QP CODE: XXXXXXXXX

Name: .....
Reg.No.: .....

FIRST SEMESTER FYUGP EXAMINATION NOVEMBER 2024

MINOR

STA1MN101 DESCRIPTIVE STATISTICS FOR DATA SCIENCE

Time : 2 Hrs **Maximum Marks : 70**

BL - Bloom's Taxonomy Level (1 to 6) CO - Course Outcome

Section A

Ceiling Marks : 24

Answer all questions. Each carries 3 marks.

No.	Question	M	BL	CO
1.	Define secondary data.What are the sources of secondary data.	3	2	CO1 CO2
2.	Define Qualitative and Quantitative data.	3	1	CO1
3.	Distinguish between simple bar diagram and sub divided bar diagram.	3	2	CO3
4.	What are ogives? Explain the method of constructing ogives.	3	4	CO3
5.	Define an average. What are the desirable properties of a good average?	3	2	CO4
6.	What is meant by kurtosis? How do you measure kurtosis?	3	2	CO4
7.	Calculate Pearson's coefficient of skewness from the following values. 22 28 35 32 28 34 28 17	3	5	CO4
8.	Define mutually exclusive events.	3	1	CO5
9.	From a group of 18 students consisting of 12 boys and 6 girls, 5 students are selected at random. Compute the probability that the selected group contains (i) No girls. (ii) 3 boys and 2 girls.	3	6	CO5
10.	Define independent events.	3	1	CO5

Section B

Ceiling Marks : 36

Answer all questions. Each question carries 6 marks.

No.	Question	M	BL	CO
11.	Differentiate between primary data and secondary data.Explain merits and demerits of each.	6	3	CO1 CO2
12.	The following numbers give the weights of 55 students of a class.Prepare a suitable frequency table and also draw a histogram. 42 , 74 ,40, 60, 82 , 115, 41, 61, 75, 83, 63,53, 110, 76, 84, 50, 67, 65, 78, 77, 56, 95, 68, 69, 104 , 80, 79 , 79 , 54, 73, 59 , 81 , 100,66 , 49 , 77 , 90 ,84, 76, 42 , 64 , 69, 70, 80 ,72, 50 ,79 ,52 , 103, 96, 51 , 86, 78, 94 , 71	6	5	CO2 CO3
13.	Show that standard deviation of a distribution is independent of change of origin and depends on scale.	6	4	CO4
14.	Calculate Quartile deviation for the following data. Also calculate its relative measure	6	5	CO4

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70
f	6	18	25	50	37	30	24

15.	Compute Bowley's coefficient of skewness from the following data. Class: 0 – 9 | 10 – 19 | 20 – 29 | 30 – 39 | 40 – 49 | 50 – 59 f: 14 | 18 | 26 | 42 | 40 | 20	6	6	CO4
16.	Define the term with example (i) Mutually exclusive events. (ii) Equally likely events. (iii) Exhaustive events.	6	2	CO5
17.	In a factory machines A and B are producing springs of the same type. Of this production, machine A and B produce 5% and 10% defective springs, respectively. Machines A and B produce 40% and 60% of the total output of the factory. One spring is selected at random and it is found to be defective. What is the possibility that this defective spring was produced by machine A?	6	3	CO5
18.	Assume that a factory has two machines. Past records show that machine I produces 30% of the items of output and machine II 70% of the items of output. Further, 5% of the items produced by machine I were defective and only 1% produced by machine II were defective. If a defective item is drawn at random, what is the probability that the defective item was produced by machine I?	6	4	CO5

Section C

Answer any 1 question. Each carries 10 marks. (1x10=10 marks)

No.	Question	M	BL	CO
19.	Compute geometric mean of the following data: Marks: 0 - 10 | 10 - 20 | 20 - 30 | 30 -40 | 40 - 50 No of students: 25 | 16 | 13 | 10 | 6	10	5	CO4
20.	(i) Define conditional probability. (ii) From a survey it is found that the probability of selecting (i) A male or a smoker is 7/10 (ii) A male smoker is 2/5 and (iii) A male , if a smoker is already selected is 2/3. Find the probability of selecting (a) A non - smoker (b) A male (c) A smoker , if a male is first selected .	10	4	CO5

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