

**II B.Pharmacy II Semester Supplementary Examinations, January 2013  
BIOSTATISTICS**

Time: 3 hours

Max Marks: 75

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. (a) Explain Two dimensional diagrams.  
(b) Represented the following data by sub division bar diagrams (Rs. Lakhs)

[7+8]

Year	2006	2007	2008
Gross Income	405	480	550
Gross Expenditure	400	450	500
Net Income	5	30	50



[15]

2. Explain the following terms with suitable examples.  
(a) Exhaustive events.  
(b) Mutually exclusive events  
(c) Favorable events.  
(d) Sample space.
3. (a) Explain Normal Probability distribution.  
(b) An average of 5 cars arrive at a tollbooth every minute. Assuming this to be a poisson distribution. What is the probability that exactly 0, 1, 2, 3 and 4 cars arrive in a one minute period. ( $e^{-5} = 0.0067$ )
4. The equations of two regression lines are  $4x - 5y + 33 = 0$  and  $20X - 9Y - 107 = 0$ . Find: (i) The mean values of X and Y. (ii) The correlation coefficient between X & Y.
5. A stenographer claims that she can type at the rate of 120 words per minute, can we reject her claim on the basis of 100 trails in which she demonstrates a mean of 116 words with a standard deviation of 15 words . use 5% level of significance.
6. (a) Write the procedure for sign test for paired data?  
(b) Use the sign test to see if there is a difference between the number of days required to collect an account receivable before and after a new collection policy. Use the 0.05 significance level.  
Before: 30 28 34 35 40 42 33 38 34 45 28 27 25 41 36  
After: 34 29 33 32 47 43 40 42 37 44 27 33 30 38 36
7. (a) write difference between LSD, CRD, And RBD?  
(b) Explain the main control charts for attributes and obtain their control limits? And explain the advantages and disadvantages of control chart of attributes?

8. (a) What do you understand by control charts of Mean and Range? How do you construct them explain?
- (b) Explain how a control chart helps to control the quality of a manufactured product. Describe the basis of control charts? [7+8]

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