

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 style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">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 style="width: 15%;">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.																		