UNITED UNIVERSITY	END TERM EXAMINATION	ODD SEM 2024-25	ROLL NO.	2	1	2	0
TIME :3 HRS.	COURSE (BRANCH)-B. A-IBM						
	SUBJECT-Data Science	SUBJECT CODE -CAUBC364					

SECTION –A (ATTEMPT ALL QUESTIONS)

1	A	What is the difference between data science and machine learning?
	B	Write a Python function to check if a number is even or odd.
	C	List two common visualization tools used in data science.
	D	Name three types of machine learning and provide an example for each.
	E	What are the key differences between classification and regression?
	F	Define overfitting in machine learning.
	G	Distinguish between structured and unstructured data.
	H	List two real-life applications of data science.
	I	Explain the use of the pandas library in data science.
	J	What is EDA, and why is it crucial?

SECTION –B (ATTEMPT ANY FIVE QUESTIONS)

2	A	Create a small pandas DataFrame and write a code snippet to calculate the mean of a column.
	B	Explain the process of handling missing data with an example.
	C	Describe the differences between Matplotlib and Seaborn with examples of use cases.
	D	Explain supervised and unsupervised learning with examples.
	E	Compare and contrast reinforcement learning with supervised learning.
	F	Write a Python code snippet to filter even numbers from a list using list comprehension.

SECTION –C (ATTEMPT ANY ONE PART FROM EACH QUESTION)

3	A	Write Python code to clean a dataset by removing rows with missing values and resetting the index.
	B	Elaborate on the data science lifecycle with an example project.
4	A	Create a Python script to load a CSV file, perform basic statistics, and plot a histogram.
	B	Discuss the significance of CRISP-DM and its six phases.
5	A	Write a Python script to plot a scatter plot and a bar chart using Matplotlib.
	B	Discuss the importance of EDA with an example using pandas and Matplotlib.
6	A	Write Python code to implement k-means clustering on a dataset and visualize the clusters.
	B	Discuss the challenges of overfitting and underfitting in machine learning with strategies to overcome them.
7	A	Explain the end-to-end process of building a machine learning model, from data preprocessing to evaluation.
	B	Explain the concept of train-test splitting in machine learning. Write Python code to split a dataset into training and testing sets.

CO MARKS DISTRIBUTION	CO1-24	CO2-10	CO3-36	CO4-52	CO5-34
BLOOMS TAXONOMY DISTRIBUTION	K1-06	K2-40	K3-54	K4-46	K5-10

UNITED UNIVERSITY	END TERM EXAMINATION	ODD SEM 2024-25	ROLL NO.									

TIME:3 HRS.	COURSE (BRANCH)-BCA/BCA_IBM SUBJECT- OBJECT ORIENTED PROGRAMMING	SUBJECT CODE-CAUCBC301T	SEMESTER-3 MM. 100

		SECTION –A (ATTEMPT ALL QUESTIONS)	20	CO	BLOOMS TAXONOMY LEVEL
1	A	What is difference between POP and OOP?	2	CO1	K2
	B	What is static polymorphism. Explain with an example.	2	CO2	K2
	C	Explain about JRE and JVM in java.	2	CO1	K2
	D	What is difference between Concreate and Abstract classes?	2	CO3	K2
	E	Write short notes on-(i)Abstraction (ii)Encapsulation	2	CO1	K1
	F	Define ArrayIndexOutOfBounds Exception with an example.	2	CO3	K1
	G	What is Layout Manager. Explain briefly.	2	CO4	K2
	H	Define JDBC-ODBC briefly.	2	CO5	K1
	I	Briefly explain Vector.	2	CO1	K2
	J	What is difference between Multithreading and Multitasking.	2	CO4	K2
		SECTION –B (ATTEMPT ANY FIVE QUESTIONS)	30		
2	A	What is string? Write a java program to accept a string from the keyboard and to print it in the following manner-Input- "Ram Kumar Tripathi" Output- "R.K. Tripathi"	6	CO1	K2
	B	Explain about copy constructor. Write a java program to implement constructor overloading.	6	CO2	K2
	C	Define hybrid inheritance. Write a java program to implement multiple inheritance.	6	CO2	K1
	D	Explain about Number format Exception with an example.	6	CO3	K2
	E	Explain the Life cycle of a thread. Write a thread program to print alphabets along with its ascii values.	6	CO3	K2
	F	What is an Applet. Write a java program to draw an image.	6	CO4	K2
		SECTION –C (ATTEMPT ANY ONE PART FROM EACH QUESTION)	50		
3	A	Define array of array. Write a java program to accept elements of a square matrix(4X4) by the user and to find the determinant value of the matrix.	10	CO1	K1
	B	Explain drivers of JDBC. Write a jdbc program to insert the following records to the table named as student-	10	CO5	K2

Roll_no	Name	Course	Marks
UU_10	Ravi	BCA	50
UU_20	Amit	BCA_IBM	60
UU_30	Dev	MCA	70
UU_40	Shiv	Diploma	80

	A	Explain the life cycle of an Applet in detail. Write a java program to draw a colorful Indian Flag.	10	CO4	K2

UNIVERSITY	END SEMESTER EXAM	ODD SEM 2024-25	ROLL NO	2520102005
COURSE (BRANCH) - BCA & BCA (BM)				SEMES
TIME: 3 HRS.	SUBJECT-COMPUTER NETWORK	SUBJECT CODE- CAUCBC3127		MM

		SECTION –A (ATTEMPT ALL QUESTIONS)	20	CO
1	A	List three common data representation methods used in computer networks	2	CO1
	B	What is the purpose of a router in a network?	2	CO1
	C	What is a twisted pair cable, and where is it commonly used?	2	CO2
	D	What is the difference between data and signal in communication systems?	2	CO2
	E	What are the two main types of errors in data communication?	2	CO3
	F	Describe how CSMA/CD works in Ethernet networks.	2	CO3
	G	What is the primary purpose of an IP address in networking?	2	CO4
	H	Contrast between subnetting and supernetting?	2	CO4
	I	What does HTTP stand for, and which application uses it?	2	CO5
	J	What do you mean by WWW?	2	CO5
		SECTION –B (ATTEMPT ANY FIVE QUESTIONS)	30	
2	A	What is the OSI model? Name its seven layers.	6	CO1
	B	Define line coding. Give an example of a line coding scheme.	6	CO1
	C	What type of cabling is commonly used in Ethernet networks?	6	CO5
	D	Contrast between flow control and error control in the data link layer.	6	CO4
	E	What does CIDR stand for, and how does it improve address allocation?	6	CO2
	F	What is the main purpose of the File Transfer Protocol (FTP)?	6	CO3
		SECTION –C (ATTEMPT ANY ONE PART FROM EACH QUESTION)	50	
	A	Compare the OSI model and TCP/IP protocol suite. Highlight their similarities and differences.	10	CO1
	B	Analyze the network criteria of performance, reliability, and security. How do these factors influence network design?	10	CO1
A		Discuss the advantages and disadvantages of using optical fiber over twisted pair cables.	10	CO2
B		Explain the working of a packet-switched network. How does it manage congestion compared to a circuit-switched network?	10	CO2
A		Explain how checksum works for error detection. Include an example of its calculation.	10	CO3
B		Discuss the working of Go-Back-N ARQ in noisy channels. How does it ensure reliable transmission?	10	CO3

6	A	Explain the steps to subnet the IP address 192.168.1.0/24 into 8 subnets. Show the subnet mask address/CIDR.	10	CO4
	B	Analyze the limitations of Distance Vector Routing protocols, including the count-to-infinity problem, and explain how split horizon solves it.	10	CO5
7	A	Describe the three-way handshake mechanism in TCP. Why is this process critical for ensuring a reliable connection in computer networks?	10	CO5
	B	What is DNS? Explain the process by which the Domain Name System (DNS) translates a domain name into its corresponding IP address.	10	CO5

CO MARKS DISTRIBUTION	CO1-36	CO2-30	CO3-30	CO4-30	CO5-30
BLOOM'S TAXONOMY DISTRIBUTION	K1-32	K2-48	K3-24	K4-26	K5-26