

QP Code: D133250		Total Pages: 2	Name:
			Register No.
FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025			
(CUFYUGP)			
STA1MN101 - DESCRIPTIVE STATISTICS FOR DATA SCIENCE			
2024 Admission onwards			
Maximum Time :2 Hours			Maximum Marks :70
Section A			
All Questions can be answered.			
Each Question carries 3 marks (Ceiling : 24 Marks)			
1	Define qualitative and quantitative variables.		
2	Define population and sampling frame.		
3	Define primary data. Mention any two of its merits.		
4	Differentiate between grouped and ungrouped frequency table.		
5	Define histogram.		
6	Define (i) central tendency (ii) dispersion		
7	Obtain the geometric mean of the observations 2, 8, 32 and 128.		
8	Define positively and negatively skewed data.		
9	Define sample space. Write the sample space of the random experiment of tossing of three coins.		
10	State Bayes' theorem.		
Section B			
All Questions can be answered.			
Each Question carries 6 marks (Ceiling : 36 Marks)			
11	Define secondary data and point out its merits and demerits. Mention any four of the sources of secondary data.		
12	Explain the steps involved in the construction of a frequency table for a given set of raw data.		
13	Sketch a histogram for the following data: Class: 0 – 10 10 – 30 30 – 60 60 – 80 80 – 90 90 – 100 Freq.: 6 10 14 12 6 2		
14	Explain the merits and demerits of graphical representation of data		
15	Explain harmonic mean. Obtain the average speed of a train covering its first 30 kms at a speed of 60 kms/h, next 40 kms at a speed of 80 kms/hr and the last 20 kms at a speed of 40 kms/hr.		
16	A box contains 8 blue and 6 red balls. If 3 balls are drawn at random, what is the probability		

	that the selected balls are (i) All are blue (ii) no blue (iii) one red and two blue balls.																		
17	If $P(A) = 0.6$, $P(B) = 0.4$ and $P(A^c \cup B^c) = 0.7$, find (i) $P(A \cup B)$ (ii) $P(A/B^c)$ (iii) $P(A^c/B^c)$																		
18	State the frequency definition of probability. For two events A and B, prove that (i) $P(A^c) = 1 - P(A)$ (ii) $P(A \cup B) = P(A) + P(B)$, if A and B are disjoint events.																		
Section C																			
Answer any ONE .Each Question carries 10 marks (1x10=10 Marks)																			
19	<p>(i) Define partition values. Define quartiles, deciles and percentiles. Explain their inter relations.</p> <p>(ii) Calculate quartiles, 4th and 6th deciles and 35th and 85th percentile for the following data.</p> <table><tr><td>Class:</td><td>0 – 10</td><td>10 – 20</td><td>20 – 30</td><td>30 – 40</td><td>40 – 50</td><td>50 – 60</td><td>60 – 70</td><td>70 – 80</td></tr><tr><td>Freq.:</td><td>7</td><td>14</td><td>18</td><td>24</td><td>15</td><td>12</td><td>6</td><td>4</td></tr></table>	Class:	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	Freq.:	7	14	18	24	15	12	6	4
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20	Explain pair wise and mutual independence of three events A, B and C. Illustrate using an example that the pair wise independence of these three events need not imply their mutual independence.																		