



R20 Regulation

Subject code: 3B3GB

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, April 2025

STATISTICAL METHODS

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

Maximum Marks: 70

Date: 09.05.2025

Duration: 3 hours

- Notes:**
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 or sub questions.

Statistical table allowed

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 formulae for Quartile deviation and its co-efficient?		2M	2	L1
4	Find Q_1 and Q_3 to the data 21,34,6,7,90,23,45,1,5.		2M	2	L1
5	Define Parameter and Statistic.		2M	3	L1
6	A random sample of size 100 has a standard deviation of 5. What can say about the maximum error with 95% confidence?		2M	3	L1
7	Define t-test.		2M	4	L1
8	Write the test statistic of binomial proportion in large sample.		2M	4	L1
9	Write any two properties of Regression co-efficient.		2M	5	L1
10	Write about one way classification.		2M	5	L1

Part-B

Answer All the following questions.		(5X10M=50Marks)	Marks	CO	BTL		
11	Explain Tabulation of data?		10M	1	L2		
OR							
12	Find Geometric mean to the following data.		10M	1	L2		
Classes	0-100	100-200	200-300	300-400	400-500	500-600	600-700
for units	23	6	67	3	5	9	10
13	Examine which group is more consistent from the following data.		10M	2	L2		
Classes	0-5	5-10	10-15	15-20	20-25	25-30	30-35
Group A	2	10	31	3	10	12	11
For units							
Group B	3	12	30	4	5	13	10
(For units)							

OR

14	Calculate Karl Pearson's co efficient of Skewness to the following data Classes 0-2 2-4 4-6 6-8 8-10 10-12 12-14 frequency 20 1 7 7 15 19 11	10M	2	L2																						
15	A population consists of five numbers 5,2,6,12,and 11.Consider all possible samples of size two Which can be drawn without 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. OR	10M	3	L2																						
16	A population consists of six numbers 4,8,12,16,20and 24.Consider all possible samples of size two Which can be drawn without 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																						
17	Experience has shown that 20% of a manufactured product is of the top quality. In one day's production of 400 articles only 50 was of top quality, test the hypothesis at 0.05 level, OR	10M	4	L2																						
18	In two large populations, there are 30% and 25% respectively of fair haired people, Is this difference likely to be hidden in samples of 1200 and 900 respectively from the two population.	10M	4	L2																						
19	Obtain the rank correlation coefficient for the following data. <table><tr><td>X</td><td>68</td><td>64</td><td>75</td><td>50</td><td>64</td><td>80</td><td>75</td><td>40</td><td>55</td><td>64</td></tr><tr><td>y</td><td>62</td><td>58</td><td>68</td><td>45</td><td>81</td><td>60</td><td>68</td><td>48</td><td>50</td><td>70</td></tr></table> OR	X	68	64	75	50	64	80	75	40	55	64	y	62	58	68	45	81	60	68	48	50	70	10M	5	L2
X	68	64	75	50	64	80	75	40	55	64																
y	62	58	68	45	81	60	68	48	50	70																
20	Obtain two Regression lines for the following data. <table><tr><td>X</td><td>56</td><td>78</td><td>75</td><td>50</td><td>78</td><td>80</td><td>75</td><td>56</td><td>56</td><td>56</td></tr><tr><td>y</td><td>62</td><td>54</td><td>68</td><td>45</td><td>81</td><td>54</td><td>68</td><td>54</td><td>50</td><td>70</td></tr></table>	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
X	56	78	75	50	78	80	75	56	56	56																
y	62	54	68	45	81	54	68	54	50	70																