

Reg.No: .....

Second Year B.Pharm Degree Examinations - October 2012

**MATHEMATICS, BIOSTATISTICS & COMPUTER APPLICATIONS**

**Time: 3 Hours**

**Total Marks: 100**

- Answer all Questions.
- Use ordinary calculators.
- Write section A and section B in separate answer books. Do not mix up questions from section A and section B.

QP CODE: 205006 **Section A** -Mathematics & Biostatistics Marks: **50**

**Essay**

**(1x10=10)**

1. Two types of drugs were used on 5 and 7 patients for reducing weight. Drug A was imported and drug B indigenous. The decrease in the weight after using the drugs for six months were as follows:

Drug A	10	12	13	11	14		
Drug B	8	9	12	14	15	10	9

Is there a significant difference in the efficacy of the two drugs . If not, which drug should you buy.

Given that (For  $v = 10$ ,  $t_{0.05} = 2.228$ )

**Short notes**

**(8x5=40)**

2. Find  $dy/dx$  if  $y = \log \sin (e^x + 4x + 5)$
3. Differentiate with respect x the function  $(\cos x + \log x)/(x^2 + e^x)$ .
4. Evaluate  $\int e^x dx$ .
5. Solve :  $yx^2 dx + e^{-x} dy$  .
6. Explain the need and usefulness of diagrammatic representation of data. What are its various types.
7. Find the value of  $L^{-1}\{(s + 1)/(x^2 + 6s + 25)\}$

**P.T.O**

8. Find Mean, Median, and Mode of the following data.

Class Interval	10-19	20-29	30-39	40-49	50-59	60-69
frequency	3	5	9	14	5	4

9. Following are the heights of the plants of a soybean plants in a field in different ages.  
Calculate the Pearson correlation coefficient between the ages of the plants and their heights

Age in week	1	2	3	4	5	6	7
Hieght in cm	5	13	16	23	33	38	40

QP CODE: 208006 **Section B -Computer Applications**

Marks: **50**

**Essay**

**(2x10=20)**

1. Explain the applications of computers in pharmaceutical research.
2. Explain in detail the types of networks with examples.

**Short notes**

**(6X5=30)**

3. Explain various functions of operating systems
4. What is custom software. Explain any one of the custom software.
5. Define high level language and mention its uses.
6. Embedded systems.
7. What are the uses of mouse and trackball.
8. What are the types of printers. Mention examples to each one of them.

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