

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**M. Tech. Winter 2019 - 20 Examination**

**Semester: 3****Subject Code: 203211231****Subject Name: Transportation Software Laboratory****Date: 26/11/2019****Time: 10.30 am to 1.00 pm****Total Marks: 60****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1** A) Describe various types of data and their level. **(05)**  
B) How statistics is useful in transportation engineering. **(05)**  
C) Write short notes on MCDM techniques. **(05)**

- Q.2** Answer the following questions. (Attempt any three) (Each five mark) **(15)**

- A) Suppose your midterm test score is 75 and your final exam score is 95. Using weights of 45% for the midterm and 55% for the final exam, compute the weighted average of your scores.  
B) How to find median for even and odd number data? How it is different from mean?  
C) Explain t test  
D) Write short note non parametric test.

- Q.3** A) What are the factors we should considered for selecting sample size? **(07)**

- B) Calculate the coefficient of correlation and obtain the line if regression for following:

X 12 13 14 15 16

Y 85 101 120 162 204 **(08)**

**OR**

- B) Write short note on Chi square test of goodness of fit. **(08)**

- A) At toll plaza counter cars arrive at an average of 2 per minute. Find the probabilities that

- Q.4** (i) At most 3 will arrive in any given minute **(07)**

- (ii) At least 3 will arrive during an interval of 4 minutes

- (iii) At most 10 will arrive during an interval of 6 minutes.

**OR**

- A) If 6 of 18 new buildings in a city violate the building code, what is the probability that a building inspector, who randomly selects 4 of the new buildings for inspection, will catch (i) None, (ii) One, (iii) at least 3, of the new buildings that violate the building code? **(07)**

- B) Compare VISSIM and VISUM software w.r.t their use in transportation engineering. **(08)**