R20 Regulation *Subject code: 3B3GB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech III Semester Supplementary Examinations, June 2026

STATISTICAL METHODS

(Common to CSE (AI&ML) & CSE (DS))

Maximum Marks: 70 Date: 11.06.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

	All the following questions carry equal marks (10X2M=20 Marks)	Marks	CO	BTL
1	Define the term Statistics.	2M	1	L1
2	Calculate Geometric mean of 2,24,5,67,89,122.	2M	1	L1
3	Write the formula for Quartile deviation and its co-efficient?	2M	2	L1
4	Find Range to 23,45,6,78,89,12,5,1.	2M	2	L1
5	Define population and sample?	2M	3	L1
6	If we can assert with 95% that maximum error is 0.05 and p= 0.2. Find the size of the sample.	2M	3	L1
7	Define type I error.	2M	4	L1
8	Define Right tailed test.	2M	4	L1
9	Define Correlation.	2M	5	L1
10	Write about two way classification.	2M	5	L1

Part-B

	Answer All the following questions. (5X10M=50Marks)	Marks	CO	BTL
11	Explain Functions of Statistics.	10M	1	L2
	OR			
12	Find mean to the following data. (10m)	10M	1	L2
13	Explain Skewness and methods for measuring Skewness.	10M	2	L2
	OR			
14	Calculate Quartile Deviation and its co-efficient to the following data.	10M	2	L2

Classes	0-10	10-20	20-30	30-40	40-50	50-60	60-70
frequency	23	6	67	3	5	9	10

Classes	0-15	15-30	30-45	45-60	60-75	75-90	90-105
frequency	6	15	16	3	11	13	10

15	A population consists of five numbers 2,3,6,8, and 11. Consider all possible samples of size two Which can be drawn with replacement from this population. Find i) The population mean. ii) The standard deviation of the population. iii) The mean of the sampling distribution of means. iv) Standard deviation of the sampling distribution of means.	10M	3	L2
	OR			
16	Show that $s^2 = \frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^2$ is not unbiased estimator of the parameter σ^2, but $S^2 = \frac{1}{n-1}\sum_{i=1}^{n}(x_i - \bar{x})^2$ is unbiased estimator of the parameter σ^2.	10M	3	L2
17	The means of two large sample of sizes 1000 and 2000 members are 67.5 inches and 68.0 inches respectively. Can the samples be regarded as drawn from the same population of S.D 2.5 inches.	10M	4	L2
	OR			
18	A simple sample of the heights of 6400 English men has a mean of 67.585 inches and a S.D of 2.56 inches while a simple sample of height of 1600 Australians has mean of 68.55 and a S.D of 2.52.Do the data indicate the Australians are on the average taller than Englishmen use 1% l.o.s.	10M	4	L2
19	From the following data calculate the correlation coefficient. X 23 33 45 78 16 16 65 24 16 57 y 11 13 24 43 15 64 20 45 56 64	10M	5	L2
	OR			
20	Obtain two Regression lines for the following data. X 56 78 75 50 78 80 75 56 56 56 y 62 54 68 45 81 54 68 54 50 70	10M	5	L2