

### **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**

2. Differentiate between Statistics and Statistical methods with their uses in hospital administration
3. Describe scales of measurement used for data collection.
4. Describe different graphs used for presentation of data.
5. Describe different methods of summarizing data in terms of central tendency.
6. Describe thruston method of scaling techniques.
7. Describe Systematic Random sampling and Multistage Random sampling methods with examples.
8. 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.
9. Describe Spearmans rank correlation.

#### **SHORT ANSWERS (Answer any Five)**

**05 X 02 = 10 Marks**

10. Multistage sampling
11. Standardized normal variate
12. Confidence interval
13. Sampling variation
14. Correlation coefficient
15. Regression coefficient

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