LH-130

April-2014

B.Sc., Sem.-VI

Statistics

Elective : 311

(Medical Statistics)

Time : 3 Hours] **[Max. Marks : 70**

Instructions : (1) Q. No. **1** to Q. No. **4** carry **14** marks each.

(2) Q. No. **5** carry **14** marks.

1. (a) Write a note on population growth and population growth rate.

OR

(a) What is census ? Why do we need census ?

(b) Let *T* be the survival time and it follows exponential distribution with parameter λ. Obtain expression for survival function and hazard rate.

OR

(b) Explain discrete time population growth model.

2. (a) What do you mean by hazard ? Explain in detail hazard rate.

OR

(a) Explain Odds Ratio and Relative Risk.

(b) Write a note on Epidemiology.

OR

(b) Explain continuous time population growth model.

3. (a) What is Smallpox ? Explain the history of drug discovery of Smallpox.

OR

(a) What is Polio ? Explain the history of drug discovery of Polio.

(b) Explain the history of drug discovery of Malaria and Penecillin.

OR

(b) What is clinical trials ? What is the purpose of clinical trials ? Explain the various phases of clinical trials.

4. (a) Write a note on crossover design in reference with clinical trials.

OR

   (a) Explain bioequivalence and bio-availability.

   (b) Discuss evidence based medicine in the context of clinical trials.

OR

   (b) With reference to clinical trials, explain case control studies.

5. Write answers in short :

   (a) What is the role of drug discovery bodies in clinical trials ?

   (b) What do you mean by Odds ?

   (c) What is survival function ? Give the relation between survival function and distribution function.

   (d) State the formula for relative risk.

   (e) If survival time t is exponentially distributed with parameter λ , what is the hazard rate ?

   (f) How can you interpret the positive population growth rate ?

   (g) Give the names of drug regulatory bodies in India.

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