

Second Year B.Pharm Degree Supplementary Examinations - April 2014

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(32 Pages).
Do not mix up questions from section A and section B.

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

Essay (1x10=10)

1. In a study of the effect of a dietary component on plasma lipid composition, the following ratios were obtained on a sample of experimental animals.

Measure of dietary component	1	5	3	2	1	1	7	3
Measure of plasma lipid level	6	1	0	0	1	2	1	5

Obtain both regression equations for these data by the method of least squares. Predict the ratio of plasma lipid level with 4 dietary component

Short notes (8x5=40)

2. Find the derivative with respect to x of the following $\int x^3 e^{x^2} dx$

$$\frac{x^2 + e^x \sin x}{\cos x + \sin x}$$

3. Find the derivative of $\cos x + \sin x$

4. Solve: $(x^2 - yx^2)dy + (y^2 + xy^2)dx = 0$

5. Find the Laplace transform of $L\{e^{-3t} \sin 5t \sin 3t\}$

6. Draw less than and more than ogives from the data given below

Profit (in Lakhs)	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No. of Companies	6	8	12	18	26	17	9	6	3

7. If on an average, one candidate out of 10 fails in a certain examination, find the chance that out of five candidates that have appeared for the examination at least four has successful.

8. Calculate rank correlation coefficient from the following data of a competition judged by two judges.

Judge I	1	6	5	10	3	2	4	9	7	8
Judge II	6	4	9	8	1	2	3	10	5	7

9. What are the various measures of central tendency. Mention its merits and demerits.

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

Marks: **50**

Essay

(2x10=20)

1. Discuss in detail the various types computer memories with examples .
2. Explain the applications of computers in drug design and development.

Short notes

(6x5=30)

3. Relational database management system.
4. Mention the types of networks with examples.
5. Discuss the types of operating systems and its functions .
6. Differentiate between compilers and interpreters.
7. Slide layout in power point .
8. Discuss the merits and demerits of internet .
