

**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

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

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

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

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

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

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

**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

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