

**HOSPITAL ADMINISTRATION****Bio-Statistics and Quantitative Techniques****Q.P. CODE: 8716**

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

LONG ESSAY**1 X 20 = 20 Marks**

1. Estimates of Mean and Standard deviation of time taken for a particular type of surgery in minutes by two surgeons in a certain number of surgeries are as follows. Test whether the two surgeons differ in their mean time.

Surgeon no	No. of surgeries observed	Mean	S.d.
I	17	157	34
II	15	146	31

Note : Test statistics value at $P=0.05$ for rejection of Null hypothesis at 30 d.f. is 2.00**SHORT ESSAY (Answer any Seven)****7 X 10 = 70 Marks**

- Differentiate between Statistics and Statistical methods with their uses in hospital administration
- Describe scales of measurement used for data collection.
- Describe different graphs used for presentation of data.
- Describe different methods of summarizing data in terms of central tendency.
- Describe thruston method of scaling techniques.
- Describe Systematic Random sampling and Multistage Random sampling methods with examples.
- What is Binomial distribution? In a big hospital there are six X-ray machines and it is observed that on certain days few of the machines are not working and the probability of two machines are not working on a day.
- Describe Spearmans rank correlation.

SHORT ANSWERS (Answer any Five)**05 X 02 = 10 Marks**

- Multistage sampling
- Standardized normal variate
- Confidence interval
- Sampling variation
- Correlation coefficient
- Regression coefficient

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