

# MANIPAL UNIVERSITY

**THIRD YEAR B.Sc. C.V.T./B.Sc. M.R.T/B.Sc. R.T./B.Sc. M.L.T./  
FOURTH YEAR B.O.T./B.P.T. DEGREE EXAMINATION – DECEMBER 2016**

**SUBJECT: BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH  
METHODOLOGY & STATISTICS/BIOSTATISTICS/BASIC BIOSTATISTICS &  
RESEARCH METHODOLOGY/RESEARCH METHODOLOGY AND BIOSTATISTICS**

Thursday, December 15, 2016

Time: 10:00-13:00 Hrs.

Max. Marks: 80

☞ **Answer ALL the questions.**

1. Explain the steps in a research process. (5 marks)
  
2. Form a frequency table along with relative frequencies for the ages of 48 patients given below. (Class intervals: 0 – 15, 15 – 30, 30 – 45, so on)
 

30	39	53	47	64	31	10	36	29	40	22	40
76	33	46	17	38	50	30	34	25	36	39	36
15	65	39	43	62	30	07	47	32	36	42	42
47	27	32	39	24	57	37	43	43	54	40	39

(5 marks)
  
3. Compute the range, 85<sup>th</sup> percentile, first and third quartiles for the data on duration in days of chicken pox disease in 10 patients.
 

14	15	14	17	17	13	15	11	10	14
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(10 marks)
  
4. The duration of time for the first exposure to HIV infection to AIDS diagnosis is called the incubation period. The incubation periods of a random sample of 10 HIV infected individuals is given below (in yrs):
 

7.5	11.0	10.5	10.0	6.5	13.5	12.0	7.5	11.5	10.0
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  - 4A. Calculate mean, median and standard deviation of incubation period.
  - 4B. If the number 6.5 above were changed to 9.5, what would happen to the mean and median? State whether each would increase, decrease or remain the same.(10 marks)
  
5. With the help of scatter diagram explain correlation. (6 marks)
  
6. **Classify the following into different scales of measurement:**

a) Age	b) Gender	c) Temperature (°F)	d) Marital status
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(4 marks)