

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**SIXTH SEMESTER BASLP DEGREE EXAMINATION – DECEMBER 2019**  
**SUBJECT: BASIC STATISTICS (B 6.3)**  
**(2012 SCHEME)**

Monday, December 09, 2019

Time: 14.00-17.00 Hrs.

Max. Marks: 80

1. **Briefly explain the following:**

- 1A. Interval scale
- 1B. Total Fertility Rate (TFR)
- 1C. Infant Mortality Rate (IMR)
- 1D. Maternal Mortality Rate (MMR)
- 1E. Ecological Fallacy

(2 marks × 5 = 10 marks)

2. **Write short notes on the following:**

- 2A. Cross-sectional study
- 2B. Civil registration system

(5 marks × 2 = 10 marks)

3. Explain the characteristics of the statistical data

(5 marks)

4. Differentiate between qualitative and quantitative variables with appropriate examples

(5 marks)

5. The following data provides haemoglobin level (gm/dL) of 12 subjects.

12 15 13 12 17 10 11 14 13 17 13 15

**Calculate the values of**

- 5A. Sample mean
- 5B. Sample standard deviation
- 5C. Sample Median
- 5D. Interquartile range
- 5E. Mode
- 5F. Range

(2+3+2+4+2+2 = 15 marks)

6. Briefly explain the concept of sample median.

(5 marks)

7. The daily numbers of animals treated at a certain veterinarian clinic over a 19-day period are as follows:  
22 17 19 31 28 29 21 33 36 24 15 28 25 28 22 27 33 19 25  
Calculate the coefficient of variation of the data. (5 marks)
8. What is correlation? Explain positive and negative correlation with example. (5 marks)
9. Explain any three probability sampling method along with their merits and demerits (9 marks)
10. Briefly explain the components of a research protocol. (8 marks)
11. What are the reasons for sampling error? What are the measures to reduce sampling error? (3 marks)

