

4. (A) Discuss Normal Distribution in detail.  
 (B) Calculate the correlation coefficient for the following paired data :
- X → 9 8 6 5 8 3 7 4 6 10  
 Y → 7 5 7 4 7 3 6 1 5 8
5. Discuss the significance of normalization in DBMS. Write a detailed note on various forms of normalization along with suitable examples.
6. (A) Discuss the characteristics of Data Base Approach.  
 (B) Write a detailed note on ER Model.
7. (A) Discuss in detail various DML statements along with their usage in queries.  
 (B) Write a short note on views in SQL with suitable example.
8. (A) Differentiate between local and stored procedures with suitable examples.  
 (B) Write a short note on PL/SQL.

**Exam. Code : 103202**  
**Subject Code : 1273**

**B.A./B.Sc. 2<sup>nd</sup> Semester**  
**BIOINFORMATICS**  
**(Basic Mathematics, Biostatistics and Database Management Systems)**

Time Allowed—2 Hours] [Maximum Marks—75

**Note** :— There are *eight* questions of equal marks. Candidates are required to attempt any *four* questions.

1. (A) Find the inverse of the following matrix :

$$A = \begin{bmatrix} 0 & 1 & 3 \\ 1 & 2 & 2 \\ 2 & 3 & 1 \end{bmatrix}$$

- (B) Differentiate  $(4x^2 - 8x + 6)^9$  w.r.t.  $x$ .
2. (A) Write a detailed note on functions and its domain and range with suitable examples.  
 (B) Evaluate  $\int \frac{(x^2 + 6)^2}{x^4} dx$ .
3. Discuss the following in detail with suitable examples :
- (i) Mean
  - (ii) Median
  - (iii) Mode
  - (iv) Standard Deviation
  - (v) Variance.