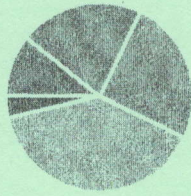


CO- Course Outcomes, **KL- Knowledge Level,** **PO – Program Outcome**

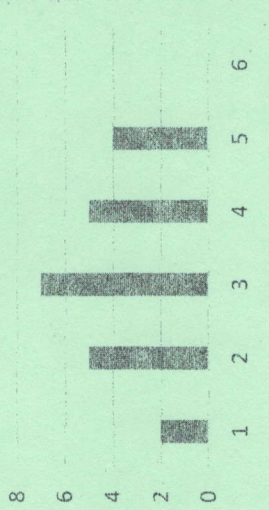
CO1	Understanding the basics of internet and its connections, web browsers
CO2	Understanding client-server architecture and use in internet
CO3	Able to configure basic LAN and connect computers to it.
CO4	Able to combine HTML, CSS, JavaScript for form validation
CO5	Understanding the implementation of PHP with database

**Bloom level wise distribution**



■ 1 ■ 2 ■ 3 ■ 4 ■ 5 ■ 6

**Course outcome wise distribution**



Note : This above figure is only Example and must prepare this type of figure in these two column

Branch	Master of Computer Application	Program	MCA
Subject Name	Cloud Computing	Semester	3RD
		Year	2022/Odd

- Start writing from 2nd page onwards; don't Write on the 1st Page Backside
- Answer all Questions of Section A (Compulsory)
- Answer Any Four out of Six of Section B
- Answer Any Two out of Four of Section C
- Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will comes under Unfair Means and will Result in the Cancellation of the Papers.

Time: 3 Hour  
Max. Marks : 70

Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

**Section A (Each question Carry 01 Marks from Q1-i to Q1-xii) – 12 Marks**

Q. N1	QUESTIONS	Marks	COs	KL	PO
i	What is Automatic Security?	1	CO4	K3	P3
ii	Who are the Direct customers in a cloud ecosystem?	1	CO2	K2	P2
iii	Mention types of virtualization.	1	CO3	K4	P4
iv	What is Access Control?	1	CO4	K4	P1
v	What are the different data types used in cloud computing?	1	CO2	K3	P5
vi	What is Hypervisor?	1	CO3	K1	P2
vii	Which platforms are used for large scale cloud computing?	1	CO3	K3	P3
viii	What do you mean by software as a service?	1	CO3	K4	P1
ix	What is on-demand functionality?	1	CO2	K2	P2
x	How on-demand functionality provided in cloud computing?	1	CO1	K2	P1
xi	What are the main constituents that are part of the cloud ecosystem?	1	CO3	K1	P4

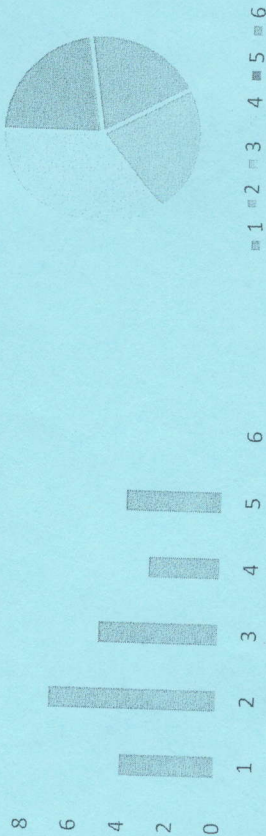


Q. No.	QUESTIONS	Marks	COs	KL	PO
xii	Write the name of some of the cloud computing platform databases?	1	CO4	K3	P2
<b>Section B (Answer any FOUR out of SIX) – 28 Marks</b> (Each question 7 Marks)					
2	Explain Business models around Cloud.	7	CO4	K2	P1
3	Differentiate between Public & Private Cloud	7	CO3	K3	P4
4	What is Cluster Computing & Grid Computing? Explain.	7	CO2	K3	P2
5	Briefly explain about Service providers- Microsoft Azure, Sales force.	7	CO5	K5	P3
6	Explain Virtualization of CPU, Memory, I/O Devices.	7	CO4	K4	P4
7	Explain about the applications of cloud computing.	7	CO2	K5	P5
<b>Section C (Answer any TWO out of FOUR) – 30 Marks-</b> (Each question Carry 15 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	Explain about Issues in Cloud - Eucalyptus - Nimbus - Open Nebula, CloudSim.	10	CO1	K4	P4
9	Explain: a. Community Cloud b. Shared Private Cloud c. Dedicated Private Cloud d. Dynamic Private Cloud	10	CO4	K2	P1
10	Explain HDFS features, architectures, advantages, & disadvantages.	10	CO4	K5	P6
11	Describe the Major component of Map-Reduce Programming Model?	10	CO4	K3	P9
12	What do you understand by GFS? Explain its features, architectures, advantages, & disadvantages.	10	CO1	K5	P2

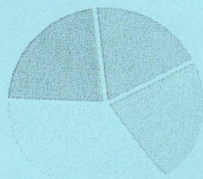


CO- Course Outcomes,	KL- Knowledge Level,	PO – Program Outcome
CO1	Understanding the basics of internet and its connections, web browsers	
CO2	Understanding client-server architecture and use in internet	
CO3	Able to configure basic LAN and connect computers to it.	
CO4	Able to combine HTML, CSS, JavaScript for form validation	
CO5	Understanding the implementation of PHP with database	

**Course outcome wise distribution**



**Bloom level wise distribution**



Note : This above figure is only Example and must prepare this type of figure in these two column

**Masters of Computer Application**  
**Internet of Things**

Branch	Program	MCA
Subject Name	Semester	3RD
	Year	2022/Odd
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> <li>Start writing from 2nd page onwards; don't Write on the 1st Page Backside</li> <li>Answer all Questions of Section A (Compulsory)</li> <li>Answer Any Four out of Six of Section B</li> <li>Answer Any Two out of Four of Section C</li> <li>Possession of <u>Mobile Phones</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result in the Cancellation of the Papers.</u></li> </ul>	
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing K5 : Evaluating K6 : Creating

Section A (Each question Carry 01 Marks from Q1-i to Q1-xii) – 12 Marks			
Q. N 1	QUESTIONS	Marks	COs KL PO
i	What Bigdata collects?	1	CO1 K3 P2
ii	What IoT collects?	1	CO1 K2 P1
iii	Which requires data stream management?	1	CO2 K3 P2
iv	Which requires Edge analytics?	1	CO1 K2 P4
v	The IoT operates at _____ scale.	1	CO1 K1 P5
vi	One way to see observations addressing IoT analytics is?	1	CO4 K2 P6
vii	What is the Ethernet/LAN cable used in RPi?	1	CO1 K1 P4
viii	What are the parameters that are default values?	1	CO2 K2 P7
ix	What is the command used for easy using of GNU screen?	1	CO4 K1 P6
x	IaaS stands for _____	1	CO3 K2 P4
xi	Mobile cloud computing at its simplest refers to an _____	1	CO2 K3 P5



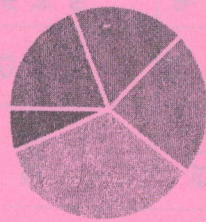
xii	What is IoT Cloud?	1	CO2	K1	P5
<b>Section B (Answer any FOUR out of SIX) – 28 Marks</b> (Each question 7 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
2	What are the distinctive parts where the Internet of Things can really enhance the present procedures?	7	CO4	K2	P1
3	What do you mean by industry 4.0?	7	CO2	K3	P2
4	Explain what are the components and Communication media required for making smart building	7	CO3	K2	P1
5	Explain how did you store the High-volume file like video or audio files into Arduino?	7	CO4	K4	P4
6	What is the difference between the Internet of Things (IoT) and the Sensor Business?	7	CO2	K5	P5
7	Explain Arduino. What are the things need to be considered for developing on the Arduino?	7	CO3	K3	P3
<b>Section C (Answer any TWO out of FOUR) – 30 Marks-</b> (Each question Carry 15 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	Which of them are following wireless technology provide Mesh Network architecture in easiest way?	10	CO1	K4	P4
9	What is contrast between Wireless Sensor Network (WSN) and Internet of Things (IoT) arrange (sensor)?	10	CO2	K5	P5
10	How does the Internet of Everything relate to the Internet of Things?	10	CO1	K5	P2
11	What sensor and actuator are used to control any home appliances from any IOT devices in wired mode?	10	CO3	K4	P2
12	Write Case study on following: (select only one) a. The Good Night Lamp b. Botanicals c. BakerTweet d. DoES Liverpool's DoorBot e. Ninja Blocks f. Lockitron	10	CO4	K5	P6



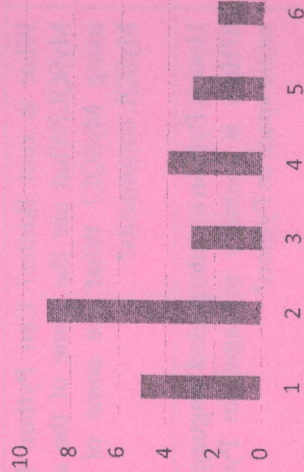
CO- Course Outcomes, **KL- Knowledge Level,** **PO – Program Outcome**

CO1	Understanding the basics of internet and its connections, web browsers
CO2	Understanding client-server architecture and use in internet
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CO4	Able to combine HTML, CSS, JavaScript for form validation
CO5	Understanding the implementation of PHP with database

**Bloom level wise distribution**



**Course outcome wise distribution**



■ CO1 ■ CO2 ■ CO3 ■ CO4 ■ CO5 ■ CO6

Note : This above figure is only Example and must prepare this type of figure in these two column

		<b>Master of Computer Application</b> <b>Data Analytics using Python</b>		END TE School
		Branch	Program	Semester Year
Subject Name	• Start writing from the Page onwards; don't Write on ti • Answer all Questions of Section A (Compulsory) • Answer Any Four out of Six of Section B • Answer Any Two out of Four of Section C • Possession of Mobile Phones or any kind of <b>Written M</b> with the Intention of Communicating with Co-Student w Means and will result in the Cancellation of the Paper			
Time: 3 Hour Max. Marks : 70	K1 : Remembering K2 : Understanding K3 : Applying K4 : Analysing			

Q.N1	Questions	Marks
i	How is a code block indicated in Python?	1
ii	As what datatype are the tuple stored, when passed into a function?	1
iii	Which keyword is used for function in Python language?	1
iv	If a is a dictionary with some key value pairs, what does a.popitem() do?	1
v	Suppose list1 is [3, 4, 5, 30, 3, 35, 1, 3], what is list1.count(3)?	1
vi	What are immutable objects in Python?	1
vii	On assigning a value to a variable inside a function, it automatically becomes a	1
viii	What is the result of sum(1 for i in range(20))?	1



ix	What is the data type of (1,)?	1	CO	K2	PO3
x	The process of pickling in Python includes _____	1	CO3	K2	PO2
xi	What are the two main types of functions in Python?	1	CO2	K1	PO1
xii	What will be the output of the "hello" + 1+2+3?	1	CO1	K5	PO5

**Section B (Answer any FOUR out of SIX) - 28Marks**

(Each question 7 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	What are immutable objects in Python? What is the purpose of the single underscore variable in Python?	7	CO2	K2, K4	PO1
3	What will be the output of the following Python code? import time t=(2010, 9, 20, 8, 45, 12, 6, 0, 0) time.asctime(t) Why would you use the pass statement?	7	CO1	K5	PO9
4	What's the difference between lists and tuples? Explain how to use Slicing in Python?	7	CO2	K3	PO4
5	What will be the output of the following Python code? f=lambda x:bool(x%2) print(f(20), f(21)) Why use else in try/except construct in Python?	7	CO2	K2, K4	PO1
6	What is the difference between deep and shallow copy? How do I check if a list is empty? What is the python with statement designed for?	7	CO2	K1, K5	PO3
7	Explain Inheritance in Python with an example. Does python support multiple inheritance?	7	CO5	K6	PO5

**Section C (Answer any TWO out of FOUR) - 30 Marks-**  
(Each question Carry 15 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
8	What is Polymorphism? Give the example of inbuilt polymorphic functions. What is Method Overriding? How to import modules in python?	15	CO1	K3	PO1
9	How to insert values into MySQL server table using Python? How to Show All Tables in MySQL using Python? What is python Matplotlib?	15	CO3	K4	PO12
10	What is root kinter? Can Python be used with MySQL? What are the some of the advantages of using MySQL? What are some of the common MySQL commands?	15	CO2	K1, K4	PO10
11	How is Python an interpreted language? What is pep 8? How is memory managed in Python? What is name space in Python?	15	CO5	K2	PO2
12	What is Class in Python? What is the difference between an Iterator and Iterable? Draw the Python inheritance's UML diagram. What does the super() do in Python?	15	CO2	K2	PO2





CO- Course Outcomes, **KL-** Knowledge Level, **PO** – Program Outcome

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**END TERM EXAMINATION**  
School of Engineering & IT

Branch	Program	MCA
Subject Name	Semester	3RD
	Year	2022/Odd

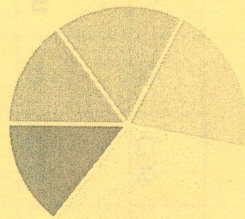
**Master of Computer Application**  
**Design and Analysis of Algorithm**

- Start writing from 2nd page onwards; don't Write on the 1st Page Backside
- Answer all Questions of Section A (Compulsory)
- Answer Any Four out of Six of Section B
- Answer Any Two out of Four of Section C
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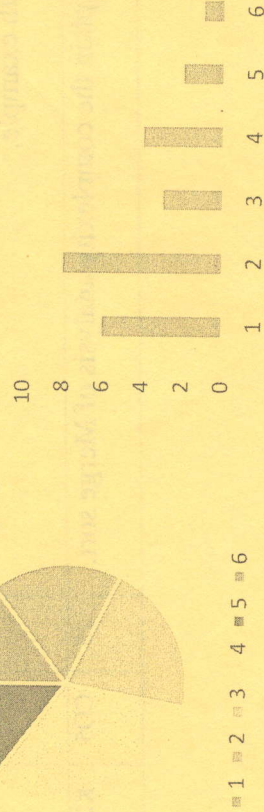
Time: 3 Hour  
Max. Marks : 70

Knowledge Level (KL)  
K1 : Remembering  
K2 : Understanding  
K3 : Applying  
K4 : Analysing  
K5 : Evaluating  
K6 : Creating

Bloom level wise distribution



Course outcome wise distribution

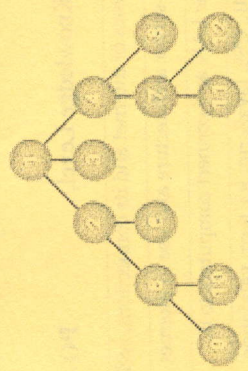


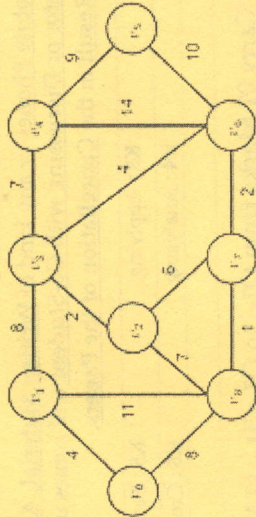
Note : This above figure is only Example and must prepare this type of figure in these two column

**Section A (Each question Carry 01 Marks from Q1-i to Q1-xii) – 12 Marks**

Q. N1	QUESTIONS	Mar ks	COs	KL	PO
i	What do you mean by Heap Sort?	1	CO5	K1	PO12
ii	What do you mean by recursive and non-recursive?	1	CO2	K4	PO3
iii	The Data structure used in standard implementation of Breadth First Search is? What do you mean by Knapsack problem?	1	CO5	K2	PO11
iv	What do you mean by Knapsack problem?	1	CO2	K2	PO3
v	What are the properties of minimum spanning trees?	1	CO4	K6	PO2
vi	Explain Prim's Algorithm.	1	CO1	K1	PO4
vii	What is the importance of optimal merge pattern?	1	CO5	K2	PO9
viii	What do you mean Adjacency list?	1	CO2	K1	PO4
ix	What do you mean by radix sort?	1	CO2	K5	PO3
x	What is the complexity of insertion sort?	1	CO3	K2	PO2
xi	What will be the best case time complexity of merge sort?	1	CO4	K1	PO7



	 <p style="text-align: center;">DEPTH FIRST SEARCH</p>			
9	Write down the algorithm for Dijkstra's Algorithm. Solve	15	CO2 K2	PO2
10	What is Travelling Salesman problem? Explain with example.	15	CO3 K4	PO12
11	Explain the complexity analysis of Merge sort.	15	CO5 K2	PO2

xii	How do you analyse an algorithm?	1	CO1	K1	PO5
<b>Section B (Answer any FOUR out of SIX) – 28 Marks</b> (Each question 7 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Find upper, lower, tight bound of the function $F(n) = 3n+2$	7	CO2	K2, K4	PO1
3	Solve using Prim's Algorithm				
		7	CO1	K5	PO9
4	Explain the Min - Max algorithm in detail. Solve using Min- Max algorithm	7	CO2	K3	PO4
5	Explain 3 notation of time complexity with graph.	7	CO2	K2, K4	PO1
6	Explain the Strassen's Matrix multiplication with an example in details.	7	CO1	K1	PO7
7	Explain Euclid's algorithm for GCD?	7	CO5	K3	PO4

<b>Section C (Answer any TWO out of FOUR) – 30 Marks-</b> (Each question Carry 15 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	Explain Depth First Search. Solve using DFS	15	CO1	K3	PO1





**Master's of Computer Application**

**Advanced Java**

- Start writing from 2nd page onwards; don't write on the 1st Page Backside
- Answer all Questions of Section A (Compulsory)
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- Answer Any Two out of Four of Section C
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Time: 3 Hour  
Max. Marks : 70

Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating
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Branch

Subject Name

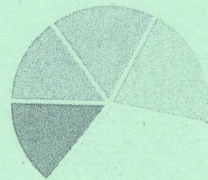
Program MCA

Semester 3RD

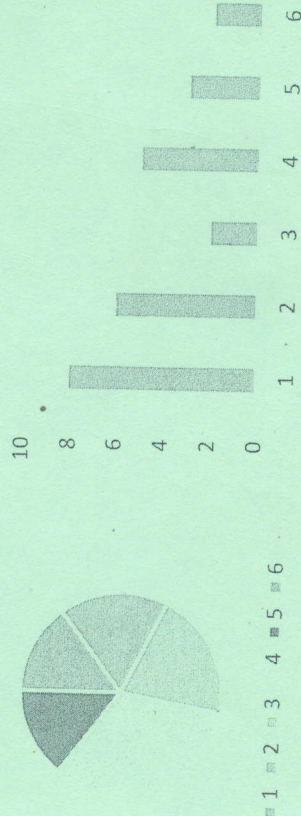
Year 2022/ Odd

CO- Course Outcomes,	KL- Knowledge Level,	PO – Program Outcome
CO1	Understanding the basics of internet and its connections, web browsers	
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CO4	Able to combine HTML, CSS, JavaScript for form validation	
CO5	Understanding the implementation of PHP with database	

**Bloom level wise distribution**



**Course outcome wise distribution**



Note : This above figure is only Example and must prepare this type of figure in these two column

**Section A (Each question Carry 01 Marks from Q1-i to Q1-xii) – 12 Marks**

Q. N 1	QUESTIONS	Mar ks	COs	KL	PO
i	What is JPA?	1	CO5	K1	PO12
ii	What is isThreadSafe Attribute?	1	CO2	K4	PO3
iii	What is Customizers?	1	CO5	K2	PO11
iv	What is Instance Pooling n caching?	1	CO2	K2	PO3
v	What is Message Driven Bean?	1	CO4	K6	PO2
vi	What is destroy()?	1	CO1	K1	PO4
vii	What is Customizer?	1	CO5	K2	PO9
viii	Write down two basic JDBC Data types.	1	CO2	K1	PO4
ix	What are Buffer and Autoflush Attribute?	1	CO2	K5	PO3
x	What is Declaration Tag?	1	CO3	K2	PO2
xi	What is the instance of Request object?	1	CO4	K1	PO7



xii	Explain about Buffer Attribute	1	CO1	K1	PO5
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**Section B (Answer any FOUR out of SIX) – 28Marks**

(Each question 7 Marks)

Q.No.	QUESTIONS	Marks	COs	KL	PO
2	How to create Java Database Connectivity? Explain	7	CO2	K2, K4	PO1
3	Explain about Info Attribute, errorPage, isErrorPage Attributes, isThreadSafe Attribute	7	CO1	K5	PO9
4	Compare the difference between Servlet and JSP	7	CO5	K1, K2	PO3
5	Write down the annotations of Stateful bean with its working.	7	CO4	K4	PO5
6	Explain about JDBC with the help of diagram.	7	CO5	K6	PO5
7	Explain about Info Attribute, errorPage, isErrorPage Attributes, isThreadSafe Attribute	7	CO2	K1, K5	PO3

**Section C (Answer any TWO out of FOUR) – 30 Marks-**

(Each question Carry 15 Marks)

Q.No.	QUESTIONS	Marks	COs	KL	PO
8	Explain about the Persistence Entity Manager and Entity Relationships in EJB.	15	CO1	K3	PO1
9	Write Short notes on: a. Dependency Injection b. Entity Bean c. Persistence d. Interceptors e. Object Relational Mapping	15	CO1	K3	PO8
10	What is Servlet? Explain about the different packages of Servlet with its classes and interfaces.	15	CO3	K4	PO12
11	Write short notes on: a. Message Driven Bean b. Entity Bean c. Life Cycle Callbacks d. Java Persistence API e. Object Relational Mapping	15	CO2	K1, K4	PO10