lambertian shadir	ng mand pri
10.	What is the purpose of using quadric sur	faces in 3D object repre	esentation?
	(1) Representing flat surfaces	sqv' w;	is a southern of
	(2) Representing surfaces with complex	shapes · Mercin	eth was lett die
	(3) Representing cubic surfaces		
	(4) Representing polygonal surfaces	ામેલાં કે તે ક િ વાં <u>કાલમા</u> ં ક	browny for amount
	roisons (1		
11.	Which prescriptive process model is c specific activities before development be		ing all stages and their
	(1) Waterfall model	(2) Incremental mode	i man hipan
	(3) Spiral model	(4) Agile model	
12.	What is the primary focus of aspect-ories	nted software developn	nent ?
	(1) Data modeling	(2) User interface des	ign
	(3) Separation of concerns	(4) Component reuse	
PHD-E	E-2023-24/(Computer Sci.)(SET-X)/(C		

13.	-	of new horacide a second of all	(DIIO)
	(1) Designing software architecture	พกราชมอดเกษตร แกะเปล่า 25 25 25 ค.ศ. (**)	
	(2) Coding software modules	on West Editional Committee and Service (4)	
	(3) Documenting user manuals	some quite not the exposit off the	
	(4) Describing the functional and non-	functional requirements of the software	91
14.		minimizing the dependencies between diff	ferent
,	(1) Separation of Concerns	(2) 1/100414139	75
	(3) Information Hiding	(4) Cohesion lay about graguante (1)	
15.	Which model is not a software estimation	on model?	
	(1) COCOMO	(2) Waterfall Model	
	(3) Function Point Analysis	(4) LOC-based Estimation	15
16.	What is the primary purpose of Quality	Assurance in software development?	
	(1) Identifying and fixing defects	difference of two titles for more algorities (1)	
	(2) Evaluating the performance of the s	oftware Against the ballocal Against the Committee of the	
	(3) Managing project risks	. A unit of stimming more than the company of the c	
voi Ipro	(4) Ensuring that the software meets spe	ecified requirements	
17.	Which testing technique involves ex knowledge of its internal code?	ecuting the software's functionality wi	thout
	(1) White-box Testing	(2) Black-box Testing	
	(3) Grey-box Testing	(4) Glass-box Testing	
PHD-E	E-2023-24/(Computer Sci.)(SET-X)/(C	P. F. 1023-2480 omponer Sci. JUSE 1-8 (. T. O.

18	What is Reverse Engineering in the context of software development?
	(1) The process of creating software from scratch
	(2) The process of reusing software components
	(3) The process of understanding and analyzing existing software
	(4) The process of documenting software code alternative contraction of the code alternative code alternativ
19.	What is a key principle of Extreme Programming (XP)?
man)	(1) Heavy documentation (2) Frequent and small releases
	(3) Sequential development phases (4) Strict adherence to a plan
20.	In Scrum, what is the role of the Scrum Master?
	(1) Managing the development team
	(2) Ensuring the delivery of features
	(3) Facilitating the Scrum process and removing impediments
	(4) Defining project requirements
21.	In the context of transmission media, what is characteristic of Broadband Transmission?
	(1) High bandwidth and multiple channels were a required a manifest of the standard and the
	(2) Single channel with low bandwidth
	(3) Limited coverage area
	(4) Analog signal transmission only
22.	What term describes the process of combining multiple signals into a single channel for transmission?
	(1) Modulation (2) Demodulation
	(3) Multiplexing (4) Encoding
	The state of the s

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23.	In the OSI Reference Model, which layer is responsible for end-to-end communication and provides services like flow control and error correction?	
	(1) Network Layer	(2) Transport Layer
	(3) Data Link Layer	(4) Presentation Layer
24.	Which switching technique involves creatwo devices for the entire duration of the	eating a dedicated communication path between eir communication?
	(1) Circuit Switching The Street in this	gwai ban grobjestia. St. garger st. (s)
	(2) Packet Switching	ini tedio ante e solitare des grafalit des
	(3) Message Switching	1. The office making attacks are
	(4) Virtual Switching	30. What printers. I of Cloud Club
25.		layer is responsible for logical addressing and
	(1) Data Link Layer	(2) Network Layer
	(3) Transport Layer	(4) Application Layer
26.	Which multiple access technique is us detection?	ed in Ethernet networks and involves collision
	(1) CSMA/CA	(2) Token Passing
	(3) FDMA Committee to the first training to the committee of the committee	(4) CSMA/CD
27.		tion, which protocol is commonly used for
		(2) IMAP in a figure triples taking 5% (8)
	(3) POP	(4) HTTP

	network security?	o key to som one special and decryption in
	(1) Public-Key Algorithms	(2) Secret-Key Algorithms
	(3) Digital Signature	(4) Cryptographic Hash Functions
29.	What is the primary purpose of a Digital	Signature in network security?
	(1) Ensuring confidentiality of data	no astrono no españo for pero de la surviva de la la la surviva de la
	(2) Verifying the authenticity and integ	rity of a message
	(3) Hiding information within other info	rmation
	(4) Preventing malware attacks	
30.		enga nganggan ang pangganggan nganggan nganggan nganggan nganggan nganggan nganggan nganggan nganggan nganggan Panggan nganggan nga
	What is the primary goal of Cloud Com	outing? 4-04 divide found (49
Little .	(1) Ensuring the privacy of data	The time of the Property Suite. When
	(2) Centralized management of local se	rvers
	(3) Facilitating collaborative development	
	(4) Efficient use of physical hardware r	esources
31.	Russel's Paradox is related to:	Substitution of the Committee of the Com
	(1) Set theory	the troping of course significant of the
	(3) Number theory	(2) Graph theory
	gates I would be	(4) Formal languages
32.	What does the Pumping Lemma for Reg	
	(1) All regular languages can be pumpe	d
io ima	(2) Any sufficiently large regular lan pumped to generate more strings in	guage can be divided into parts that can be the language
	(3) Regular expressions can be pumped	to produce additional nattornal
	(4) Pumping is not applicable to regular	languages
		, , , , , , ,
PHD-E	EE-2023-24/(Computer Sci.)(SET-X)/(Computer Sci.)	David Taken the resultant state of the control
		The state of the s

33.	The Equivalence of Pushdown Automat	a (PDA) and Context-Free Grammars is known
	as: patravirum people?	golt, Finnsige Ricaliff (I
	(1) Chomsky Normal Form	(2) Pumping Lemma
	(3) Greibach Normal Form	(4) Cook-Levin Theorem
34.	What type of language is recognized by configuration?	a Turing Machine in a single head, single tape
	(1) Regular language	(2) Context-Free language
	(3) Context-Sensitive language	(4) Recursively Enumerable language
35.	The Halting Problem is an example of a	problem that is:
	(1) Solvable	(2) Tractable and a strain grant is
2	(3) Unsolvable	(4) Context-Free a large of a mark and
36.	In the context of parsing, which type of parsing	parser is LL(l) ?
	(1) Top-down parser month beginning	(2) Bottom-up parser
	(3) LR parser	(4) LALR(l) parser
	(4) Roldonia (4)	reucesqu'tellusuped (*)
37.	Machine?	at is the significance of the Universal Turing
	(1) It recognizes only regular languages	(1) Transfersbur from one register to
	(2) It can simulate any other Turing Mac	chine magar a nidhw and that (5)
	(3) It is less powerful than a standard Tu	ring Machine
	(4) It is designed for practical computati	ons

38. What does Peep-Hole Optimization focus on?		us on ?
	(1) Global optimization	(2) Loop optimization
	(3) Local optimization	(4) Instruction scheduling
39.	Instruction Scheduling in code optimiza	ation is concerned with:
	(1) Reordering instructions to improve	parallelism
	(2) Adding new instructions for better p	performance
	(3) Removing unnecessary instructions	Make Hydren
	(4) Optimizing loops	Standing on about the
40.	What is the primary goal of the Symbol	Table in a compiler's Run Time System?
		The Parish of condens is an assumption of
	(2) Storing intermediate code	stry Jak ()
	(3) Storing lexical tokens	olda gosari (k)
	(4) Managing information about identify	fiers in the source program
41.	What is the primary characteristic of co	mbinational circuits?
	(1) Feedback	(2) Memory element
	(-) Sequential Operation	(2) Memory elements (4) No feedback
al na r	to take dipolite man of the Philippe and as u.s.	W. Askid Mark
42.	1 1 similarioope	ration?
	(1) Transfer data from one register to a	nother and many a vine some ground and
	(2) Shift bits within a register	in the minimum of the state with a particular in the state of the stat
	(3) Perform arithmetic operations(4) Move data within a register	Wigness and regime you can upon the district
	(4) Move data within a register	The management of the state of
		Belleting the state of the last contract the

43.	What is the primary function of the control unit in a computer?	
	(1) Execute arithmetic operations	
	(2) Manage input-output operations	
	(3) Control the flow of data within the CPU	
	(4) Manage the memory hierarchy 19 1 of middle and the country and a many arts	
44.	In a general register organization, what are the registers used for?	,57.
	(1) To store program instructions	
	(2) To store intermediate data during program execution	
	(3) To manage input-output operations	
	(4) To store permanent data the last case of the state of	
45.	What is the primary advantage of pipelining in computer architecture?	1 14
	(1) Improved instruction set	
	(2) Faster clock speed	
, eta	(3) Increased throughput	U.C.
	(4) Reduced power consumption	
46.	What is the purpose of DMA (Direct Memory Access) in computer systems?	1 13
.5.T.	(1) Execute arithmetic operations	
	(2) Manage input-output operations	
	(3) Transfer data between main memory and auxiliary memory	
	(4) Control the flow of data within the CPU	
	Emerge 1 mars 1 april 1 gmg	

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47.	What is the role of cache memory in the memory hierarchy?	
	(1) Store permanent data	Radio por ambilitar de Roccio
	(2) Provide fast access to frequen	ntly used data
	(3) Manage input-output operation	ons of the sales o
		in the CPU
48.	What is a characteristic feature of	f a multicore processor?
	(1) Single processor with multip	
	(2) Multiple processors with sing	
	(3) Multiple processors with mul	tiple cores
	(4) Single processor with single	
	* * * * * * * * * * * * * * * * * * * *	and nominately that of the
49.	What is the primary characteristic	
	(1) Feedback	(2) Memory elements
	(3) Sequential operation	(4) No feedback
50.	In a 4-to-l multiplexer, how many	y input lines can be selected using the control lines?
	(1) 1	(2) 2
	(3) 3	(4) 4
51.	46. What is the compress of DMA (Direct Memory-According to companies systems 2.	
31.		
	(1) Data integrity	eductional at perchange of a con-
	(2) Data independence	
	(3) Data security	rige i opius ne ne opistore seasif ir
	(4) Data consistency	Off the anti-confidence of the substitute of the
	(., 2 + 5.110.10.10.10.1	
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52.	In a client/server architecture for a DBMS, what is the role of the client?	
	(1) Manage database transactions (2) Execute database queries	
	(3) Store and retrieve data (4) Provide database security	
53.	In an Entity-Relationship Diagram (ERD), what does a diamond shape represent? (1) Entity (2) Attribute	
	(3) Key (4) Relationship	
54.		
	(1) Real-time data analytics (2) Batch processing of large datasets	
	(3) Database querying (4) Streamlining data integration (5)	
55.	According to Codd's rules for relational databases, what does the third rule ensure?	
	(1) Data independence (2) Data security (3) Data security	
	(3) Data consistency (4) Data integrity	
56.	In the context of database transactions, what is the purpose of concurrency control?	
	(1) Ensure data consistency	
	(2) Avoid deadlocks and a significant of the state of the	
	(3) Manage transaction isolation (1)	
	(4) Optimize query performance	
57.	What is the main challenge in managing multimedia databases?	
	(1) Limited storage capacity	
	(2) Complexity of data types (1)	
	(3) Lack of query languages	
	(4) Inability to handle text data	
m.	F-2023-24/(Computer Sci.)(SET-X)/(C)	

58.	What is the primary application of Hidde	n M	larkov Models (HMM) in data mining?
	(1) Classification	(2)	Regression
	(3) Time-series analysis		Clustering
59.	What is the primary function of OL	AP.	(Online Analytical Processing) in
	warehousing?		194 A
	(1) Data retrieval for decision support	all l	grado (1) ZuGHO setos opia SdV "si
	(2) Data entry for transaction processing	J	al, Restau dea andydes
	(3) Data storage for long-term archiving	5	gargosp carden(11
	(4) Data encryption for security		idia no seire di la les quilannes de
60.	Which NoSQL database is known for its	do	cument-oriented data model?
	(1) Cassandra	(2)) MongoDB
	(3) Couchbase	(4)	Redis " auxiliant he regions with
61.	Which of the following is an example of	fat	autology?
	(1) p AND ~p) p OR~pai fette lanes u agentil/ (F)
	(3) pXOR~p	(4) $p \leftrightarrow \sim p$
62.	Which property is not necessarily satisf	ied l	by an equivalence relation?
	(1) Reflexivity	(2	Symmetry
	(3) Transitivity		Asymmetry Asymmetry

63.	If there are 8 pigeons and 7 pigeonholes, what is guaranteed according to the Pigeonhole Principle?
	(1) Some pigeonhole is empty.
	(2) Some pigeonhole has more than one pigeon.
	(3) Each pigeonhole has exactly one pigeon.
	(4) Each pigeonhole has at most one pigeon.
64.	In cryptography, which concept from group theory is utilized to secure communication through public-key cryptography?
	(1) Isomorphism (2) Homomorphism
i e	(3) Automorphism (4) Discrete logarithm problem
65.	What is the chromatic number of a graph?
	(1) The minimum number of colors needed to color the vertices of the graph such that
	no two adjacent vertices have the same color.
	(2) The maximum degree of any vertex in the graph.
	(3) The minimum degree of any vertex in the graph.
	$\mathcal{X} = \mathcal{X} + \mathcal{X} + \mathcal{X}$
	(4) The maximum number of vertices that are pairwise adjacent.
66.	Which algebraic structure has both addition and multiplication operations, where
	multiplication is distributive over addition, and it may not have multiplicative inverses for all elements?
	(1) Group
	(3) Field (4) Integral Domain
	a) (Belife > believed (-) majoritus against the respect of

67.	Which algorithm is commonly used to f weighted graph?	ind the shortest path between two vertices i
		(O) Parely First Search (DFS)
	(1) Breadth-First Search (BFS)	(2) Depth-First Search (DFS)
	(3) Dijkstra's algorithm	(4) Kruskal's algorithm
68.	What does the expression $V'x\exists y P(x, y)$	mean in terms of nested quantifiers?
	(1) There exists an x such that for every	y, P(x, y) is true.
Will t	(2) For every x, there exists a y such that	t P(x, y) is true.
	(3) There exists an x and a y such that P	(x, y) is true.
	(4) For every x and y, P(x, y) is true.	ar internooped (1)
69.	Which rule of inference is represented therefore q is true"?	by the statement "p implies q, and p is tr
	(1) Modus Ponens	(2) Modus Tollens
di M.	(3) Hypothetical Syllogism	(4) Disjunctive Syllogism
70.	If $C = A \cap B$, what is the complement of	set C with respect to the universal set U?
	(1) A∩B	(2) A U B Province to sagab renement ad I (1)
	(3) A-B	(4) A'∪B' Region To redimmentament (5) (5)
71.	What is a common file system used in Li	nux ?
		(2) FAT32
≠ 1.g = 5°	(1) NTFS (3) Ext4	(4) HFS+
72.	What is a key benefit of virtualization in	computing environments?
1	(1) Reduced security and comment of	(2) Increased hardware costs
	(3) Improved resource utilization	(4) Limited scalability
	EE-2023-24/(Computer Sci)(SET-X)/(C	hix-1727 tok rotuguno opticational ball

73.	What is the Access Matrix used for in s	security? Dong a wolfa mamadosan if affW	. 63.4
	(1) Cryptography	(2) Access control	
	(3) File compression	(4) Network routing	
74.	What is the primary role of I/O controll	lers in file systems?	.05
	(1) Manage file access permissions	(i) improve this scheduling	
	(2) Convert logical addresses to physic	cal addresses pararrelas ilmir stavonia 18.1	
	(3) Control disk scheduling		
a production	(4) Implement RAID algorithms	In Batterias Agent Approaches to Al, wit	.76
		of an agen ?	
75.	What is a necessary condition for deadle	has comment (1)	
	(1) Mutual exclusion	(2) Hold and wait	
	(3) No preemption	(4) Circular wait	
76.	In multiple-processor scheduling, what	is load balancing?	
		ocesses to mayor salt grandfull the	
	(2) Distributing processes evenly amon	ng processors	
	(3) Reducing the number of threads		
	(4) Adjusting thread priorities	gamety le countrate en communist (c)	
77.		ing related to shared data?	
		(2) Race conditions	
		(4) Limited parallelism	
	(3) Lack of thread safety	alica all descriptions and the same state of the	
78.	Which part of the operating system is programs through system calls?		lication
	(1) User interface	(2) Shell	
	(3) Compiler	(4) Kernel (1) hoursel (book of all (2)	
PHD-H	EE-2023-24/(Computer Sci.)(SET-X)/(C	2), x - 1 32 a + 2 - rampmi (2) 12 - 8, 201 - 37	P. T. O

16		1 their actions?
79.	Which mechanism allows processes to ex	change data and synchronize their actions?
	I morn stage (+)	(Z) Segment
	(3) Interprocess communication	(4) Process scheduling
		age of parity information?
80.	In RAID configurations, what is the purp	(2) Enhance file access speed
	(1) Improve disk scheduling	(2) Enhance the art data on the storage device
	(3) Provide fault tolerance	(4) Encrypt data on the see 2
81.	In Rational Agent Approaches to AI, wh	at criterion is used to evaluate the performance
	of an agent?	Such soft not managed (Ballicator has grade 185
	(1) Execution speed	(2) Memory utilization
	(3) Rationality	(4) Complexity of the algorithm
82.	In the context of Game Playing, what is t	he purpose of the Min-Max Search algorithm?
	(1) Maximizing the number of moves	aption and the first some
	(2) Minimizing the number of search no	odes
	(3) Maximizing the chances of winning	March Mile and Martin and the control of the contro
	(4) Minimizing the opponent's chances	
83.	In Expert Systems, how is uncertainty in	
	(1) Utilizing deterministic rules	e dan he eat no book of a second
77 257 16 27	(2) Relying on probabilistic reasoning	Bank the major of the engineery of
	(3) Avoiding the representation of unce	ertain knowledge
	(4) Using only factual information	
PHD-	EE-2023-24/(Computer Sci.)(SET-X)/(C) - / Think is released to the fit. The fit

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and Secretary based featured 2000

and gaineral lesiverment (4)

(2) Defitzetication of entrain-

olan veral) na beesd an éabhar arithibí el t

84.	Ontologies in	knowledge representation refer t	o:
-----	---------------	----------------------------------	----

- (1) Representations of rules
- (2) Formal specifications of procedures
- (3) Hierarchical structures of concepts and relationships
- (4) Frames for knowledge representation

Goal Stack Planning is based on:

- (1) Linear programming techniques
- (2) A stack-based approach to goal achievement
- (3) Hierarchical decomposition of tasks
- (4) Nonlinear optimization

In Multi-Agent Systems, what is the purpose of Agent Communication?

- (1) Representing knowledge using ontologies Amberry and arbiting neglected and he
- (2) Enabling agents to exchange information
- (3) Hierarchical decomposition of tasks
- (4) Planning and scheduling tasks

In Fuzzy Control Systems, what does the process of Defuzzification involve?

Martin Cata

- (1) Converting fuzzy input to crisp output
- (2) Converting crisp input to fuzzy output the tot annualist to variously must promine the ing Ala's
- (3) Combining fuzzy inputs
- (4) Applying fuzzy rules

131 1 2 1 1 1

88.	3. Which type of learning in Artificial Neural	Networks involves learning from a set of
	labeled input-output pairs?	age beginned a second of
		group to authorize the Thomas 4 15
		go to admind to a set up (*)
	(4) Unsupervised learning	
		no feet a grant of dans have at
89.	What is the primary goal of the Fuzzy Inferen	ce System in Fuzzy Logic?
	(1) Fuzzification of inputs	es ou managan benefit den William
	(2) Defuzzification of outputs	c nobergon — b. Anochrei4 71.
	(3) Making decisions based on fuzzy rules	jana interception and the first of the first
	(4) Combining fuzzy rules the harmonical	rausarr, maryê maye erîsî kidî in dê
90.	What function guides the evolution of solution	ons in a Genetic Algorithm by measuring
	ears from sect.	word on none adduct (2)
	the quality of individuals?	
	(1) Crossover	n deliter gannem keinfelinsatt (1)
	(2) Mutation	he gallabods but grantell an
	(3) Encoding strategy	Mr. In Open Course System when
		eri - u navier i i - ja kinjamerine i effi
	(4) Fitness function	The complete of the complete o
		exiti C1 majar oj de e gaz i gra ga Mig C1
	What is the time complexity of searching for search?	an element in a sorted array using binary
		O(log n)
		O(n log n)
PHD-E	EE-2023-24/(Computer Sci.)(SET-X)/(C)	Circuis astronomolysts (1915 als and

92	In a linked list, what is the term for th	e node	that does not p	oint to any other node?	
	(1) Head	(2)	Tail	ray postal reposit a	
	(3) Null node	(4)	Sentinel node	"(V, Y))	
	The market of the			and the on the fill	
93	. Which algorithm is commonly used for	or sorti	ng large dataset	s in external storage?	
j lige	(1) QuickSort	(2)	MergeSort		
	(3) BubbleSort	(4)	InsertionSort	Categorius tatude tra grant si tin	
94.	In the context of Design Techniques	, what	is the primary	characteristic of a Gre	edy
	Algorithm?				
n.	(1) Backtracking	ch uni	dimple below.	rumna odbio isaWi. Q	
			e anythoury	. กา อาส ภัยกใช ้ (
	(2) Divide and Conquer		OF THE OWNER OF SERVICE	ocytechner MacCo	
	(3) Optimally solves subproblems	1.01			
	(4) Makes locally optimal choices a	t each	stage with the	hope of finding a glo	obal
	optimum		The Market State of the State o	analdorg which has	Jul
	· ·		to a main	Çı Almasının dile Anı	n)
95.	Which algorithmic technique is comm	nonly 1	used for optimi	zation problems where	the
	goal is to find the best solution from a		\$4 To 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	(1) Divide and Conquer	(2)	Greedy Algori	thms	
	(3) Backtracking	(4)	Branch and Bo	and	
	(3) Dacktracking		The efficiency is	de frim egioni pa	
96.	Maximum Flow is a concept often app	lied to	solve problems	related to:	
	(1) Network connectivity				
	(2) Shortest paths				
	(3) Sorting algorithms				
	(4) Dynamic programming				

PHD-EE-2023-24/(Computer Sci.)(SET-X)/(C)

97.	Which complexity class represents problem a deterministic Turing machine?	is that can be solve	d in polynomial time by
	(1) NP (2) P	supper to a se
	(3) ND) Exponential	
98.	• What is the primary application of the F computer science?		
	Electrical Section (September 1997)	String Matching	nokalodott of
l y vi	(3) Polynomial Arithmetic and a native (4)	Number Theoretic	c Algorithms
99.	. What is the primary goal of algorithms desig	ned for NP-complet	eness and reducibility?
	(1) Minimize time complexity		n bannet i
	(2) Maximize space complexity		fine the pilot of the
	(3) Identify problems that are difficult to so	lve i-n polynomial t	a aluma 11 (å) ii me
o kary	(4) Solve problems in constant time	esnour followy - eth	g al val (Mark) Volume
100.	Approximation Algorithms are often used w	hen:	
ghr se g	(1) Exact solutions are required		n 98. Wilde die Port
	(2) Problems are NP-complete	Pages (eggs) file o gri ek	
	(3) The problem size is small	Con Myster	by direct ()
	(4) Polynomial-time solutions are not feasib	le	r e ଓ ଅଧିକ୍ୟୁ
	I will be to have the way of the world of the first of the	of other second or a visit	

Total No. of Printed Pages: 21

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU

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ARE ASKED TO DO SO)

SET-X

PHD-EE-2023-24

Computer Science

10016

		Sr. No
Time: 11/4 Hours	Max. Marks : 100	Total Questions: 100
Roll No. (in figures)	(in words)	
Name	Date of Birth	
Father's Name	Mother's Name	
Date of Examination		
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(Signature of the Candidate)		(Signature of the Invigilator)
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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 shall be got uploaded on the University Website immediately after the conduct of Entrance Examination. Candidates may raise valid objection/complaint if any, with regard to discrepancy in the question booklet/answer key within 24 hours of uploading the same on the University Website. The complaint be sent by the students to the Controller of Examinations by hand or through email. 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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1.	In Rational Agent Approaches to AI, what criterion is used to evaluate the performance
	of an agent?
	(1) Execution speed (2) Memory utilization
	(3) Rationality (4) Complexity of the algorithm
	contraction as a filter of the contraction of the c
2.	In the context of Game Playing, what is the purpose of the Min-Max Search algorithm? (1) Maximizing the number of moves
	(2) Minimizing the number of search nodes
	(3) Maximizing the chances of winning deep formulation made for additional and the second sec
	(4) Minimizing the opponent's chances of winning with the same of
3.	In Expert Systems, how is uncertainty in knowledge typically handled?
	(1) Utilizing deterministic rules
	(2) Relying on probabilistic reasoning
	(2) Relying on probabilistic reasoning
	(3) Avoiding the representation of uncertain knowledge
	(4) Using only factual information
4.	Ontologies in knowledge representation refer to:
	(1) Representations of rules
	(2) Formal specifications of procedures
	(3) Hierarchical structures of concepts and relationships
	17 · · · · · · · · · · · · · · · · · · ·

(4) Frames for knowledge representation

- 5. Goal Stack Planning is based on:
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 - (1) Converting fuzzy input to crisp output
 - (2) Converting crisp input to fuzzy output
 - (3) Combining fuzzy inputs
 - (4) Applying fuzzy rules
- 8. Which type of learning in Artificial Neural Networks involves learning from a set of labeled input-output pairs?

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- (1) Reinforcement learning
- (2) Self-organizing learning
- (3) Supervised learning
- (4) Unsupervised learning

9.	what is the primary goal of the Fuzzy is	•			
	(1) Fuzzification of inputs				
	(2) Defuzzification of outputs	\$60 (c)			
		What a de court of the fits the day of a court W	2.7		
	(3) Making decisions based on fuzzy rules				
	नेम्बिक्टमा अवस्थिति । कुल्लीर स्टेशमे दूर्वाना क्षेत्री की क्षेत्र	es viduas atab paratific et a .)			
	(4) Combining fuzzy rules	(F) Pathibase quarying:			
10.	What function guides the evolution of	solutions in a Genetic Algorithm by mea	suring		
	the quality of individuals?	(1) Date i idependence			
	(1) Crossover	(5) Dansamensting			
	(2) Mutation of the property of the decision o	te me çomest eli del deser il un suconas, i	31		
	(3) Encoding strategy				
	(4) Fitness function	(1) A void deadlingto			
		acijalovi i ilitaristani estaniki 177			
11.	What is the primary goal of the three-sc	hema architecture in a database system?			
	(1) Data integrity	er gangamanga an ugan Bandsumeran una 1918 ka	Tr		
	(2) Data independence	process of the second commence of the			
	(3) Data security	(2) Thought the dates the			
	(4) Data consistency	constitution of the same of th			
12.	In a client/server architecture for a DBN	AS, what is the role of the client?			
	(1) Manage database transactions	(2) Execute database queries			
	(3) Store and retrieve data	(4) Provide database security			
	The state of the s	and the same and the			

13.	13. In an Entity-Relationship Diagram (ERD), what does a diamond shape rep	
	(1) Entity	(2) Attribute
	(3) Key	(4) Relationship
14.	What is the role of HDFS (Hadoop Dis	stributed File System) in big data processing?
	(1) Real-time data analytics	(2) Batch processing of large datasets
10.	(3) Database querying	(4) Streamlining data integration
15.	According to Codd's rules for relationa	l databases, what does the third rule ensure?
	(1) Data independence	(2) Data security
	(3) Data consistency	(4) Data integrity
16.	In the context of database transactions,	what is the purpose of concurrency control?
	(1) Ensure data consistency	· · · · · · · · · · · · · · · · · · ·
	(2) Avoid deadlocks	The second secon
	(3) Manage transaction isolation	roit rat contia (4)
	(4) Optimize query performance	to-voint, ditto in a matagrafi et a 177 of t
17.	What is the main challenge in managin	g multimedia databases?
	(1) Limited storage capacity	with the stage dead the stage of the
	(2) Complexity of data types	That I see make it is in
	(3) Lack of query languages	. Minishtan (no. 1 g. 1 g. 1
	(4) Inability to handle text data	ABC s of smoothings is mading in a DBA.
18.		den Markov Models (HMM) in data mining?
	(1) Classification	(2) Regression
	(3) Time-series analysis	(4) Clustering

PHD-EE-2023-24/(Computer Sci.)(SET-X)/(D)

19.	What is the primary function of OI	AP (Online Analy	tical Processing) in data
	warehousing?		. " ចមមញ្ញជិតបារ
	(1) Data retrieval for decision support	bija	11. Regular langu
	(2) Data entry for transaction processing	s sympat m	de Context-Sour
	(3) Data storage for long-term archiving		Marie and the St. St.
	(4) Data encryption for security		26. The Haines Frobi
- 17 July 1	TRILLY CON 1 - 1 - 1 - 1 - 5 - 5		Shavioz (1)
20.	Which NoSQL database is known for its	document-oriented	data model?
	(1) Cassandra	(2) MongoDB	stderfordU (F)
	(3) Couchbase	(4) Redis	maril resumpit 14a)
21.	Russel's Paradox is related to:		
	(1) Set theory	(2) Graph theory	26. In the context of p
	Santabaroched (C)	rida a Far	vojamas-goli (il forma pv
	(3) Number theory	(4) Formal languag	res (E)
22.	What does the Pumping Lemma for Reg	ular Languages state	
	(1) All regular languages can be pumped		
			Common M.
	(2) Any sufficiently large regular lang pumped to generate more strings in t		
	(3) Regular expressions can be pumped		
	(4) Pumping is not applicable to regular	languages (ind	imig said all the
		Liver and a Lander M. Ac.	
23.	The Equivalence of Pushdown Automata		
	as: (* 150 al)	and continued the other	H-quart reads in PAT 197
	(1) Chomsky Normal Form	(2) Pumping Lemn	nammo (adent)
	(3) Greibach Normal Form	(4) Cook-Levin Th	eorem (
oun_i	FF-2023-24/(Computer Sci)/SFT-Y)//D		

24.	What type of language is recognized b	y a Turing Machine in a single head, single tap
	configuration?	The contract
	(1) Regular language	(2) Context-Free language
	(3) Context-Sensitive language	(4) Recursively Enumerable language
25.		a problem that is:
	(1) Solvable	
	(2) Tractable	20. While the My and has he impromessed
	(3) Unsolvable	out out on the
	- '- '- '- '- '- '- '- '- '- '- '- '- '-	Foldowi U. Fr
	(4) Context-Free	
26.	In the context of parsing, which type of	
	(1) Top-down parser	(2) Bottom-up parser
	(3) LR parser	(4) LALR(1) parser
		✓2 Chata don chia Paragio di manna cartiRegi
27.	In the context of Turing Machines, w	hat is the significance of the Universal Turing
j gri	Machine?	na' dinger senti yikumahni senik di
	(1) It recognizes only regular languages	arstante de directification
	(2) It can simulate any other Turing Ma	chine
	(3) It is less powerful than a standard T	uring Machine
17 E F	(4) It is designed for practical computation	tions
28.	What does Peep-Hole Optimization focu	us on ?
	(1) Global optimization	(2) Loop optimization
	(3) Local optimization	(4) Instruction scheduling
HD-I	EE-2023-24/(Computer Sci.)(SET-X)/(I	Deverage and an arms of the Alfrenia

29.	Instruction Scheduling in code optimization is concerned with:	
	(1) Reordering instructions to improve parallelism	
	(2) Adding new instructions for better performance	
	(3) Removing unnecessary instructions	
	(4) Optimizing loops	
30.	What is the primary goal of the Symbol Table in a compiler's Run Time System?	
	(1) Managing storage organization	
	(2) Storing intermediate code	
	(3) Storing lexical tokens to the room together as make a fear quantity and in [4] (5)	
	(4) Managing information about identifiers in the source program	
31.	Which programming paradigm emphasizes defining computation as the evaluation of	
01.	mathematical functions and avoids changing state and mutable data?	
	(1) Imperative (2) Declarative	
	(3) Procedural (4) Object-Oriented	
32.	Which formal model is often used to describe the syntax of programming languages?	
	(1) Finite State Machine (FSM) (2) Turing Machine	
	(3) Context-Free Grammar (CFG) (4) Pushdown Automaton (PDA)	
33.	Which property of a type allows an object of that type to be modified after its creation?	
	(1) Mutable (2) Immutable	
	(3) Static (4) Dynamic (4) Dynamic	
	entials mirroran (4) quinds good (4)	
PHD-	EE-2023-24/(Computer Sci.)(SET-X)/(D)	

34	4. In C programming, what is the purpose of	f the "typedef keyword	?
	(1) Declare a new type	(2) Define a constant	Ent Minary 18 19
	(3) Declare a variable	(4) Define a function	in guild 1 d.C. 11 o
35		a function?	
	(1) method	(2) function	
	(3) defound and a dispersion of the The	(4) define	ad one of the title ba
36	6. What is the purpose of a destructor in C+-	+ ? ³⁰¹ L.511. 270 22.00.	wind the state of
	(1) Initialize an object	dyno pellancai	ni manik (*)
	(2) Perform cleanup tasks when an object goes out of scope		
	(3) Define the structure of a classification	note, construcción colui-	prinjama' hallo
	(4) Overload operators	lans tripped flamm	imen i di 15
37	In C++, which keyword is used to handle exceptions?		
	(1) throw	(2) catch	emerged (1)
	(3) exception the first the second of the se	(4) try	multiplied Procedure
38	In 2-D geometrical transforms, what does shear refer to?		
	(1) Changing the position of an object ((2) Changing the size of	an object
	(3) Changing the orientation of an object((4) Distorting the shape	of an object
39. Which illumination model is commonly used to simulate the interaction of light wit			
	surfaces in computer graphics?		whenty of the
	(1) Flat shading	(2) Gouraud shading	400/2 000
	(3) Phong shading (4) Lambertian shading	
PHD-EE-2023-24/(Computer Sci.)(SET-X)/(D)			

40.	What is the purpose of using quadric su	ırface	s in 3D object	representation?	14
	(1) Representing flat surfaces	ta i, m			
	(1) Traplesoning that surfaces			preDinuson (f (f)	
	(2) Representing surfaces with complex	x shap	pes	(1) Goods Algorita	
	(3) Representing cubic surfaces	e Landa de la companya de la company		· gurkmuthwill (C)	
	(4) Representing polygonal surfaces	· 1	La	thad has hansall the	
41.	What is the time complexity of searching		r an element i		
	search?		Cseri		
	(1) O(1)	(2)	O(log n)	oiting isomores (2)	
	(3) O(n)	(4)	O(n log n)	(1) Sorting algorithm	
42.	In a linked list, what is the term for the	node		point to any other node	?
	(1) Head wan having of me bull smale				至為
	(3) Null node	(4)	Sentinel nod	niud , isioinemble, e	
	** (A)			The sta	
43.	Which algorithm is commonly used for	sortin	ng large datas	ets in external storage?	•
	(1) QuickSort	(2)	MergeSort		
arrett	(3) BubbleSort	(4)	InsertionSort	Man is the product.	
44.	In the context of Design Techniques,	what	is the primar	y characteristic of a G	reedy
	Algorithm ? A data to I perform (4)) 11500	the tot more at Acct	
	(1) Backtracking	pie wyche	in week his his	y vanneraj teh generlijik	
	(2) Divide and Conquer			u anti asimulika da	1960.76"
	(3) Optimally solves subproblems			(3) Magazaren spand	
	(4) Makes locally optimal choices at optimum	each		he hope of finding a	global
	- Optimum		the number of	i ental training policy (i.e.	

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P. T. O.

45.	Which algorithmic technique is comm	only	used for	optimiza	tion prob	lems wh	ere the
	goal is to find the best solution from a s	set of	teasible s	- Controlls		m ()	
	(1) Divide and Conquer						
	(2) Greedy Algorithms		rus Andr				
	(3) Backtracking		an William	g i thai		271 1	
	(4) Branch and Bound	2,1	calluk in.	marken s	n n - w	eñ - Pe	
46.	Maximum Flow is a concept often appl	lied to	solve pro	oblems re	lated to:	eda.	
lot 1	(1) Network connectivity	111111111111111111111111111111111111111	i.e. hi y fo	aquito.	Trial Date :	115.	
	(2) Shortest paths					10 m	
	(3) Sorting algorithms					of a sta	
	(4) Dynamic programming						
	ika kallu zer ir juan, a u spi <mark>ta adi</mark> sha	n selt	na origi	it di terta	1,126 1.14	111 2 72	24
47.	Which complexity class represents pro-	blem	s that can	be solve	d in poly	nomial ti	ime by
	a deterministic Turing machine?				alvar ili	nki iki	
	(1) NP	(2)	P				
	(3) NP-completeness	(4)	Exponen	itial	udino, de	West L.	LA
	(2) Morsesen				morin		
48.	What is the primary application of the computer science?	he Fa	st Fourie	r Transfo	rm (FFT) algorit	hm ir
_cr r.+(r)	(1) Sorting to the state of the	(2)	String M	latching	ı IX dinin	In the	A.f.
	(3) Polynomial Arithmetic		Number				
49.	What is the primary goal of algorithms of	desigr	ed for NP	-complete	eness and	reducibi	lity ?
	(1) Minimize time complexity			Tupper i	fam a ly	n. (, ()	
	(2) Maximize space complexity		- Crabbira,	dus evel.	ill st		
	(3) Identify problems that are difficult	to sol	ve i-n pol	vnomial t	ime	44	
	(4) Solve problems in constant time		n poi	Jaonna	(1(1) 11)		
	(1) Solve problems in constant diffe						
HD-F	E-2023-24/(Computer Sci.)(SET-X)/(1	D)					

50.	Approximation Algorithms are often use	d when:	7 9N9 T 55 m	120
	(1) Exact solutions are required			
	(2) Problems are NP-complete		a fato Joon G (1)	
	(3) The problem size is small		at more off the	
	(4) Polynomial-time solutions are not fe	asible	m, sussections, time	
51.	In the context of transmission media, wha	at is characteristic of B	roadband Transmis	ssion ?
	(1) High bandwidth and multiple channel	els	(With the	
	(2) Single channel with low bandwidth		II) CSMAICA	
	(3) Limited coverage area (1967)	Fax 1446.	ALCH (E)	
- 1·	(4) Analog signal transmission only	salestropea diserva de	in or context	4.1
52.	What term describes the process of combination ?			
	(1) Modulation	(2) Demodulation	(1) SMTP	
	(3) Multiplexing	(4) Encoding	(a) POP	
53.	In the OSI Reference Model, which layer and provides services like flow control a	_		ication
	(1) Network Layer	(2) Transport Layer	(1) Parity - Key A	
	(3) Data Link Layer	(4) Presentation Lay	er Agaz maigro (2)	
54.	Which switching technique involves cre two devices for the entire duration of the		nmunication path b	
	(1) Circuit Switching	subjective adust	(१) किया के स्टार्ट कर के प्रतिकार	
	(2) Packet Switching	daled have sphore or their	sar gargares (1)	
	(3) Message Switching	bendh bild our	madni şailali (d.)	
	(4) Virtual Switching		(4) Providing in	
PHD-	EE-2023-24/(Computer Sci.)(SET-X)/(I	Mar dan ber sam	Marie And Dark Edge Color	P. T. O.

55.	In the TCP/IP Protocol Suite, which I routing?	ayer is responsible for logical addressing and
	(1) Data Link Layer	(2) Network Layer
	(3) Transport Layer	(4) Application Layer
56.	J-44' 0	ed in Ethernet networks and involves collision
		(2) Token Passing
	(3) FDMA	(4) CSMA/CD
57.		ion, which protocol is commonly used for
71.21 1.112		mus la servan quilt com a sin a san de se
	(1) SMTP	(2) IMAP
	(3) POP	(4) HTTP
58.	Which type of algorithms use a single network security?	e key for both encryption and decryption in
	(1) Public-Key Algorithms	(2) Secret-Key Algorithms
	(3) Digital Signature	(4) Cryptographic Hash Functions
59.	What is the primary purpose of a Digital	Signature in network security?
	(1) Ensuring confidentiality of data	(1) Carries ang
	(2) Verifying the authenticity and integral	rity of a message
	(3) Hiding information within other info	ormation and survey of the survey of
	(4) Preventing malware attacks	gantini don 6. (
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60.	What is the primary goal of Cloud Computing?	
	(1) Ensuring the privacy of data	
	(2) Centralized management of local servers	
	(3) Facilitating collaborative development	Aa
	(4) Efficient use of physical hardware resources	
61.	What is a common file system used in Linux ?	
	(1) NTFS (2) FAT32 resignant all guitaball (2)	
	(3) Ext4 (4) HFS+irror than the generality (4)	
60	What is a less handit of viewalisation in computing environments?	
62.	What is a key benefit of virtualization in computing environments?	\ ()
	(1) Reduced security (1) nontransparent and (1)	
	(2) Increased hardware costs (5)	
	(3) Improved resource utilization	
	(4) Limited scalability	.53
63.	What is the Access Matrix used for in security?	
	(1) Cryptography (2) Access control	
	(3) File compression (4) Network routing	.Eg
64.	What is the primary role of I/O controllers in file systems?	
	(1) Manage file access permissions	
	(2) Convert logical addresses to physical addresses	(1)(
	(3) Control disk scheduling	
	(4) Implement RAID algorithms	
PHD-F	EE-2023-24/(Computer Sci.)(SET-X)/(D)	P. T. O.

65.	What is a necessary condition for deadlo	ck occurrence.
03.		
	(1) Mutual exclusion	(4) Circular wait
	(3) No preemption	(4) Circulai wait
	41.0	Land balancing?
66.	In multiple-processor scheduling, what i	s load balancing
	11	292200
	(2) Distributing processes evenly among	g processors
	(2) Distributing processes overly	A Property of the second
	(3) Reducing the number of threads	
	(4) Adjusting thread priorities (1)	
	t a l'article d'article and a service et	ng related to shared data?
67.	What is a potential issue in multithread	ng related to shared data.
	(1) Excessive power consumption	(2) Race conditions
	(3) Lack of thread safety	(4) Limited parallelism
		The price When no received will agree that
68.	Which part of the operating system	is responsible for interacting with application
	programs through system calls?	
		(2) Shell
	(3) Compiler	(4) Kernel
69.	Which mechanism allows processes to	exchange data and synchronize their actions?
03.		(A)
	(1) 1 45.48	
	(3) Interprocess communication	(4) Process scheduling
70.	In RAID configurations, what is the pu	rpose of parity information?
	(1) Improve disk scheduling	(2) Enhance file access speed
	(3) Provide fault tolerance	(4) Encrypt data on the storage device
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71.	. Which prescriptive process model is	characterized by defining all stages and their
	specific activities before development be	egins ?
	(1) Waterfall model	(2) Incremental model
	(3) Spiral model	(4) Agile model
72.	What is the primary focus of aspect-orie	ented software development ?amail (47
	(1) Data modeling	(2) User interface design
	(3) Separation of concerns	(4) Component reuse
70	ymu (Trod-Ybell (Cs	
73.	document?	Software Requirement Specification (SRS)
		73. What is Reverse Promovement in the con-
	(1) Designing software architecture	73. What is Reverse Engineering in the con-
	(2) Coding software modules	(2) The process of course gardweet co.
	(3) Documenting user manuals	
	(4) Describing the functional and non-fu	
74.	Which design principle is focused on m	ninimizing the dependencies between different
	modules in a software system?	(i) He ove documentation
	(1) Separation of Concerns	(2) Modularity devel bilinear 2 (1)
	in the second se	(4) Cohesion
75.	Which model is not a software estimation	n model?
	(1) COCOMO	(2) Waterfall Model
	(3) Function Point Analysis	(4) LOC-based Estimation
PHD-E	E-2023-24/(Computer Sci.)(SET-X)/(D)	O.T.A

	same in software development.
76	What is the primary purpose of Quality Assurance in software development.
70.	What is the proof of the state
	(1) Identifying and fixing defects
	(2) Evaluating the performance of the software
	(2) Evaluating the performance of
	in the ricks
	(3) Managing project 123
	(4) Ensuring that the software meets specified requirements
	Which testing technique involves executing the software's functionality without
77.	Which testing technique involves executing the solution
77.	knowledge of its internal code?
	(2) Black-hox Tesuing
	(1) White-box Testing (2) Black continues
(288)	(1) White-box Testing (3) Grey-box Testing (4) Glass-box Testing
70	What is Reverse Engineering in the context of software development?
78.	What is Reverse Engineering
	(1) The process of creating software from scratch
	(2) The process of reusing software components
	(3) The process of understanding and analyzing existing software
	(3) The process of understanding and analyzing existing between
	(4) The process of documenting software code
791	What is a key principle of Extreme Programming (XP)?
75.	
	(1) Heavy documentation (2) Frequent and small releases
	(3) Sequential development phases (4) Strict adherence to a plan
80.	In Scrum, what is the role of the Scrum Master?
00.	
	(1) Managing the development team
	(2) Ensuring the delivery of features
	(3) Facilitating the Scrum process and removing impediments
	(4) Defining project requirements
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81.	Which of the following is an example of a tautology?
	(1) p AND -p (1) 1 (2) p OR-p (2) p OR-p (3) (4) (4) (4) (4) (4)
	(3) $pXOR-p$ (4) $p \leftrightarrow -p$
82.	Which property is not necessarily satisfied by an equivalence relation?
	(1) Reflexivity (2) Symmetry
	(3) Transitivity (4) Asymmetry
83.	If there are 8 pigeons and 7 pigeonholes, what is guaranteed according to the Pigeonhole Principle?
	(1) Some pigeonhole is empty. The transfer of the combining is a market of the combined of the
	(2) Some pigeonhole has more than one pigeon.
	(3) Each pigeonhole has exactly one pigeon.
	(4) Each pigeonhole has at most one pigeon.
84.	In cryptography, which concept from group theory is utilized to secure communication through public-key cryptography?
	(1) Isomorphism (2) Homomorphism
	(3) Automorphism (4) Discrete logarithm problem
85.	What is the chromatic number of a graph?
	(1) The minimum number of colors needed to color the vertices of the graph such that
	no two adjacent vertices have the same color.
	(2) The maximum degree of any vertex in the graph.
	(3) The minimum degree of any vertex in the graph.
	(4) The maximum number of vertices that are pairwise adjacent.
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86.	Which algebraic structure has both a multiplication is distributive over additi	ddition and multiplication operations, when
	for all elements?	
	(1) Group	(2) Ring
	(3) Field	(4) Integral Domain
87.	Which algorithm is commonly used to	find the shortest path between two vertices in
	weighted graph?	ह (m) ि एका चर्माकुर है असे अपनी है <mark>.हर</mark>
	(1) Breadth-First Search (BFS)	(2) Depth-First Search (DFS)
	(3) Dijkstra's algorithm	(4) Kruskal's algorithm
88.	What does the expression $V'x\exists y P(x, y)$	mean in terms of nested quantifiers?
	(1) There exists an x such that for every	y, P(x, y) is true.
	(2) For every x, there exists a y such the	at P(x, y) is true.
(H)MA	(3) There exists an x and a y such that I	P(x, y) is true.
	(4) For every x and y, P(x, y) is true.	in the state of
89.	therefore a is true"?	by the statement "p implies q, and p is tru
		(2) Modus Tollens
	(3) Hypothetical Syllogism	(4) Disjunctive Syllogism
90.	If $C = A \cap B$, what is the complement of	of set C with respect to the universal set U?
	(1) A∩B	(2) A∪B
	(3) A - B	(4) A'∪B'

(3) Increased throughput

(4) Reduced power consumption

91.	What is the primary characteristic	of combinational circuits ?	
	(1) Feedback	(2) Memory elements	
	(3) Sequential operation	(4) No feedback	
92.	What is the purpose of a shift mice	rooperation?	
	(1) Transfer data from one registe	er to another	
	(2) Shift bits within a register (3) Perform arithmetic operations	equity after the explanation to the last of the control of the con	
	(4) Move data within a register	ti. A. Barrier (1995) (1997) (1997) (1997)	
		nal tyrau yfaeth y leith iz stereout purch eft eith	
93.	What is the primary function of th	e control unit in a computer?	
	(1) Execute arithmetic operations	O'C) of metalogic of compact is some in the	
	(2) Manage input-output operation		
	(3) Control the flow of data within	n the CPU	
	(4) Manage the memory hierarchy	Programme and the programme of the contract of	
94.	In a general register organization,	what are the registers used for?	
	(1) To store program instructions	of Mynard of Rees and Significa-	
	(2) To store intermediate data dur		
	(3) To manage input-output opera	tions and the term would be a many sets on the table	
	(4) To store permanent data		
95.	What is the primary advantage of I	pipelining in computer architecture?	
	(1) Improved instruction set	conditions may won versionly. Let have	(3/3/
	(2) Faster clock speed		

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96.	What is the purpose of DMA (Direct Memory Access) in computer systems?
	(1) Execute arithmetic operations
	(2) Manage input-output operations
	(2) Transfer data between main memory and auxiliary memory
	(4) Control the flow of data within the CPU
	The state of the s
97.	What is the role of cache memory in the memory hierarchy?
	(1) Store permanent data
	(2) Provide fast access to frequently used data
	(2) Manage input output operations
	(4) Control the flow of data within the CPU
	(4) Control the now of data within the
98.	What is a characteristic feature of a multicore processor?
	(1) Single processor with multiple cores
	(2) Multiple processors with single cores
	(3) Multiple processors with multiple cores
	(4) Single processor with single core
	(4) Single processor with single core
99.	What is the primary characteristic of combinational circuits?
	(1) Feedback (2) Memory elements
	(3) Sequential operation (4) No feedback
100.	In a 4-to-1 multiplexer, how many input lines can be selected using the control lines?
	(1) 1 (2) 2
	(3) 3
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	ys of PHD-EE-2023-24 (
Q. NO.	Α	В	С	D
1	2	3	2	3
2	4	3	3	4
3	2	2	1	2
4	4	3	1	3
5	1	4	2	2
6	2	2	2	2
7	3	2	4	1
8	2	4	4	4
9	1	3	3	3
10	4	3	2.	4
11	4	1	1	2
12	2	2	3	2
13	3	1	4	4
14	2	4	2	2
15	3	3	2	4
16	3			
		1	4	3
17	2	2	2	2
18	3	3	3	3
19	4	1	2	1
20	4	4	3	2
21	2	3	1	1
22	3	4	3	2
23	1	2	2	1
24	1	3	1	4
25	2	2	2	3
26	2	2	4	1
27	4	1	3	2
28	4	4	2	3
29	3	3	_ 2	1
30	2	4	4	4
31	2	2	1	2
32	2	4	2	3
33	4	2	1	1
34	2	4	4	1
35	4	1	3	2
36	3	2	1	2
37	2	3	2	4
38	3	2	3	4
39	1	1	1	3
40	2	4	4	2
41	3	1		2
42	3	3	, 4	3
43	2	4	3	2
44	3	2	2	4
45	4	2	3	2
46	2	4	3	1
47	2	2	2	2
48	4	3	3	3
49	3	2	4	3

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Answer key	s of PHD-EE-2023-24	(COMPUTER SCIENCE)	entrance exam dated	22.03.2024
Q. NO.	Α	В	С	D
51	1	2	2	1
52	3	3	2	3
53	4	2	4	2
54	2	4	2	1
55	2	2	4	2
56	4	1	3	4
57	2	2	2	3
58	3	3	3	2
59	2	3	1	2
60	3	4	2	4
61	2	2	2	1 3
62	3	3	4	3
63	2	1	2	2
64	4	1	4	3
65	2	2	1	4
66	1	2	3	2
67	2	4		2
68	3	4	2	4
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70	4	2	4	3
71	1	4	3	1
72	2	2	3	3
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75	3	3	4	2
76	1	* 3	2	4
77	2	2	2	2
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79	1	4	= 3	2
80	4	4	3	3
81	1	1	3	2
82	3	3	4	4
83	2	2	2	2
84	1	1	3	4
85	2	2	2	1
86	4	4	2	2
87	3	3	1	3
88	2	2	4	2
89	2	2	3	
90	4			1
		4	4	4
91	3	2	2	4
92	4	2	3	2
93	2	4	2	3
94	3	2	4	2
95	2	4	. 2	3
96	2	3	1	3
97	1	2	2	2
98	4	3	3	3
99	3	1	3	4
100	4	2	4	4

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