

**EXAMINATIONS**  
 Institute of Indigenous Medicine  
 31 JAN 2020  
 University of Colombo



**INSTITUTE OF INDIGENOUS MEDICINE, UNIVERSITY OF COLOMBO**  
**DEGREE OF BACHELOR OF AYURVEDA MEDICINE AND SURGERY**  
**BACHELOR OF UNANI MEDICINE AND SURGERY**  
**LEVEL II – FIRST SEMESTER EXAMINATION –JAN-FEB 2020**

**SW 2101/TS 2102 – RESEARCH METHODOLOGY & BIO STATISTICS - I**

Date : 31.01.2020  
 Time : 2.00 pm -3.00 pm

**Answer all questions.**

**Index No**

**Part I - Structured Questions**

1.1 What is research methodology?

(04 Marks)

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1.2 What are the characteristics of quantitative research?

(04 Marks)

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1.3 The following are the scores for the midterm exam given to 13 students in Statistics.

82,70,40,45,69,75,75,57,62,89,80,75,65.

Calculate;

a) Mean, mode and median

(06 Marks)

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b) The range

(02 Marks)

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c) The variance

( 04 Marks)

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c) Are these data skewed? If so how?

(02 Marks).

d) Find Q2

(04 Marks).

$$S = \sqrt{\frac{\sum fx^2 - (\sum fx)^2}{n(n-1)}}$$

### Part II – Essay Questions

1.1. Explain the relationship among the mean, median, and mode in positively skewed and negatively skewed distributions. (20 Marks)

1.2. The heights of adult females are normally distributed with mean 160 cm and standard deviation 8 cm.

- a) percentage of females have height greater than 170 cm? (10 Marks)
- b) What percent of females have height between 150 and 175 cm? (20 Marks)
- c) What percent of females have height less than 140cm? (10 Marks).

Draw the diagram for each calculation.

( $Z = \pm 1.25$  is 0.3944,  $Z = 1.875$  is 0.4693,  $Z = -2.5$  is 0.4938)