Dr. Vishal Mehta

COURSE TITLE: **PROBABILITY AND STATISTICS** PROGRAM: **B. TECH. (BT/BT/BTDD)**
COURSE CODE: **10B11MA311**
SEMESTER: **III**

MAX. MARKS: **15**
MAX. TIME: **1 HOUR**

NOTE: *All questions are compulsory and carry equal marks. Carrying of mobile phone during examinations will be treated as case of unfair mean. Use of Scientific calculator is allowed.*

Q. 1 (A) The following data shows the response timers of calls for police service measured in minutes:

34, 10, 4, 3, 9, 18, 4, 3, 14, 8, 15, 19, 24, 9, 36, 5, 7, 13, 17, 22, 27, 3, 6, 11, 16, 21, 26, 31, 32, 38, 40, 30, 47, 53, 14, 6, 12, 18, 23, 28, 33, 3, 4, 62, 24, 35, 54, 15, 6, 13, 19, 3, 4, 4, 20, 5, 4, 5, 5, 10, 25, 7, 7, 42, 44

Prepare a frequency distribution and make histogram and frequency polygon of the frequency distribution.

[3]

(B) A survey of 1000 adults uncovered some interesting housekeeping secrets. when unexpected company comes, where do we hide the mess? The survey showed that 68% of the respondents toss their mess in the closet, 23% shove things under the bed, 6% put things in bathtub and 3% put the mess in the freezer. Make a pie chart to display this information.

[2]

Q.2 The median and mode of the following frequency distribution are known to be 20.0238 and 23.0769 respectively. Find the values of f_4, f_5 and f_6.

Class Intervals:	0-5	5-10	10-15	15-20	20-25	25-30	30-35	30-40	40-45	TOTAL
Frequency:	2	5	7	f_4	f_5	f_6	10	8	3	85

[5]

Q.3 (A) Find the missing information from the following data:

	Group-I	Group-II	Group-III	Combined
Number	50	?	90	200
Standard Deviation	6	7	?	7.746
Mean	113	?	115	116

[3]

(B) In a frequency distribution, the coefficient of skewness based on the quartiles is 0.60. If the sum of the upper and lower quartile is 100 and the median is 38, then determine the value of the upper and lower quartiles.

[2]

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