End-Term Examination
(CBCS)(SUBJECTIVE TYPE)(OffLine)
Course Name:<B.Tech.>, Semester:< I >
(December, 2024)

Subject Code: BAI-102	Subject: IT Workshop
Time :3 Hours	Maximum Marks :60

Note: Q1 is compulsory. Attempt one question each from the Units I, II, III & IV.

Q1		(2.5*8=20)
	a) What is R? Mention two uses of R.	
	b) Explain 5 mathematical functions with the help of examples.	
	c) Explain different types of vectors.	
	d) How can datasets be combined in R? Illustrate with an example.	
	e) What do you mean by control statements? Explain any three.	
	f) Differentiate between Discrete data and continuous data.	
	g) Explain Pie Chart with suitable example?	
	h) WAP to print Fibonacci series upto 10 elements.	
	UNIT I	
Q2	What are R packages. How can you install and load an R package? Write a code to install and load the ggplot2 package.	(10)
Q3	What do you understand by objects in R? Describe the role of special values like Inf, NA, NaN, and NULL in R.	(10)
	UNIT II	
Q4	Differentiate between matrices and data frames in R. Give Examples.	(10)
Q5	Create a data frame names students with the columns (Student_ID, Name, Score). Find the mean score of all the students. Extract the rows for students who scored more than 75. Add a new column Grade based on the Score (e.g., A for score > 80, B for 60-80, C for < 60).	(10)
	UNIT III	
Q6	What is the difference between a T-test and ANOVA? Explain different types of T-test.	(10)
Q7	Explain all the terms of the code snippet: subset (students, Score > 75, select=c(Name,Score))	(10)
	UNIT IV	
Q8	Write a program to create a Boxplot for in-built dataset mtcars. Explain boxplot.	(10)
Q9	What do you understand by Data Visualization? Name some of the 2-D and 3-D plots available for data visualization.	(10)