Reg. No: | | | | | | | | | | |

G.T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University) || (Accredited by NAAC with 'B' Grade)

END SEMESTER EXAMINATION – NOVEMBER 2020

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme: M.Sc., Computer Science | **Date: 14.02.2022**
Course Code: 20PCSC11 | **Time: 10am – 1pm**
Course Title: Mathematical Foundation | **Max. Marks: 60**

Section – A **[10 x 1 = 10]**

Answer ALL the Questions

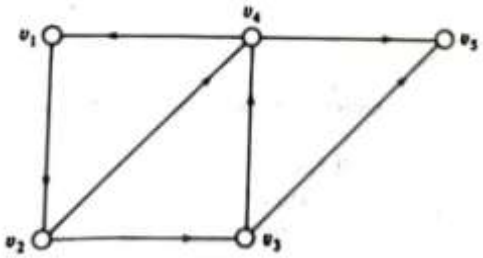
Qn. No.		CO(s)	K – Level
1.	In a conditional statement, unless means "if not" and introduce _____ . [a] A negation [b] The conjunct [c] The consequent [d] The antecedent	CO1	K1
2.	If p and $q$are atomic variables then, $\neg p \vee q$,p, $p \vee \neg q$ are _____ . [a] elementary sum [b] elementary product [c] either [a] or [b] [d] both [a] and [b]	CO1	K1
3.	In a graph G, degree of any vertex is 1then the vertex is called as _____ . [a] Isolated vertex [b] Non isolated vertex [c] Pendent vertex [d] Non pendent vertex	CO2	K1
4.	Every C_n is a regular graph of degree _____ . [a] 4 [b] 3 [c] 2 [d]1	CO2	K2
5.	What is the inverse element of 3 in $(Z_4, \oplus_4)$? [a] 1 [b] 2 [c] 3 [d] 4	CO3	K1
6.	A function f having bijective homomorphism then$f$ is _____ . [a] Isomorphism [b] homomorphism [c] Endomorphism [d] Automorphism	CO3	K2
7.	A isomorphism $g: L \rightarrow$L where$(L, *, \oplus)$ is a Lattice is called _____ [a] Endomorphism [b] Monomorphism [c] Epimorphism [d] Automorphism	CO4	K1
8.	Which of the following operator and relations are called duals? [a] $+, * \;\&\; \leq, \geq$ [b]$+, * \;\&\; \Delta, \nabla$ [c] $*, \oplus \;\&\; \Delta, \nabla$ [d] $*, \oplus \;\&\; \leq, \geq$	CO4	K2
9.	The structure $(B, +, \cdot, 1)$ is known as _____ . [a] Boolean Algebra [b] Boolean Algebra with identity [c] Boolean Ring with identity [d] Boolean Ring	CO5	K1
10.	The antiatoms of a Boolean algebra are also known as _____ . [a] minterms [b] maxterms [c] minimax terms [d] maximin terms	CO5	K2

Section – B **[5 x 4 = 20]**

Answer ALL the Questions

Qn. No.		CO(s)	K – Level
11.a)	Construct the truth table for $(P \leftrightarrows R) \wedge (\neg Q \rightarrow S)$ [OR]	CO1	K1
b)	Show that the following implications without constructing the truth table i) $P \rightarrow Q \Longrightarrow P \rightarrow (P \wedge Q)$ ii) $(P \rightarrow Q) \rightarrow Q \Longrightarrow P \vee Q$	CO1	K1

12.a)	Explain the followings i) path ii) connected iii) reachability [d] distance	CO2	K2
	[OR]		
b)	Prove that if G be a graph then $\sum_{v \in V} d(v) = 2q$	CO2	K2
13.a)	Show that composition of two congruence relation on a set is not necessarily a congruence relation.	CO3	K2
	[OR]		
b)	Prove that the following problem is algebraic system or not, If $\rho(S)$ is a power set of a Set S. Define the operations $+$ and $\cdot$ on $\rho(S)$ as $A + B = (A - B) \cup (B - A)$ and $A \times B = A \cap B$.	CO3	K2
14.a)	Write a short note on i) lattice ii) sublattice and give one example.	CO4	K3
	[OR]		
b)	Draw the diagrams of lattices $(S_n, D) for\ n = 4,6,10,12$. here S_n is the set of all divisors of n.	CO4	K3
15.a)	Prove that the following Boolean identities i) $a \oplus (a' * b) = a \oplus b$ ii) $a * (a' \oplus b) = a * b$	CO5	K3
	[OR]		
b)	Give a short note for the following i) Boolean Algebra ii) Sub algebra iii) Boolean homomorphism iv) Direct product	CO5	K3

Qn. No.	**Section – C** **[3 x 10 = 30]** **Answer Any THREE Questions**	**CO(s)**	**K – Level**
16.	Obtain the principal disjunction normal forms and principal Conjunctive normal forms formula for $(\neg P \vee \neg Q) \rightarrow (P \leftrightarrows \neg Q)$	CO1	K1
17.	Find the reachable sets of $\{v_1, v_4\}, \{v_4, v_5\}, \{v_3\}$ for the digraph. 	CO2	K2
18.	If $f: S \rightarrow T$ is a homomorphism from $(S,*)$ to (T, Δ) and $g: T \rightarrow P$ is also a homomorphism from (T, Δ) to (P, ∇) then $gof: S \rightarrow P$ is a homomorphism from $(S,*)$ to (P, ∇).	CO3	K3
19.	Let $(L, \leq)$ be a lattice. In which * and $\oplus$ denote the operations of meet and join respectively. for any a, b $\in L$ Show that $a \leq b \iff a * b = a \iff a \oplus b = b$.	CO4	K3
20.	Prove that every chain is a distributive lattice.	CO5	K3

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END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Computer Science | **Date : 15.02.2022**

Course Code : 20PCSC12 | **Time : 10:00 AM - 1:00 PM**

Course Title : Advanced Computer Architecture | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	MIMD stands for _____. 1.Mono-instruction Multipledata structures 2.Multiple-instruction Multiple data streams 3.Mono-instruction Multipledata streams 4.Multiple-instruction Multipledata structures	CO1	K1
2.	An interconnection network topology is a _____ from the set of processors and memories onto the same set of processors and memories. 1.Mapping Function 2.Snooping Function 3.Sharing Function 4.Network Topology Function	CO1	K1
3.	Kendall Square Research's KSR-1 machine is an example of _____ System. 1.Cache-Only Memory Architecture 2.Nonuniform Memory Access 3.Uniform Memory Access 4.Symmetric Multiple Processor	CO2	K1
4.	The Stanford Distributed Directory Protocol is based on a _____of distributed directories. 1.Circularly linked list 2.Singly linked list 3.Double linked list 4.Priority Queue	CO2	K2
5.	In_____ defines Multiple processors can write to the same memory location simultaneously. 1.Exclusive read mode 2.Exclusive write mode 3.Concurrent read mode 4.Concurrent write mode	CO3	K1
6.	Networks can be divided into the following _____categories based on their sizes and the geographic distances. 1.Four 2.Five 3.Six 4.Three	CO3	K2
7.	The tasks on the other hosts are _____automatically by the initiating task. 1.Executed 2.Processed 3.Activated 4.Scheduled	CO4	K1

8.	PVM allows running tasks to belong to named groups, which can change at any time during _____.	CO4	K2
	1.Computation 2.Execution 3.Processing 4.Exchanging		
9.	A group is an ordered set of ranks that are contiguous and start from_____.	CO5	K1
	1.One 2.Two 3.Zero 4.Three		
10.	MPI provides the following function to broadcast a message from the _____to all tasks of the communicator's group.	CO5	K2
	1.Basic task 2.Root task 3.Parent task 4.Main task		

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	What are all the criteria for classifying the Interconnection Networks?	CO1	K1
	[OR]		
(b)	Explain with short notes about the Multistage Networks in Switch-Based Interconnection Networks.	CO1	K1
12. (a)	Summarize the concepts of the Process Granularity.	CO2	K2
	[OR]		
(b)	Explain in details about the Write-Invalidate and Write-Through protocol.	CO2	K2
13. (a)	Describe the algorithm for All Partial Sums of an Array.	CO3	K3
	[OR]		
(b)	Determine the concept of Complexity Analysis.	CO3	K3
14. (a)	Sketch The Quadrics Network.	CO4	K3
	[OR]		
(b)	Sketch Task Synchronization- Precedence Synchronization.	CO4	K3
15. (a)	Illustrate Creating New Communicators.	CO5	K4
	[OR]		
(b)	Infer Starting Identical Tasks.	CO5	K4

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	Describe in details about the MIMD Architecture.	CO1	K1
17.	Illustrate in details about the routing in Message Passing Networks.	CO2	K2
18.	Predict the Leader Election In Synchronous Rings.	CO3	K3
19.	Examine Work Assignment.	CO4	K3
20.	Collective Operations- Global Computation.	CO5	K4

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END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Computer Science | **Date : 16.02.2022**

Course Code : 20PCSC13 | **Time : 10:00 AM - 1:00 PM**

Course Title : Advanced Data Structures | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	What are the worst case and average case complexities of a binary search tree? 1.$O(n^2)$, O(logn) 2.O(n) , O(logn) 3.O(logn), $O(n^2)$ 4.O(logn) , $O(\log n^2)$	CO1	K1
2.	What is the time complexity of search function in a hash table using list head? 1.O(n) 2.O(1) 3.O(log n) 4.O(n log n)	CO1	K1
3.	Which of the following real time examples is based on insertion sort? 1.Arranging a pack of playing cards 2.Database scenarios and distributes scenarios 3.Arranging books on a library shelf 4.Real-time systems	CO2	K1
4.	Merge sort uses the _____ algorithmic technique. 1.Backtracking 2.Heuristic approach 3.Greedy approach 4.Divide-and-conquer	CO2	K2
5.	Which of the following statements is true in a given graph G having v vertices and e edges which is connected and has no cycles? 1.v=e +1 2.v = e+2 3.v % 1 = e 4.v = e-1	CO3	K1
6.	If a graph is not biconnected the vertices whose removal would disconnect the graph v are known as _____. 1.Connected Vertices 2.bi-connected Vertices 3.Articulation points 4.Cyclic Graph Vertices	CO3	K2
7.	Which of the following standard algorithms is not a Greedy algorithm? 1.Dijkstra's shortest path algorithm 2.Prim's algorithm 3.Kruskal algorithm 4.Bellmen Ford Shortest path algorithm	CO4	K1
8.	A position for which this assignment can be determined by examining the board is known	CO4	K2

as _____.

1.Root Point 2.Terminal position

3.Leaf Node Position 4.Minimax strategy

9.	The amortized running times of merge an element for binomial queues is _____.	CO5	K1
	1.O(log N) time 2.O(N) time		
	3.O(N log N) time 4.O(1) time		
10.	What is the amortized cost per operation of a skew heap?	CO5	K2
	1.O(N) 2.O(N log N)		
	3.O(N^2) 4.O(log N)		

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	Layout the Binary Search Tree.	CO1	K1
	[OR]		
(b)	List out the operations performed in the Binary Search Tree.	CO1	K1
12. (a)	Identify the key notes about the basic operations of the Binary Heap.	CO2	K2
	[OR]		
(b)	Interpret in details about the Insertion Sort Algorithm.	CO2	K2
13. (a)	Examine about the graphs with negative edge costs.	CO3	K2
	[OR]		
(b)	Describe in details about the NP complete problems.	CO3	K2
14. (a)	Analyze in details about the greedy algorithm.	CO4	K3
	[OR]		
(b)	Produce the concept of divide and conquer method.	CO4	K3
15. (a)	Evaluate in details about the Amortized Analysis of Lazy Binomial Queues.	CO5	K4
	[OR]		
(b)	Focus on a node is heavy in Skew Heap.	CO5	K4

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	Recognize in detail about the Rehashing and Extendible hashing.	CO1	K2
17.	Discuss about the sorting based on the algorithmic analysis?	CO2	K2
18.	Sketch about the Prim's Algorithm.	CO3	K3
19.	Illustrate about the Offline bin packing Problem.	CO4	K4
20.	Describe in details about the splay Trees and its operations.	CO5	K4

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END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Computer Science | **Date : 17.02.2022**

Course Code : 20PCSC14 | **Time : 10:00 AM - 1:00 PM**

Course Title : Distributed Database Systems | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	The_____ refers to separation of the higher-level semantics of a system from lower-level implementation issues. 1.Independence 2.Naming 3.Transparency 4.Designing	CO1	K1
2.	At the lowest level of the architecture is the _____ view which deals with the physical definition and organization of data. 1.Internal 2.Conceptual 3.Control 4.External	CO1	K1
3.	The information needed for distribution design can be divided into _____ categories. 1.Two 2.Three 3.Four 4.Five	CO2	K1
4.	Schema definitions almost always contain_____ information that constrain the values in the database. 1.Syntactic 2.Structural 3.Semantic 4.Relationships	CO2	K2
5.	View _____is the process of updating(or refreshing) a materialized view to reflect the changes made to the base data. 1.Integration 2.Distribution 3.Processing 4.Maintenance	CO3	K1
6.	Query decomposition can be viewed as _____ successive steps. 1.Two 2.Three 3.Five 4.Four	CO3	K2
7.	In _____ the entire relation is shipped to the join site and stored in a temporary relation before being joined. 1.Fetch 2.Semi join 3.Ship-whole 4.Search	CO4	K1
8.	Dynamic query optimization combines the two phases of query _____ and	CO4	K2

optimization with execution.

	1.Execution	2.Decomposition		
	3.Analysis	4.Processing		
9.	The first two layers of multidatabase map the input query into an optimized _____ query execution plan.		CO5	K1
	1.Static	2.Distributed		
	3.Action	4.Dynamic		
10.	A second reason for isolation is _____.		CO5	K2
	1.Cursor stability	2.Lost updated		
	3.Cascading aborts	4.Phantom		

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	Recognize the need of transparent management of distributed and replicated data.	CO1	K1
	[OR]		
(b)	Infer distribution in architectural models for Distributed DBMSs –Distribution.	CO1	K1
12. (a)	Recite Schema Heterogeneity.	CO2	K1
	[OR]		
(b)	Illustrate vertical fragmentation.	CO2	K1
13. (a)	Summarize about maintenance of materialized views.	CO3	K2
	[OR]		
(b)	Describe the data localization.	CO3	K2
14. (a)	Sketch the query optimization-search space.	CO4	K3
	[OR]		
(b)	Sketch the join ordering in distributed queries-join ordering.	CO4	K3
15. (a)	Judge the Query processing in a multidatabase system is more complex than in a distributed DBMS for the following reasons.	CO5	K3
	[OR]		
(b)	Write about Durability properties of transactions.	CO5	K3

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	Generalize the Design Issues in DDBS.	CO1	K2
17.	Write about Schema Mapping.	CO2	K2
18.	Predict Distributed Semantic Integrity Control.	CO3	K3
19.	Infer about Reduction for primary horizontal fragmentation.	CO4	K3
20.	Categorize Workflows.	CO5	K3

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END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Computer Science | **Date : 03.02.2022**

Course Code : 20PCSC31 | **Time : 10:00 AM - 1:00 PM**

Course Title : Digital Image Processing | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	In general the log transformation can be represented by _____. 1.s = c.log (1 - r) 2.s = c - log (1 - r) 3.s = c.log (1 + r) 4.s = c + log (1 + r)	CO1	K1
2.	The lower limit of the dynamic range ratio can be determined by _____. 1.Brightness 2.Noise 3.Saturation 4.Contrast	CO1	K1
3.	IHPF stands for_____. 1.Identity Huge Power Filter 2.Ideal Huge Power Frame 3.Identity High pass Filter 4.Ideal High Pass Filter	CO2	K2
4.	_____ replaces the value of the pixel by the median of the intensity values in the neighborhood of that pixel. 1.Box Filter 2.Non linear filter 3.Median Filters 4.Low pass filters	CO2	K2
5.	Order Statistics Filters are filters whose responses are based on _____. 1.Additive Random Noise 2.Signal to Noise Ratio 3.Ranking Process 4.Arithmetic Mean Filter	CO3	K2
6.	An EBCT scanner stands for _____. 1.electrical beam computed tomography 2.electric beam computed tomography 3.electronic beam computed tomography 4.electron beam computed tomography	CO3	K1
7.	_____ is used to map each block of an image into a set of transform coefficients which are then quantized and coded. 1.Block Transform Coding 2.Symbol Based Coding 3.Bit Plane Coding 4.Run Length Coding	CO4	K2
8.	HDV stands for_____. 1.High Definition Video 2.High Density Visual 3.High Density Video 4.High Definition Visual	CO4	K1

9.	In morphological reconstruction _____ is used for holding the starting point for the transformation. 1.Mask 2.Structured Elements 3.Geodesic Dilation 4.Marker	CO5	K2
10.	Closing process can produce _____. 1.Lines 2.Narrow Breaks 3.Dots 4.Noise	CO5	K1

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	Describe about the image acquisition using single sensor.	CO1	K1
	[OR]		
(b)	What is Histogram equalization?	CO1	K1
12. (a)	Explain in details about basic mechanism of spatial filtering?	CO2	K2
	[OR]		
(b)	Illustrate about the selective filtering methods.	CO2	K2
13. (a)	How to estimate the Degradation Function using the Modelling.	CO3	K3
	[OR]		
(b)	Show the details about the Tone and color corrections.	CO3	K3
14. (a)	Explain about the Block Transform Coding.	CO4	K4
	[OR]		
(b)	Explain about the subband coding.	CO4	K4
15. (a)	Explain about Boundary Extraction.	CO5	K4
	[OR]		
(b)	Explain about the Gray scale Morphology.	CO5	K4

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	List out the points to represent the digital image and spatial and intensity resolution.	CO1	K1
17.	Summarize the image sharpening using frequency domain filters.	CO2	K2
18.	Write in detailed notes about the periodic noise reduction by the frequency domain filtering.	CO3	K3
19.	Classify the details about the Image Compression Models.	CO4	K4
20.	Construct about the some Gray Scale Morphological Algorithms.	CO5	K4

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END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Computer Science | **Date : 04.02.2022**

Course Code : 20PCSC32 | **Time : 10:00 AM - 1:00 PM**

Course Title : Web Technology | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	Which of the following variable names are not valid?	CO1	K1
	1.$a_value_submitted_by_a_user 2.$xyz666666		
	3.$_____counter_____ 4.$666666xyz		
2.	PHP is _____typed it automatically determines the data type at the time data is assigned.	CO1	K1
	1.Loosely 2.Tightly		
	3.Bound 4.Unbound		
3.	On the client side, user can you limit the size of a file by using_____.	CO2	K2
	1.FILE_SIZE 2.MAX_FILE_SIZE		
	3.MAX_FILE 4.FILE_MAX		
4.	In PHP you can choose to send your own header lines with PHP's _____function.	CO2	K1
	1.header() 2.action		
	3.method 4.Setheader()		
5.	The _____ symbol in LIKE matches multiple characters.	CO3	K2
	1.% 2.#		
	3.@ 4.!		
6.	Join in MySQL can be classified into _____ types.	CO3	K1
	1.6 2.2		
	3.3 4.4		
7.	The jQuery provides you with a comprehensive_____ traversal package.	CO4	K2
	1.DHTML 2.API		
	3.DOM 4.JAVASCRIPT		
8.	The _____ makes it easy to add your own custom methods via its simple-to-understand plug-in architecture.	CO4	K1
	1.jQuery 2.CSS		
	3.FILTER 4.DHTML		

9.	The after() and_____ methods places the content beside other elements. 1.before() 2.insertbefore() 3.addbefore() 4.append()	CO5	K2
10.	The jQuery's event API started with the goal of providing a bridge between the different _____. 1.languages 2.tags 3.browsers 4.functions	CO5	K1

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	List the function for checking datatype with example.	CO1	K1
	[OR]		
(b)	List Break and continue.	CO1	K1
12. (a)	Outline about Using Hidden Fields to Save State.	CO2	K2
	[OR]		
(b)	Relate using Session in an Environment with registered users.	CO2	K2
13. (a)	Make Use of the Insert Command.	CO3	K3
	[OR]		
(b)	Build examples for avoiding SQL Injection.	CO3	K3
14. (a)	Identify what JQUERY can do for you.	CO4	K3
	[OR]		
(b)	How would you apply Java script conventions.	CO4	K3
15. (a)	Illustrate Setting multiple attributes.	CO5	K4
	[OR]		
(b)	List Wrapping a Selection of Elements Individually.	CO5	K4

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	Summarize the Switching flow in PHP	CO1	K2
17.	Identify about Sending Mail on Form Submission.	CO2	K3
18.	Manipulate the Using Date Functions in MySQL.	CO3	K3
19.	Explain Hello World in jQuery.	CO4	K4
20.	Illustrate the concept of Creating custom events.	CO5	K4

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END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Computer Science | **Date : 05.02.2022**

Course Code : 20PCSE31 | **Time : 10:00 AM - 1:00 PM**

Course Title : Advanced Data Mining | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	A collection of one or more items is called as _____. 1.Itemset 2.Support 3.Confidence 4.Support count	CO1	K2
2.	List the functions of Data Mining. 1.Association and correctional analysis classification 2.Prediction and characterization 3.Cluster analysis and Evolution analysis 4.All of the above	CO1	K1
3.	Data discretization is Part of data reduction but with particular importance especially for _____data. 1.Character 2.Numerical 3.Text 4.Decimal	CO2	K2
4.	_____ data is available in the document form. 1.Structured 2.Semi structured 3.Unstructured 4.Multidimensional	CO2	K1
5.	Which of the following are interestingness measures for association rules? 1.Recall 2.Lift 3.Accuracy 4.Compactness	CO3	K2
6.	Confidence can be calculated using _____ formula. 1.Support(A ∩ B) / Support (A) 2.Support(A ∩ B) / Support (B) 3.Support(A ∪ B) / Support (A) 4.Support(A ∪ B) / Support (B)	CO3	K1
7.	In K- nearest neighbor algorithm K stands for_____. 1.Number of neighbors that are investigated 2.Number of iterations 3.Number of total records 4.Random number	CO4	K2

8.	_____ used to measure the clustering technology of a data set, although it can be applied to a particular subset of attributes. 1.Entropy 2.Hopkins statistic 3.Wrapper model 4.Filter model	CO4	K1
9.	Polarized projections are determined by randomly selecting a set of k records from the database that are referred to as the_____. 1.Polarized projections 2.Polarization anchors 3.Projection anchors 4.Anchors	CO5	K2
10.	CLIQUE is a quantitative frequent_____ mining method rather than a clustering method. 1.Text mining 2.Data mining 3.Pattern mining 4.Text and Data mining	CO5	K2

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	Recall the data type of each of the following kinds of attributes a) Age, b) Salary, c) ZIP code, d) State of residence, e) Hieight f) Weight ?	CO1	K1
	[OR]		
(b)	List the impact of complex data types on problem definitions.	CO1	K1
12. (a)	Describe binarization.	CO2	K2
	[OR]		
(b)	Indicate the key methods used for removing incorrect and inconsistent entries.	CO2	K2
13. (a)	Discover the applications of an association pattern mining problem.	CO3	K3
	[OR]		
(b)	Experiment Association rule in mathematical notations.	CO3	K3
14. (a)	Conclude the criterion that used to evaluate the impact of specific features in filter model.	CO4	K3
	[OR]		
(b)	Illustrate various types of hierarchical algorithm.	CO4	K3
15. (a)	Distinguish the method used to supervise the clustering.	CO5	K4
	[OR]		
(b)	Evaluate axis parallel and arbitrarily oriented projected clusters.	CO5	K4

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	Discuss the major building blocks of data mining.	CO1	K2
17.	Explain data type portability.	CO2	K2
18.	Manipulate vertical counting methods.	CO3	K3
19.	Illustrate k-means algorithm with example.	CO4	K4
20.	Explain semi supervised clustering.	CO5	K4

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Reg. No.: | | | | | | | | | |

G.T.N. ARTS COLLEGE SELF FINANCE (AUTONOMOUS)

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END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Computer Science | **Date : 05.02.2022**

Course Code : 20PCSE32 | **Time : 10:00 AM - 1:00 PM**

Course Title : Cyber Security | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	___ is the art and science of writing hidden messages in such a way that no one suspects existence of message. 1.SQL injection 2.DoS Attacks 3.Steganography 4.Social Engineering	CO1	K1
2.	An Electronic communication device and ICT act as an assistance to _____ . 1.Store digital evidence 2.Law enforcement authorities 3.Commit criminal offence 4.Both a and b	CO1	K1
3.	____ works well on both large scale and small scale level. 1.Virtual 2.Vulnerable 3.Adaptive Scaling Security 4.Cryptographic	CO2	K2
4.	Some antivirus software have__ to create virtual machines to test untrusted files. 1.Dedicated apps 2.Cisco 3.Sandboxing functionality 4.Both a and c	CO2	K1
5.	During __information is photographically documented by simply scrolling through the device using its keypad. 1.Manual Extraction 2.Logical Extraction 3.Chip-off 4.Micro read	CO3	K2
6.	__ analysis provides analysts with the state of the system by looking into connections, processes and cache tables. 1.Timeline 2.Volatile evidence 3.Data recovery 4.System file	CO3	K1
7.	__ is found in Windows XP and Windows Server 2003. 1.V1.2 2.V3.0 3.V3.1 4.Transactional NTFS	CO4	K2

8.	Hidden partitioning can be done by the use of__ .	CO4	K1
	1.encryption 2.decryption		
	3.Both a and b 4.Seizure		
9.	__can be saved on a per-host and per-investigator basis and asaved as ASCII file.	CO5	K2
	1.Event sequencer 2.Notes		
	3.Reports 4.Logging		
10.	AFLogical is a____ forensic tool for ___.	CO5	K1
	1.Free and open source ,mobile devices 2.Free and open source, computer		
	3.Proprietary ,mobile devices 4.Proprietary, computer		

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	Recite about Data Espionage and Illegal Interception.	CO1	K1
	[OR]		
(b)	List and explain any 4 Computer related offences.	CO1	K1
12. (a)	Classify various Cyber war tools and Explain them	CO2	K2
	[OR]		
(b)	Classify the sequence of events in Ransomware Attack.	CO2	K2
13. (a)	Infer Wireless Forensics.	CO3	K2
	[OR]		
(b)	Show the steps in Tracing an Email.	CO3	K2
14. (a)	Interpolate about File System Area.	CO4	K3
	[OR]		
(b)	Organize Opera and Apple Safari browsers artifacts.	CO4	K3
15. (a)	Produce any 4 Drive imaging and validation tools.	CO5	K3
	[OR]		
(b)	Choose Forensic tools used for Encryption/Decryption.	CO5	K3

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	Classify how offenders are categorized according to technical knowledge and expertise?	CO1	K2
17.	Express your views about Blockchain and its relationship with Bitcoin.	CO2	K2
18.	Construct a flowchart to show the steps in forensic investigation with detailed explanation.	CO3	K3
19.	Discuss briefly about components of FAT file system.	CO4	K4
20.	Infer the proprietary forensic tools available for analysis of mobile devices.	CO5	K4

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END SEMESTER EXAMINATION - NOVEMBER - 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme : M.Sc. Chemistry | **Date : 08.02.2022**

Course Code : 20PCSN31 | **Time : 10:00 AM - 1:00 PM**

Course Title : Internet and Web Designing | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	HTML documents stored in the_____ file format. 1..hxm 2..html or .htm 3..hm 4..hml	CO1	K1
2.	WWW is based on _____ model. 1.Local-server 2.Client-server 3.2-tier 4.3-tier	CO1	K1
3.	HTML stands for_____. 1.HighText Machine Language 2.HyperText and Links Markup Language 3.HyperText Markup Language 4.None of these	CO2	K1
4.	_____ is the correct way to change the font face in HTML. 1.…. 2.…. 3.…. 4.….	CO2	K2
5.	Which of the following property controls the horizontal overflow of a block or inline block? 1.Overflow-x 2.Overflow 3.Overflow-y 4.Overflow-k	CO3	K1
6.	Which of the following selects a normal, or small-caps face from a font family? 1.Font- weight 2.Font-synthesis 3.Font-kerning 4.Font-variant	CO3	K2
7.	Which of the following is not a variable scope in PHP? 1.Extern 2.Local 3.Static 4.Global	CO4	K1
8.	Which of the following is added to prefs.js when the console is automatically opened during JavaScript error? 1.user_pref(“javascript.console.open_on_error”, true); 2.user_pref(“javascript.console.open_error “, true);	CO4	K2

	3.user_pref("javascript.console.open_error ", false);	4.user_pref(" javascript.console.open_on_error", false);		
9.	_____commands can be used to make decisions in VBScript.		CO5	K2
	1.response	2.request		
	3.If…then..else	4.control		
10.	Which of the following is not a directive?		CO5	K2
	1.Include	2.Page		
	3.Export	4.usebean		

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	Describe internet server identities.	CO1	K1
	[OR]		
(b)	List the various layers of TCP/IP model.	CO1	K1
12. (a)	Describe the features of HTML.	CO2	K2
	[OR]		
(b)	Express HTML elements with example.	CO2	K2
13. (a)	Illustrate Different Box Sizing Property.	CO3	K2
	[OR]		
(b)	Review How do you test the webpage in different browsers?	CO3	K2
14. (a)	Sketch the difference between php variables and constants.	CO4	K3
	[OR]		
(b)	How can I apply text with a PHP script?	CO4	K3
15. (a)	Can you distinguish between Functions And Sub In VBScript?	CO5	K4
	[OR]		
(b)	What is the theme of events in page life cycle?	CO5	K4

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer any of 3	CO(s)	K - Level
16.	What is an internet domain? Explain.	CO1	K1
17.	Explain HTML forms in detail along with form elements, attributes and methods.	CO2	K2
18.	illustrate the CSS Border Style Properties in detail .	CO3	K2
19.	Can you make use of the various JavaScript objects? And Explain each with an example.	CO4	K3
20.	How to write ASP program to find simple interest and display the result in client?	CO5	K4

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END SEMESTER EXAMINATION – NOVEMBER 2021

(UNDER OUTCOME BASED EDUCATION (OBE) PATTERN)

Programme: M.Sc., MATHEMATICS | **Date: 08.02.2022**
Course Code: 20PMAN31 | **Time: 10 am To 1 pm**
Course Title: Mathematics for Competitive Examinations | **Max. Marks: 60**

Section – A **[10 x 1 = 10]**

Answer ALL the Questions

Qn. No.		CO(s)	K – Level
1.	Ravi's age after 15 years will be 5 times his age 5 years back. What is the present age of Ravi? a) 7 b) 8 c) 9 d) 10	CO1	K1
2.	Find the odd man out of 2,5,10,50,500,5000? a) 0 b) 5 c) 10 d) 5000	CO1	K2
3.	A can do a certain work in 12 days. B is 60% more efficient than A. How many days does B alone take to do the same job? a) 6 days b) $6\frac{1}{2}$ days c) 7 days d) $7\frac{1}{2}$ days	CO2	K1
4.	A car moves at the speed of 80 km/hr. What is the speed of the car in meters per second? a) 8 m/sec b) $20\frac{1}{9}$ m/sec c) $22\frac{2}{9}$ m/sec d) 22 m/sec	CO2	K2
5.	What is 25% of 25% equal to? a) 0.00625 b) 0.0625 c) 0.625 d) 6.25	CO3	K1
6.	Mean proportional between a and b is _____. a) ab b) $a + b$ c) $a - b$ d) $\sqrt{ab}$	CO3	K2

7.	A man invests in a 16% stock at 128. The interest obtained by him is _____. a) 8% b) 12% c) 12.5% d) 16%	CO4	K1
8.	A bag contains nine yellow balls, three white balls and four red balls. In how many ways can two balls be drawn from the bag? $a) \ 9C_2$ $b) \ 3C_2$ $c) \ 16C_2$ $d) \ 12C_2$	CO4	K2
9.	If at least 60% marks in Physics are required for pursuing higher studies in Physics, how many students will be eligible to pursue higher studies in Physics? a) 27 b) 32 c) 34 d) 41	CO5	K1
10.	What is an approximate percentage decrease in production from 1993 to 1994? a) 87.5% b) 37.5% c) 9.09% d) None of these	CO5	K2

Section – B **[5 x 4 = 20]**

Qn. No.	**Answer ALL the Questions**	CO(s)	K – Level
11.a)	Rohit was 4 times as old as his son 8 years ago. After 8 years, Rohit will be twice as old as his son. What are their present ages?	CO1	K3
	[OR]		
b)	A cricketer has a certain average for 10 innings. In the eleventh inning, he scored 108 runs, thereby increasing his average by 6 runs. What is the new average of the cricketer?	CO1	K3
12.a)	While covering a distance of 24 km, a man noticed that after walking for 1 hour and 40minutus, the distance covered by him was $5/7$ of the remaining distance. What was his speed in meter per second?	CO2	K2
	[OR]		
b)	Two pipes A and B can fill a tank in 24 min and 32 min respectively. If both the pipes are opened simultaneously, after how much time B should be closed so that the tank is full in 18 minutes?	CO2	K2

13.a) The value of a machine depreciates at the rate of 10% per annum. If its present value is Rs.1,62,000, what will be its worth after 2 years? What was the value of the machine 2 years ago? CO3 K2

[OR]

b) By mixing two brands of tea and selling the mixture at the rate of Rs. 117 per kg, a shopkeeper makes a profit of 18%. If to every 2 kg of one brand costing Rs. 200 per kg, 3kg of the other brand is added, then how much per kg does the other brand cost? CO3 K2

14.a) Which is better investment, 12% stock at par with an income tax at the rate of 5 paise per rupee or $14\frac{2}{7}$ % stock at 120 free from income tax? CO4 K2

[OR]

b) A committee has 5 men and 6 women. What are the number of ways of selecting 2 men and 3 women from the given committee? CO4 K2

15.a) Study the following table and answer the questions based on it. CO5 K3

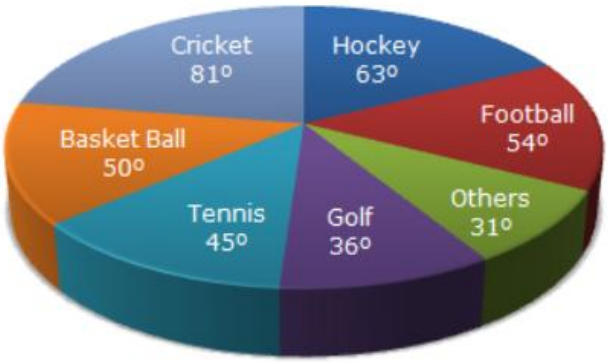
Expenditures of a Company (in Lakh Rupees) per Annum Over the given Years.

Year	Item of Expenditure				
	Salary	Fuel and Transport	Bonus	Interest on Loans	Taxes
1998	288	98	3.00	23.4	83
1999	342	112	2.52	32.5	108
2000	324	101	3.84	41.6	74
2001	336	133	3.68	36.4	88
2002	420	142	3.96	49.4	98

1. What is the average amount of interest per year which the company had to pay during this period?
2. The total amount of bonus paid by the company during the given period is approximately what percent of the total amount of salary paid during this period?
3. Total expenditure on all these items in 1998 was approximately what percent of the total expenditure in 2002?
4. The total expenditure of the company over these items during the year 2000 is?

[OR]

b) The circle-graph given here shows the spendings of a country on various sports during a particular year. Study the graph carefully and answer the questions given below it. CO5 K3



1. How much percent more is spent on Hockey than that on Golf?
2. If the total amount spent on sports during the year be Rs. 1,80,00,000. Find the amount spent on Basketball exceeds on Tennis?
3. How much percent less is spent on Football than that on Cricket?
4. If the total amount spent on sports during the year was Rs. 2 crores, What is the amount spent on Cricket and Hockey together?

Section – C **[3 x 10 = 30]**

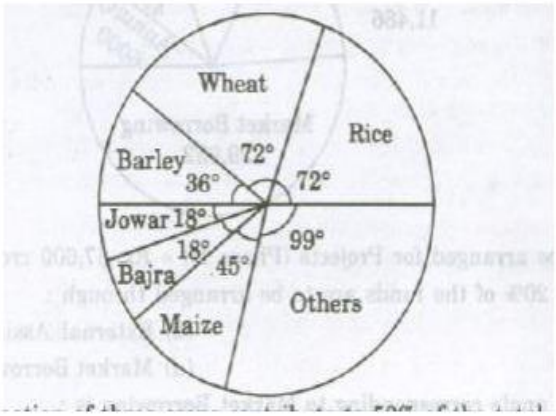
Answer ANY THREE Questions

Qn. No.		CO(s)	K – Level
16.	Tanya's grandfather was 8 times older to her 16 years ago. He would be 3 times of her age 8 years from now. Eight years ago, What was the ratio of Tanya's age to that of her grandfather?	CO1	K3
17.	Two pipes can fill a cistern in 14 hours and 16 hours respectively. The pipes are opened simultaneously and it is found that due to leakage in the bottom it took 32 minutes more to fill the cistern. When the cistern is full, in what time will the leak empty it?	CO2	K4
18.	Mr. Jones gave 40% of the money he had, to his wife. He also gave 20% of the remaining amount to each of his three sons. Half of the amount now left was spent on miscellaneous items and the remaining amount of Rs. 12,000 was deposited in the bank. How much money did Mr. Jones have initially?	CO3	K3

19. A man sells Rs.5000, 12 % stock at 156 and invests the proceeds party in 8 % stock at 90 and 9 % stock at 108. He hereby increases his income by Rs. 70. How much of the proceeds were invested in each stock? CO4 K3

20. The pie-chart provided below gives the distribution of land (in a village) under various food crops. Study the pie-chart carefully and answer the questions that follow. CO5 K3

DISTRIBUTION OF AREAS (IN ACRES) UNDER VARIOUS FOOD CROPS



1) Which combination of three crops contribute to 50% of the total area under the food crops?
2) If the total area under jowar was 1.5 million acres, then what was the area (in million acres) under rice?
3) If the production of wheat is 6 times that of barley, then what is the ratio between the yield per acre of wheat and barley?
4) If the yield per acre of rice was 50% more than that of barley, then the production of barley is what percent of that of rice?
5) If the total area goes up by 5%, and the area under wheat production goes up by 12%, then what will be the angle for wheat in the new pie-chart?

(1)

Reg. No.:

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science | **Date : 14.07.2022**

Course Code : 20PCSC14 | **Time : 2:00 PM - 5:00 PM**

Course Title : Distributed Database Systems | **Max. Marks : 60**

Q. No.	SECTION - A Answer ALL Questions	(10 * 1 = 10 Marks)	CO(s)	K - Level
1.	The _____or compilation layer maps the query into an optimized sequence of lower-level operations. 1.Interface 2.Control 3.Execution 4.Query processing		CO1	K1
2.	Database systems that run over multiprocessor systems are called_____ database systems. 1.Parallel 2.Distributed 3.Interconnected 4.Symmetric		CO1	K1
3.	_____creation is the process of creating explicit queries that map data from a local database to the global data. 1.Maintenance 2.Plan 3.Key 4.Mapping		CO2	K2
4.	The _____fragmentation of a relation is performed using predicates that are defined on that relation. 1.Derived horizontal 2.Hybrid horizontal 3.Primary horizontal 4.Vertical horizontal		CO2	K1
5.	A global relation can be reconstructed by applying the fragmentation rules and then deriving a program called as_____ program. 1.Localization 2.Centralized 3.Distributed 4.Fixed		CO3	K2
6.	A view can be refreshed in _____two modes. 1.2 2.3 3.5 4.6		CO3	K1
7.	The_____ is a technique that isolates all irreducible subqueries and monorelation subqueries by detachment. 1.Reduction 2.Decomposition 3.Analysis 4.Processing		CO4	K2

(2)

8.	The _____ induces more operations but possibly on smaller operands. 1.Fetch 2.Semijoin 3.Ship-whole 4.Search	CO4	K1
9.	The_____ can also be classified according to their structure. 1.Transactions 2.Subquery 3.Sub transactions 4.Query	CO5	K2
10.	The first two layers of multidatabase map the input query into an optimized _____ query execution plan. 1.Static 2.Distributed 3.Action 4.Dynamic	CO5	K1

SECTION - B **(5 * 4 = 20 Marks)**

Answer ALL Questions

Q. No.		CO(s)	K. Level
11. (a)	State the concept of Data Independence.	CO1	K1
	[OR]		
(b)	Illustrate vertical fragmentation.	CO2	K1
12. (a)	Infer distribution in architectural models for Distributed DBMSs –Distribution.	CO1	K1
	[OR]		
(b)	Tabulate top down –bottom up design approach.	CO2	K1
13. (a)	Illustrate discretionary access control.	CO3	K2
	[OR]		
(b)	Explain query decomposition.	CO3	K2
14. (a)	Prepare the reduction for primary derived fragmentation.	CO4	K3
	[OR]		
(b)	Interpret how distributed query optimization-hybrid approach.	CO4	K3
15. (a)	Explain in detail about Transactions.	CO5	K3
	[OR]		
(b)	Write about the Classification of transaction.	CO5	K3

SECTION - C **(3 * 10 = 30 Marks)**

Answer ANY THREE Questions

Q. No.		CO(s)	K. Level
16.	Paraphrase ANSI/SPARC Architecture.	CO1	K2
17.	Illustrate Allocation concept.	CO2	K2
18.	Discover the concept of Data Security.	CO3	K3
19.	Focus on Centralized Query Optimization-Dynamic Query Optimization.	CO4	K3
20.	Sketch the Multidatabase Query Processing Architecture.	CO5	K3

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science | **Date : 07.07.2022**

Course Code : 20PCSC21 | **Time : 10:00 AM - 1:00 PM**

Course Title : Advanced Java Programming | **Max. Marks : 60**

Q. No. **SECTION - A** **(10 * 1 = 10 Marks)** **CO(s)** **K - Level**

Answer ALL Questions

1. The _____ function is used to increase the capacity of an ArrayList object manually. CO1 K1

   1.toString() 2.ensureCapacity( )

   3.subset() 4.Sortset()

2. FilenameFilter defines only a single method _____which is called once for each file in a list. CO1 K1

   1.List() 2.accept( )

   3.compareTo( ) 4.isHidden( )

3. Which of this method of thread class is used to suspend a thread for a period of time? CO2 K1

   1.stop() 2.sleep()

   3.terminate() 4.suspend ()

4. The_____ method used to start a thread execution. CO2 K1

   1.run() 2.init()

   3.start() 4.resume()

5. _____ is the correct order of lifecycle in an applet. CO3 K2

   1.Applet is started,initialized,painted,destroyed,stopped

   2.Applet is painted,started,stopped,initialized,destroyed

   3.Applet is initialized,started,painted,stopped,destroyed

   4.Applet is initialized,started,painted,destroyed,stopped

6. Java.applet defines _____ interfaces. CO3 K1

   1.2 2.3

   3.4 4.5

7. The _____ is used to represent a checkbox with textual label that can appear in a menu. CO4 K2

   1.MenuBar 2.MenuItem

   3.CheckboxMenuItem 4.Menu

8.	Which of these Components cannot be added to Frame?		CO4	K1
	1.Label	2.Button		
	3.CheckboxGroup	4.JButton		
9.	An applet is_____ document application program.		CO5	K2
	1.A static	2.An active		
	3.A passive	4.A dynamic		
10.	The_____ ways are used to communicate from an applet to servlet.		CO5	K1
	1.RMI communication	2.HTTP communication		
	3.Socket communication	4.All mentioned above		

Q. No. **SECTION - B** **(5 * 4 = 20 Marks)** **CO(s)** **K Le**

Answer ALL Questions

11. (a)	What are the benefits of stream?	CO1	K1
	[OR]		
(b)	Summarize java interfaces.	CO1	K1
12. (a)	Illustrate main thread and relate it with example program.	CO2	K2
	[OR]		
(b)	Summarize the concepts of datagram.	CO2	K2
13. (a)	Demonstrate building applets and its applications.	CO3	K3
	[OR]		
(b)	Illustrate the order of method invocation in an applet.	CO3	K3
14. (a)	Classify text field and text area.	CO4	K4
	[OR]		
(b)	Categorize menu boxes and menus.	CO4	K4
15. (a)	Explain servlet API and its concepts in java	CO5	K4
	[OR]		
(b)	Illustrate the different ways to manage the session.	CO5	K4

Q. No. **SECTION - C** **(3 * 10 = 30 Marks)** **CO(s)** **K L**

Answer ANY THREE Questions

16.	Predict file directories in java.	CO1	K
17.	Summarize sockets and explain it in detail.	CO2	K
18.	Write about HTML Applet tag and reading parameters into Applets.	CO3	K
19.	Illustrate the detailed concepts of exploring Swing.	CO4	K
20.	Illustrate security issues in Java servlet	CO5	K

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5

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science | **Date : 09.07.2022**

Course Code : 20PCSC22 | **Time : 10:00 AM - 1:00 PM**

Course Title : Object Oriented Analysis and Design | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	The parent class also is known as the_____.	CO1	K1
	1.Subclass 2.Derived class		
	3.Supreme class 4.Base Class		
2.	The term _____ means a combination of data and logic that represents some real-world entity.	CO1	K1
	1.Data 2.Function		
	3.Object 4.Data hiding		
3.	OOA process consists _____.	CO2	K2
	1.Identify the Actors 2.Develop the use case		
	3.Identify classes 4.All Of The Above		
4.	_____model can be employed throughout most activities of software development.	CO2	K1
	1.Design tool 2.Use case		
	3.Cycle mode 4.Software tool		
5.	The use case concept was introduced by_____.	CO3	K2
	1.Ivar Jacobson 2.Reed Solomon		
	3.Tennis Ritcie 4.Stotstrub		
6.	A _____ is an abstract representation of asystem,constructed to understand the system prior to building or modifying.	CO3	K1
	1.Structure 2.Union		
	3.Model 4.Process		
7.	A relational table should have only one_____ key.	CO4	K2
	1.Composite 2.Unique		
	3.Foreign 4.Primary		
8.	The _____method that destroys instances.	CO4	K1
	1.Destructor 2.Constructor		
	3.Object 4.Instance		

9. The _____ menu in multiple document,interface-style applications for managing the windows within the main workspace. CO5 K2

1.Help menu 2.File menu
3.Window menu 4.Edit menu

10. If _____ buttons are placed within the window but not on the tabbed page,they apply to the entire window. CO5 K1

1.Menu buttons 2.Display buttons
3.Command buttons 4.Icons

SECTION - B

Answer ALL Questions **(5 * 4 = 20 Marks)**

Q. No.		CO(s)	K. Le
11. (a)	Compare object state and properties.	CO1	K1
	[OR]		
(b)	Outline object containment.	CO1	K1
12. (a)	Demonstrate prototyping.	CO2	K2
	[OR]		
(b)	Summarize Layered approach to software development.	CO2	K2
13. (a)	Compare static and dynamic model.	CO3	K3
	[OR]		
(b)	Classify UML implementation diagram.	CO3	K3
14. (a)	Explain the approach used for shareability.	CO4	K4
	[OR]		
(b)	Explain the use of the transaction factors.	CO4	K4
15. (a)	Explain how would you apply guidelines for using designing Colors.	CO5	K4
	[OR]		
(b)	How would you categorize the view layer macro process.	CO5	K4

SECTION - C

Answer ANY THREE Questions **(3 * 10 = 30 Marks)**

Q. No.		CO(s)	K. Le
16.	What is class hierarchy ? Explain.	CO1	K1
17.	Outline the unified approach of object oriented analysis, design and iterative development.	CO2	K2
18.	Write how would you apply Qualifier , multiplicity and N-Ary Association for UML class diagram.	CO3	K3
19.	Analyze object storage, interoperability and persistence.	CO4	K4
20.	How would you utilize the following designing interface objects. I)User interface design creative process. II)Designing view layer classes.	CO5	K4

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7

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science | **Date : 12.07.2022**

Course Code : 20PCSC23 | **Time : 10:00 AM - 1:00 PM**

Course Title : Distributed Operating System | **Max. Marks : 60**

Q. No. **SECTION - A** **(10 * 1 = 10 Marks)** **CO(s)** **K - Level**

Answer ALL Questions

1. The three key provisions in _____protocols are acknowledgments, timeouts, and retransmissions. CO1 K1

   1.APC 2.Layer

   3.IPC 4.IPC/TC

2. The _____is an excellent example of on open system. CO1 K1

   1.WAN 2.LAN

   3.OS 4.MAN

3. The amount of time needed to perform a correct action is immaterial for the liveness property; the action must be performed_____. CO2 K2

   1.Eventually 2.Deadlock avoidance

   3.Mutual exclusion 4.Safety

4. The _____of a System at time instant t is the collection of local states of all entities in it at time t. CO2 K1

   1.Logical state 2.Local state

   3.Global state 4.Physical state

5. All links in the ring are assumed to be_____channels in election algorithm. CO3 K2

   1.FILO 2.FIFO

   3.Stack 4.Pipes

6. These nodes are called _____ and _____ respectively. CO3 K1

   1.monitoring, utilization 2.measure, threshold

   3.sender nodes, receiver nodes 4.process, migration

7. Obtaining a read - write lock for writing is called an _____. CO4 K2

   1.Communication network 2.Control process

   3.Exclusive lock 4.Inclusive lock

8

8. _____ is an identifier returned by msgget. CO4 K1

1.msg-qnum 2.msg-lrpid

3.maqid 4.msg-ctime

9. After a shared memory segment has been created or opened by shmget, we attach it to our address space by calling _____. CO5 K2

1.shrcv 2.shmat

3.shsnd 4.shmctl

10. A semaphore whose value if between 0 and some limit is known as_____. CO5 K1

1.A boundary semaphore 2.A counting semaphore

3.A list semaphore 4.A control semaphore

SECTION - B

Answer ALL Questions

(5 * 4 = 20 Marks) **CO(s)** **K. Level**

Q. No.

11. (a) What is Network Operating System? CO1 K1

[OR]

(b) What are types in Network protocols and describe it. CO1 K1

12. (a) How would you classify local and global states? CO2 K2

[OR]

(b) Summarize an algorithm for consistent state recording. CO2 K2

13. (a) How would you use Token Based algorithms for mutual exclusion? CO3 K3

[OR]

(b) Discover the approach used in Distributed termination detection. CO3 K3

14. (a) Explain about msggct function. CO4 K4

[OR]

(b) Examine the command in fcntl record locking. CO4 K4

15. (a) What conclusion can you draw on System V semaphores? CO5 K4

[OR]

(b) Focus on semaphore limits. CO5 K4

SECTION - C

Answer ANY THREE Questions

(3 * 10 = 30 Marks) **CO(s)** **K. Level**

Q. No.

16. Explain the detail about Model of Distributed System. CO1 K2

17. How would you develop an operation of distributed control algorithms? CO2 K3

18. How would you illustrate the following CO3 K3

1. Distributed Deadlock Detection.

2. Distributed Deadlock Prevention.

19. Categorize about producer-consumer problem with examples. CO4 K4

20. Focus about Shared memory. CO5 K4

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science
Course Code : 20PCSC24
Course Title : Information Security

Date : 14.07.2022
Time : 10:00 AM - 1:00 PM
Max. Marks : 60

Q. No.	SECTION - A Answer ALL Questions	(10 * 1 = 10 Marks)	CO(s)	K - Level
1.	The _____is often the most valuable asset possessed by an organization and it is the main target of intentional attacks. 1.Hardware 2.Data 3.Software 4.Networks		CO1	K1
2.	The_____ of information is the quality or state of being genuine or original, rather than a reproduction or fabrication. 1.Confidentiality 2.Availability 3.Accuracy 4.Authenticity		CO1	K1
3.	There are _____types of security policies. 1.Four 2.One 3.Two 4.Three		CO2	K2
4.	An _____is an act that takes advantage of a vulnerability to compromise a controlled system. 1.Threat 2.Hoaxes 3.Theft 4.Attack		CO2	K1
5.	Firewalls fall into _____major processing-mode categories. 1.4 2.5 3.6 4.7		CO3	K2
6.	The creation and _____of these elements require coordinatedplanning. 1.Accept 2.Identify 3.Maintenance 4.Implement		CO3	K1
	An IDPS can be implemented via one of _____basic control strategies. 1.1 2.3 3.2 4.5		CO4	
	An false _____event that triggers an alarm when no actual attack is inprogress. 1.Attack Stimulus 2.Negative 3.False Positive 4.Noise		CO4	

9. The _____RA is used when planning for reorganization as units of the organization are acquired, divested, or moved. CO5 K2

1.Acquisition 2.Application

3.Business Partner 4.Vulnerability

10. A_____ change over involves stopping the old method and beginning the new. CO5 K1

1.Pilot 2.Phased

3.Parallel 4.Direct

Q. No.	SECTION - B Answer ALL Questions	(5 * 4 = 20 Marks)	CO(s)	K. Level
11. (a)	Recall Key Information Security Concepts.		CO1	K1
	[OR]			
(b)	List Critical Characteristics of Information.		CO1	K1
12. (a)	Explain about Protecting the functionality of an organization.		CO2	K2
	[OR]			
(b)	Classify Possible Controls.		CO2	K2
13. (a)	Explain about Enterprise Information Security Policy (EISP).		CO3	K2
	[OR]			
(b)	Show the Firewalls Categorized by Generation.		CO3	K2
14. (a)	Interpret IDPS Response Options.		CO4	K3
	[OR]			
(b)	Sketch the Strengths and Limitations of IDPSs.		CO4	K3
15. (a)	Outline The Bull's-Eye Model.		CO5	K3
	[OR]			
(b)	Explain about Monitoring the Internal Environment.		CO5	K3

Q. No.	SECTION - C Answer ANY THREE Questions	(3 * 10 = 30 Marks)	CO(s)	K. Level
16.	Explain the Security System Development Life cycle.		CO1	K2
17.	Infer Risk Identification-first three components.		CO2	K2
18.	Show Information Security Planning and Governance.		CO3	K3
19.	Identify the Deployment and Implementation of an IDPS.		CO4	K3
20.	Identify the Nontechnical Aspects of Implementation.		CO5	K3

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science | **Date : 06.07.2022**

Course Code : 20PCSC31 | **Time : 2:00 PM - 5:00 PM**

Course Title : Digital Image Processing | **Max. Marks : 60**

Q. No.	SECTION - A (10 * 1 = 10 Marks) Answer ALL Questions	CO(s)	K - Level
1.	Given an intensity level [0, L-1] with "r" and "s" positive values, How will you obtain the negative of an image? 1.s = L - 1 - r 2.s = L - 1 + r 3.s = L + 1 - r 4.s = L + 1 + r	CO1	K1
2.	The dynamic range of the imaging system is a quantitative relation where the upper limit can be determined by _____. 1.Brightness 2.Contrast 3.Saturation 4.Noise	CO1	K1
3.	IHPF stands for_____. 1.Identity Huge Power Filter 2.Ideal Huge Power Frame 3.Identity High pass Filter 4.Ideal High Pass Filter	CO2	K2
4.	The spatial averaging filter in which all coefficients are not equal and multiplied by it sometimes is called _____. 1.Box Filter 2.Non linear filter 3.Weighted average Filter 4.Low pass filters	CO2	K2
5.	_____ is well suited for reducing the effects of salt-and-pepper noise. 1.Contra harmonic mean filter 2.Geometric Mean Filter 3.Harmonic Mean Filter 4.Sequence Mean Filter	CO3	K2
6.	In geometric mean filters when alpha is equal to 1 then it works as_____. 1.Notch filter 2.Band pass filter 3.Wiener filter 4.Inverse filter	CO3	K1
7.	_____ yields the smallest possible number of code symbol per source symbol. 1.Symbol Based Coding 2.Bit Plane Coding 3.Run Length Coding 4.Huffman Coding	CO4	K2

12

8. The compression must be high for HD Television; image resolution can reach _____ bits/image. CO4 K1

1.1840 x 768 x 24 2.1290 x 1080 x 24

3.1920 x 1080 x 32 4.1820 x 1000 x 32

9. _____ is used for defining the connectivity in the morphological reconstruction. CO5 K2

1.Marker 2.Structured Elements

3.Mask 4.Geodesic Dilation

10. Opening is represented by _____. CO5 K1

1.A + B 2.A - B

3.A x B 4.A o B

SECTION - B

Answer ALL Questions **(5 * 4 = 20 Marks)** CO(s) K-Level

Q. No.			
11. (a)	What is Image sensing and acquisition?	CO1	K1
	[OR]		
(b)	Describe the details about the exact histogram matching?	CO1	K1
12. (a)	Describe about the smoothing the Linear filters.	CO2	K2
	[OR]		
(b)	Summarize the concepts of the Laplacian in the frequency domain.	CO2	K2
13. (a)	Explain about the Computed Tomography.	CO3	K3
	[OR]		
(b)	Demonstrate about the estimating the Degradation Function using Image observation.	CO3	K3
14. (a)	Survey in details about Wavelet Coding.	CO4	K4
	[OR]		
(b)	Describe about Bit plane coding.	CO4	K4
15. (a)	Define and explain the process steps in the Thinning Process.	CO5	K4
	[OR]		
(b)	Explain about the Pruning Process.	CO5	K4

SECTION - C

Answer ANY THREE Questions **(3 * 10 = 30 Marks)** CO(s) K-Level

Q. No.			
16.	Describe any two of the basic intensity transformation functions.	CO1	K1
17.	Summarize the image smoothening using frequency domain filters.	CO2	K2
18.	Demonstrate in details with the Color transformations.	CO3	K3
19.	Estimate in details about the Image Compression Methods.	CO4	K4
20.	Demonstrate in details about the Gray Scale Morphology.	CO5	K4

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13

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science | **Date : 08.07.2022**

Course Code : 20PCSC32 | **Time : 2:00 PM - 5:00 PM**

Course Title : Web Technology | **Max. Marks : 60**

SECTION - A **(10 * 1 = 10 Marks)**

Answer ALL Questions

Q. No.		CO(s)	K - Level
1.	PHP has several predefined variables called _____. 1.Personnel 2.Global 3.Local 4.Magic Constants	CO1	K1
2.	The _____ statement ends execution of the current iteration but doesn't cause the loop as a whole to end. 1.Continue 2.Break 3.For 4.Switch	CO1	K1
3.	To use the mail() function to send mail, you need to set up a few directives in the _____file. 1.php.start 2.php.ini 3.php.in 4.Php.set	CO2	K1
4.	The_____ built-in associative array contains all values submitted as part of a file upload. 1.$_SERVER 2.$_ENV 3.$_FILES superglobal 4.$_REQUEST	CO2	K2
5.	The _____ clause to return only a certain number of records from your SELECT query result. 1.ORDER BY 2.WHERE 3.LIMIT 4.LIKE	CO3	K1
6.	The _____ symbol in LIKE matches exactly one characters. 1.@ 2._ 3.% 4.$	CO3	K2
7.	The jQuery helps reduce redundancy in_____ and UI functionality, like tabs and CSS. 1.navigation 2.searching 3.storage 4.speed	CO4	K1
8.	The _____method is the inverse to the not() and it is used to add to an existing	CO4	K2

selection

1.add() 2.on()

3.bind() 4.each()

9. The events you need to use the on() and _____methods which attach event handlers to any named event. CO5 K1

1.not() 2.off()

3.slice() 4.ed()

10. The _____method is the only class method jQuery provides that does not accept multiple class names. CO5 K2

1.toggleClass() 2.hasClass()

3.addClass() 4.removeClass()

Q. No. **SECTION - B** **(5 * 4 = 20 Marks)** **CO(s)** **K. Level**

Answer ALL Questions

11. (a) Recall the Data types in PHP. CO1 K1

[OR]

(b) Relate Accessing Variables with the global Statement. CO1 K1

12. (a) Explain the concept of setting a Cookie with PHP. CO2 K2

[OR]

(b) Illustrate PHP program for creating a simple feedback form. CO2 K2

13. (a) Organize Learning the Table creation syntax. CO3 K3

[OR]

(b) Make Use of the Delete Command. CO3 K3

14. (a) How will you organize about Obtaining JQUERY. CO4 K3

[OR]

(b) Identify the origin of selectors API. CO4 K3

15. (a) Focus about Setting Text or HTML Content. CO5 K4

[OR]

(b) How would you discover Inserting Beside Content via a Selection. CO5 K4

Q. No. **SECTION - C** **(3 * 10 = 30 Marks)** **CO(s)** **K. Level**

Answer ANY THREE Questions

16. Show about Loops in PHP CO1 K2

17. Organize Combining HTML and PHP Code on a Single Page. CO2 K3

18. Illustrate the concept of Working with MySQL Data. CO3 K3

19. Infer Programming conventions-markup and CSS conventions concept in jQuery. CO4 K4

20. Discover attributes Setting, retrieving, and removing. CO5 K4

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15

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science | **Date : 06.07.2022**

Course Code : 20PCSC41 | **Time : 10:00 AM - 1:00 PM**

Course Title : Advanced Software Engineering | **Max. Marks : 60**

SECTION - A (10 * 1 = 10 Marks)

Answer ALL Questions

Q. No.		CO(s)	K - Level
1.	The effective software project management focuses on the four P's_____.	CO1	K1
	1.Public,Product,Process,Project	2.People,Public,Product,Project	
	3.People,Product,Process,Project	4.People,Process,Public,Project	
2.	Software metrics are analyzed and assessed by_____.	CO1	K1
	1.Database administrator	2.Software managers	
	3.System engineer	4.Mechanical engineers	
3.	COCOMO contains different sizing options are available as hierarchy _____.	CO2	K2
	1.Object points, Function points, Lines of source code	2.Object code, Frame code, Source code	
	3.Object points, Dependency points, line code	4.object oriented code, Preserving points, Source points	
4.	Process based estimation techniques require problem decomposition based on _____.	CO2	K1
	1.Software functions	2.Information domain values	
	3.Process activities	4.Software functions & Process activities	
5.	_____is the culmination of a planning activity that is a primary component of software project management.	CO3	K2
	1.Scheduling	2.Planning	
	3.Researching	4.Computing	
6.	Testing and subsequent debugging can account for _____ percent of software development effort.	CO3	K1
	1.20 to 30	2.10 to 20	
	3.30 to 40	4.15 to 20	
7.	The core of reverse engineering is an activity called _____.	CO4	K2
	1.Level abstraction	2.Extract abstraction	
	3.Reengineering level	4.Completeness	

8.	"The law of conservation of familiarity" is introduced in the year _____.		CO4	K1
	1.1980	2.1974		
	3.1996	4.1995		
9.	CMMI represents a process meta-model in two different ways: They are_____.		CO5	K2
	1.Continuous and Staged	2.Complement and Staged		
	3.Continuous and Termination	4.Correct and Staged		
10.	IDEAL is representative of many process models for SPI it defines ____ distinct activities.		CO5	K1
	1.2	2.3		
	3.4	4.5		

Q. No.	SECTION - B Answer ALL Questions	(5 * 4 = 20 Marks)	CO(s)	K - Level
11. (a)	Recall the problem decomposition.		CO1	K1
	[OR]			
(b)	State the need of quality measuring.		CO1	K1
12. (a)	Tell about observation on software estimation.		CO2	K1
	[OR]			
(b)	State the use of problem based estimation.		CO2	K1
13. (a)	Illustrate relationship between people and effort.		CO3	K2
	[OR]			
(b)	Summarize Risk Identification.		CO3	K2
14. (a)	Identify the software Errors.		CO4	K3
	[OR]			
(b)	Relate the terms of forward engineering.		CO4	K3
15. (a)	Analyze the Maturity models.		CO5	K4
	[OR]			
(b)	Examine the technology evaluation.		CO5	K4

Q. No.	SECTION - C Answer ANY THREE Questions	(3 * 10 = 30 Marks)	CO(s)	K - Level
16.	List about various concepts of software measurement.		CO1	K1
17.	Explain the process and problem based estimation techniques.		CO2	K2
18.	Sketch risk projection.		CO3	K3
19.	Explain specification of business process reengineering.		CO4	K3
20.	Infer about SPI process.		CO5	K4

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17

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science | **Date : 08.07.2022**

Course Code : 20PCSC42 | **Time : 10:00 AM - 1:00 PM**

Course Title : Compiler Design | **Max. Marks : 60**

SECTION - A

Answer ALL Questions **(10 * 1 = 10 Marks)**

Q. No.		CO(s)	K - Level
1.	Java compilers also called _____ compilers translate the bytecodes into machine language. 1.Interpreter 2.Linker 3.Preprocessor 4.just-in-time	CO1	K1
2.	The analysis part also collects information about the source program and stores it in a data structure called a _____. 1.Syntax tree 2.Semantic tree 3.Parser table 4.Symbol table	CO1	K1
3.	In _____ the address of the actual parameter is passed to the callee as the value of the corresponding formal parameter. 1.call-by-name 2.call-by-value 3.call-by-reference 4.call-by-method	CO2	K2
4.	A set of terminal symbols sometimes referred to as _____. 1.Productions 2.Syntactic variables 3.Tokens 4.Root	CO2	K1
5.	Recursive-descent parsing is also called _____ parsing. 1.Predictive 2.Descent 3.Top-down 4.Annotated	CO3	K2
6.	In an abstract syntax tree for an expression each interior node represents an _____. 1.Operator 2.Operand 3.Symbol 4.Assignment	CO3	K1
7.	The translation rules each have the form _____ and each pattern is a regular expression. 1.Pattern { Action } 2.Pattern { state } 3.Pattern 4.Pattern { Rules }	CO4	K2
8.	The input notation for the _____is referred to as the Lex language and the tool	CO4	K2

itself is the Lex compiler.
1.Lex tool 2.Regular expression
3.Grammar 4.Production

9. _____ parsing methods such as the Cocke-Younger-Kasami algorithm and Earley's algorithm can parse any grammar. CO5 K2
1.Universal 2.Top down
3.Bottom up 4.Recursive

10. The algorithm is _____ in the sense that it works recursively up the parse tree for the regular expression. CO5 K1
1.Translation 2.Syntax-directed
3.Semantic directed 4.Grammar generation

SECTION - B **(5 * 4 = 20 Marks)**

Q. No.	**Answer ALL Questions**	CO(s)	K - Level
11. (a)	Define intermediate code generation.	CO1	K1
	[OR]		
(b)	State the need for language processor.	CO1	K1
12. (a)	Relate modeling in compiler design and implementation.	CO2	K1
	[OR]		
(b)	Define the term environments and states.	CO2	K1
13. (a)	Outline the concept of predictive parsing.	CO3	K2
	[OR]		
(b)	Predict about recognizing keywords and identifiers.	CO3	K2
14. (a)	Illustrate Buffer Pairs.	CO4	K3
	[OR]		
(b)	Explain about Transition Tables.	CO4	K3
15. (a)	Analyze the Structure of the Generated Analyzer.	CO5	K4
	[OR]		
(b)	Discover the functions computed from the syntax tree.	CO5	K4

SECTION - C **(3 * 10 = 30 Marks)**

Q. No.	**Answer ANY THREE Questions**	CO(s)	K - Level
16.	List about various compiler-construction tools.	CO1	K1
17.	Demonstrate design of new computer architectures.	CO2	K2
18.	Explain Synthesized Attributes.	CO3	K3
19.	Discover the Lexical-Analyzer Generator Lex.	CO4	K3
20.	Examine the Context-Free Grammars.	CO5	K4

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19

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science
Course Code : 20PCSC43
Course Title : Big Data Analytics

Date : 11.07.2022
Time : 10:00 AM - 1:00 PM
Max. Marks : 60

SECTION - A **(10 * 1 = 10 Marks)** **CO(s)** **K - Level**

Answer ALL Questions

No

1. Data in ____ bytes size is called big data. CO1 K1

1.Meta 2.Giga

3.Tera 4.Peta

2. Identify the different features of Big Data Analytics. CO1 K1

1.Open-source 2.Data recovery

3.Scalability 4.All of the above

3. What are the different features of Big Data Analytics? CO2 K2

1.Open Source 2.Scalability

3.Data Recovery 4.All the above

4. Which of the following are example(s) of Real Time Big Data Processing? CO2 K1

1.Complex Event Processing (CEP) platforms 2.Stock market data analysis

3.Bank fraud transactions detection 4.Complex Event Processing (CEP) platforms & Bank fraud transactions detection.

5. When a file in HDFS is deleted by a user. CO3 K2

1.It is lost forever 2.It goes to trash if configured.

3.It becomes hidden from the user but stays in the file system 4.File sin HDFS cannot be deleted

6. Which of the following platforms does Hadoop run on? CO3 K1

1.Bare metal 2.Debian

3.Cross-platform 4.Unix-like

7. What is the maximum size of Index Key Limit and Number of Indexes per collection? CO4 K2

1.64 bytes and 1024 indexes 2.12 mega bytes and 64 indexes

3.1024 bytes and 64 indexes 4.1024 bytes and unlimited indexes

8. A collection and a document in MongoDB is equivalent to which of the SQL concepts respectively? CO4 K2

1.Table and Row
2.Table and Column
3.Column and Row
4.Database and Table

9. Although the Hadoop framework is implemented in Java, MapReduce applications need not be written in _____ CO5 K2

1.C
2.Java
3.C#
4.Python

10. Running a _____ program involves running mapping tasks on many or all of the nodes in our cluster. CO5 K1

1.MapReduce
2.Map
3.Reducer
4.BigQuery

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	What are the key steps in Big Data solutions?	CO1	K1
	[OR]		
(b)	How is big data analysis helpful in increasing business revenue?	CO1	K1
12. (a)	What are the four features of Big Data?	CO2	K2
	[OR]		
(b)	What are the few top analytics tools?	CO2	K2
13. (a)	Differene between RDBMS and Hadoop.	CO3	K3
	[OR]		
(b)	Define respective components of HDFS and YARN.	CO3	K3
14. (a)	What is the MongoShell?	CO4	K4
	[OR]		
(b)	Illustrate the features of MongoDB.	CO4	K4
15. (a)	Discover about the data types used in Hive.	CO5	K4
	[OR]		
(b)	Illustrate the binary storage formats in hive.	CO5	K4

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer ANY THREE Questions	CO(s)	K - Level
16.	Tell about the desired properties of Big Data System.	CO1	K1
17.	Discover the few top analytic tools.	CO2	K2
18.	Illustrate the concept of managing resources and application with Hadoop YARN.	CO3	K3
19.	How do connect MongoDB and what are the basic operations used explain with it example?	CO4	K4
20.	Examine the Data flow in Map Reduce.	CO5	K4

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21

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science
Course Code : 20PCSE32
Course Title : Cyber Security

Date : 11.07.2022
Time : 2:00 PM - 5:00 PM
Max. Marks : 60

SECTION - A **(10 * 1 = 10 Marks)** **CO(s)** **K - Level**

Answer ALL Questions

The factor(s) which influence(s) cybercrime is /are____. CO1 K1

1.Availability of tools to mask the crime
2.Impact of social media
3.Both a and b
4.High investment to commit a crime

In____ US Internal Revenue Service faced a data breach that disclosed more than 700,000 SSNs and other sensitive information. CO1 K1

1.2013
2.2015
3.2016
4.2017

__protocol(s) is/are supported by Ethereum for the exchange of messages and static files. CO2 K1

1.Whisper
2.Swarm
3.Both a and b
4.Client-Server

Bitcoin's feature as a ____, in which nobody can block your transactions. CO2 K2

1.public
2.Highly censor-resistant
3.permissionless
4.Unseizable

A forensic tool that helps to collect useful evidence is ___. CO3 K1

1.ngrep
2.mgrep
3.sshark
4.nshark

__stage attempts to puts an end to the incident after understanding the salient points of the containment stage. CO3 K2

1.Preparation
2.Identification
3.Recovery
4.Eradication

Boot code searches the root directory for operating system files like ____. CO4 K1

1.DOS.SYS
2.COM.SYS
3.CMD.SYS
4.IO.SYS

8.	__ refers to bytes in physical that are used by itself and are invisible to the user. 1.HDD 2.SSD 3.Sectors 4.HSD		CO4	K2
9.	___ is the only hand-held, cellular exploitation device worldwide that requires no PC or associated phone drivers. 1.Cellebrite 2.CellDEK 3.Both a and b 4.MD5		CO5	K1
10.	ElcomSoft ___ breaks complex passwords, recovers encryption keys, and unlocks documents in a production environment. 1.Password Recovery Bundle 2.Distributed Password Recovery 3.Mobile Forensic Bundle 4.Cloud eXplorer		CO5	K2

Q. No.	SECTION - B Answer ALL Questions	(5 * 4 = 20 Marks)	CO(s)	K - Level
11. (a)	Describe about Hacking and Cracking in Illegal Access.		CO1	K1
	[OR]			
(b)	What are the factors that influence CyberCrime?		CO1	K1
12. (a)	Distinguish Bitcoin versus Ethereum using any 4 attributes.		CO2	K2
	[OR]			
(b)	Summarize the concepts of Surface web, Deep web and Dark web.		CO2	K2
13. (a)	Illustrate Malware Analysis in Malware Forensics.		CO3	K2
	[OR]			
(b)	Explain the Ram Artifacts in Memory Forensics		CO3	K2
14. (a)	Show any 4 Attributes types of NTFS.		CO4	K3
	[OR]			
(b)	Examine Macintosh Artifacts.		CO4	K3
15. (a)	Explain Forensic tool used for Integrity verification.		CO5	K3
	[OR]			
(b)	Sketch Forensic tools used for Password Recovery		CO5	K3

Q. No.	SECTION - C Answer ANY THREE Questions	(3 * 10 = 30 Marks)	CO(s)	K - Level
16.	Explain few forms of cybercrimes exclusive to mobile ECDs.		CO1	K2
17.	Define Ransomware. Write notes on Post-delivery, Preventing from full extraction and Steps to carry out in Event of Infection?		CO2	K2
18.	Write in detail about Database Forensics.		CO3	K3
19.	Explain how Windows OS artifacts can be collected as evidence?.		CO4	K4
20.	Can you infer the commands and tools which help in acquiring digital evidence from Unix systems?		CO5	K4

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23

Reg. No.:

G.T.N. ARTS COLLEGE (AUTONOMOUS)

(Affiliated to Madurai Kamaraj University || Accredited with 'B' Grade by NAAC)

END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science **Date : 13.07.2022**

Course Code : 20PCSE41 **Time : 10:00 AM - 1:00 PM**

Course Title : Artificial Intelligence **Max. Marks : 60**

SECTION - A **(10 * 1 = 10 Marks)** **CO(s)** **K - Level**

Answer ALL Questions

Internally the agent function for an artificial agent will be implemented by an _____. CO1 K1

1.Percept
2.Agent program
3.Percept Sequence
4.Agent

The definition of AI on the right measure against an ideal performance measure is called _____. CO1 K1

1.Behavior
2.Human Performance
3.Thought processes and Reasoning
4.Rationality

Each location is subject to random _____ with a small independent probability. CO2 K2

1.Schema
2.Instant
3.Population
4.Mutation

When all step costs are equal, breadth-first search is optimal because it always expands the _____ unexpanded node. CO2 K1

1.Shallowest
2.Deepest
3.Narrow
4.Level wise

A constraint involving an arbitrary number of variables is called a _____ constraint. CO3 K2

1.Unary
2.Global
3.Binary
4.Multi

In adversarial search MIN has something to say about it and MAX therefore must find a _____ strategy. CO3 K1

1.Optimal
2.Global
3.Local
4.Contingent

7.	A knowledge base is a set of _____.	CO4	K1
	1.Action 2.Sentences 3.Inference 4.Logic		
8.	The primary difference between propositional and first-order logic lies in the _____ commitment made by each language.	CO4	K2
	1.Ontological 2.Syntax 3.Natural language 4.Epistemological		
9.	The learning a (possibly incorrect) general function or rule from specific input–output pairs is called _____ learning.	CO5	K1
	1.Reinforcement 2.Deductive 3.Inductive 4.Supervised		
10.	The data are evidence that is instantiations of some or all of the _____ variables describing the domain.	CO5	K2
	1.Constant 2.Special 3.Fixed 4.Random		

Q. No.	SECTION - B (5 * 4 = 20 Marks) Answer ALL Questions	CO(s)	K - Level
11. (a)	Define Thinking rationally: The "laws of thought" approach.	CO1	K1
	[OR]		
(b)	Define AI adopts the scientific method.	CO1	K1
12. (a)	Illustrate Bidirectional search.	CO2	K2
	[OR]		
(b)	Identify the Simulated annealing.	CO2	K2
13. (a)	Predict the Optimal decisions in multiplayer games.	CO3	K2
	[OR]		
(b)	Describe Node consistency.	CO3	K2
14. (a)	Write about the PEAS for wumpus world.	CO4	K3
	[OR]		
(b)	Write about the kinship domain.	CO4	K3
15. (a)	Sketch about Expressiveness of decision trees.	CO5	K3
	[OR]		
(b)	Interpret the concept of Choosing attribute tests.	CO5	K3

Q. No.	SECTION - C (3 * 10 = 30 Marks) Answer ANY THREE Questions	CO(s)	K - Level
16.	State the birth of artificial intelligence.	CO1	K1
17.	Outline the A* search: Minimizing the total estimated solution cost.	CO2	K2
18.	Show how Alpha–Beta Pruning is made.	CO3	K2

...tch about Using First-Order Logic.	CO4	K3
...cover various Supervised Learning.	CO5	K3

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26

Reg. No.:

G.T.N. ARTS COLLEGE (AUTONOMOUS)

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END SEMESTER EXAMINATION - APRIL - 2022

(CHOICE BASED CREDIT SYSTEM - OUTCOME BASED EDUCATION)

Programme : M.Sc. Computer Science
Course Code : 20PCSE42
Course Title : Internet of Things

Date : 13.07.2022
Time : 10:00 AM - 1:00 PM
Max. Marks : 60

SECTION - A

(10 * 1 = 10 Marks) CO(s) K - Level

Q. No. Answer ALL Questions

1. Which of the following layers provides end to end communication in IOT? CO1 K1

1.Logical layer 2.Data link layer

3.Transport layer 4.Session layer

2. What is the full form of the LPWAN? CO1 K1

1.Low protocol wide area network 2.Low power wide area network

3.Long protocol wide area network 4.Long power wide area network

3. The open IOT Architecture has _____ number of elements. CO2 K2

1.3 2.7

3.8 4.6

4. Mobile traffic today is driven by predictable activities such as _____. CO2 K1

1.Making calls 2.Receiving email

3.Surfing the web 4.All the above

5. The range of z-wave is _____. CO3 K2

1.30 to 100 m 2.300 to 1000 m

3.100 to 1000 m 4.Only 10 m

6. Standards which provide the means to automatically _____ data. CO3 K1

1.Store 2.Capture

3.Retrieve 4.Process

7. The _____category is used for business to consumer process. CO4 K2

1.Group IoT 2.community IoT

3.Industrial IoT 4.Personal IoT

8. Markets won't invest in right level of security as today _____ is a bigger driver than the level of security or privacy today. CO4 K1

1.iCORE 2.Time to market

3.Standardization 4.Privacy protocols

9.	_____types of voice communications are in IoT environment		CO5	K2
	1.2	2.3		
	3.4	4.5		
10.	The _____is considered as two of main pillars of the Future Internet.		CO5	K1
	1.Machine & Deep Learning	2.Cloud computing and Internet Of technology		
	3.Artificial intelligence & IoT	4.Knowledge based &AI		

Q. No.	SECTION - B Answer ALL Questions	(5 * 4 = 20 Marks)	CO(s)	K - Level
11. (a)	Describe the Internet of Things Common Definition.		CO1	K1
	[OR]			
(b)	Describe about Smart Mobility and Transport.		CO1	K1
12. (a)	Define Network Technology.		CO2	K2
	[OR]			
(b)	Explain concept of Privacy for IoT.		CO2	K2
13. (a)	Identify the concepts of cybersecurity and privacy in IoT.		CO3	K3
	[OR]			
(b)	Describe the concept of oneM2M.		CO3	K2
14. (a)	Describe about IPv6 Potential.		CO4	K3
	[OR]			
(b)	Illustrate the concept of DigCovery.		CO4	K3
15. (a)	Discover the concepts in iCORE .		CO5	K4
	[OR]			
(b)	Explain OSMOSE Use Cases' Exploitation Plans & Business Opportunities.		CO5	K4

Q. No.	SECTION - C Answer ANY THREE Questions	(3 * 10 = 30 Marks)	CO(s)	K - Level
16.	Summarize the IoT Strategic Research.		CO1	K1
17.	Describe the data management concept with example.		CO2	K2
18.	Illustrate the concept of IERC Research Projects Positions.		CO3	K3
19.	Focus the concept of a policy-based framework for security and privacy in Internet of Things.		CO4	K3
20.	Explain the IoT for Manufacturing trials in FITMAN.		CO5	K4

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Internal Audit: 2021-2022
Verified
(Dr. V. Mani Mahaswaran)

29.9.2022
(M. Punithavathi)

External Audit: 2021-2022
5/11/22

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