

Reg. No:

**Second Year B.Pharm Degree Supplementary Examinations
June 2019**

**Mathematics, Biostatistics & Computer Applications
(2010 Scheme)**

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 (10)

1. Find mean, median and mode of the following frequency distribution

| | | | | | | | | |
|----------------|------|-------|-------|-------|-------|-------|-------|-------|
| Class Interval | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 |
| Frequency | 4 | 12 | 24 | 36 | 20 | 16 | 8 | 5 |

Short notes (8x5=40)

2. Classification of statistical data with examples
3. Bar chart with an example

4. Differentiate $y = \frac{e^x+1}{e^x-1}$ with respect to x

5. Integrate : $\int \frac{\sin^2 x}{1+\cos x} dx$

6. Evaluate : $\int_1^2 (x^2 - x + 1) dx$

7. Solve the differential equation : $\frac{dy}{dx} = e^{y-x}$.

8. Find the Laplace transform of : $L(e^{at} \cos bt)$

9. Find the Laplace transform of : $L(\cos^2 3t)$

P.T.O

QP CODE: 208006 Section B –Computer Applications

Marks: 50

Essay

(2x10=20)

1. Programming languages
2. Computer memory

Short Notes

(6x5=30)

3. Search engines
4. Input and output devices
5. Embedded systems
6. Types of operating systems
7. Computer networks
8. Database management software
