



**B.Sc. (Part II) (Information Technology)  
EXAMINATION, 2008**

**COMPUTER ORIENTED STATISTICAL  
METHODS**

**(B.Sc. I.T.-21)**

**Time allowed : Three Hours**

**Maximum Marks : 50**

Attempt any Five question . All questions carry equal marks.

1. The science of Statistics, then is a most useful servant but only of great value to those who understand its proper use .” Comment on the above statement and discuss the limitation o Statistics. (10)
2. What are grouped and ungrouped frequency distribution ? What are their uses ? What are the consideration that one has to bear in mind while forming the frequency distribution (10)
3. (a) Differentiate between dispersion and skew ness (5)  
(b) Calculate the range and its coefficient from the following series :

Class	Frequency	
4-7	6	
8-11	11	
12-15	24	
16-19	34	
20-23	16	
24-27	8	
28-31	8	
32-35	5	(5)

4. State Newton’s forward interpolation formula and use it to obtain  $\sqrt{5.5}$  , given that  $\sqrt{5} = 2.236$  ,  $\sqrt{6}=2.446$  ,  $\sqrt{7}= 2.646$  and  $\sqrt{8}=2.828$  (10)
5. From the following table showing the wage distribution in a certain factory ,

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determine :

- (a) The mean wages (b) The median wages  
 (c) The modal wages (d) The wage limit for the middle 50% of the  
 Middle 50% of the wage earners (10)

Weekly Wages	No. of Employees
20-40	8
40-60	12
60-80	20
80-100	30
100-120	40
120-140	35
140-160	18

6. From the information given below calculate Karl Pearson's coefficient of skewness :

Expenditure (Rs.)	No. of Employees
48	7
49	7
50	12
51	10
52	12
53	10
54	9
55	1

7. Given the values:

X : 4	5	7	10	11	13
U : 48	100	294	900	1210	2023

From the table of divided difference and extend it to include the values  $x = 2$  and  $x = 15$  (10)

8. A computer while calculating correlation coefficient between two variable X and Y from 25 pairs of observations obtained the following results :  
 $n = 25$ ,  $\sum x = 125$ ,  $\sum x^2 = 650$ ,  $\sum y = 100$ ,  $\sum y^2 = 460$ ,  $\sum xy = 508$   
 It was, however, later discovered at the time of checking that he had copied



two pairs as

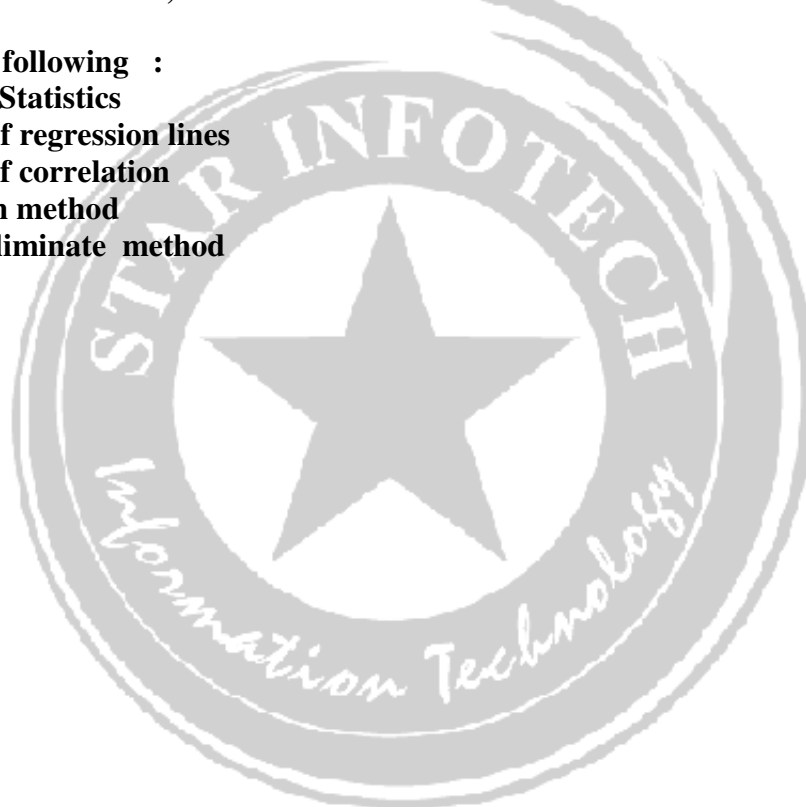
X	Y
6	14
8	6

while the correct values were

X	Y
8	12
6	8

Obtain the correct values of correlation coefficient. (10)

9. (a) What do you mean by Dispersion ? Give the absolute and relative Forms of different types of measures of dispersion. (5)
- (b) What are the merits , demerits and uses of Arithmetic Mean ?
10. Explain the following :
- (a) Applied Statistics (2)
  - (b) Fitting of regression lines (2)
  - (c) Degree of correlation (2)
  - (d) Bisection method (2)
  - (e) Gauss eliminate method (2)





**B.Sc. (Part II) (Information Technology)  
EXAMINATION, 2008**

**SYSTEM ANALYSIS AND DESIGN  
(B.Sc. I.T.-22)**

**Time allowed : Three Hours**

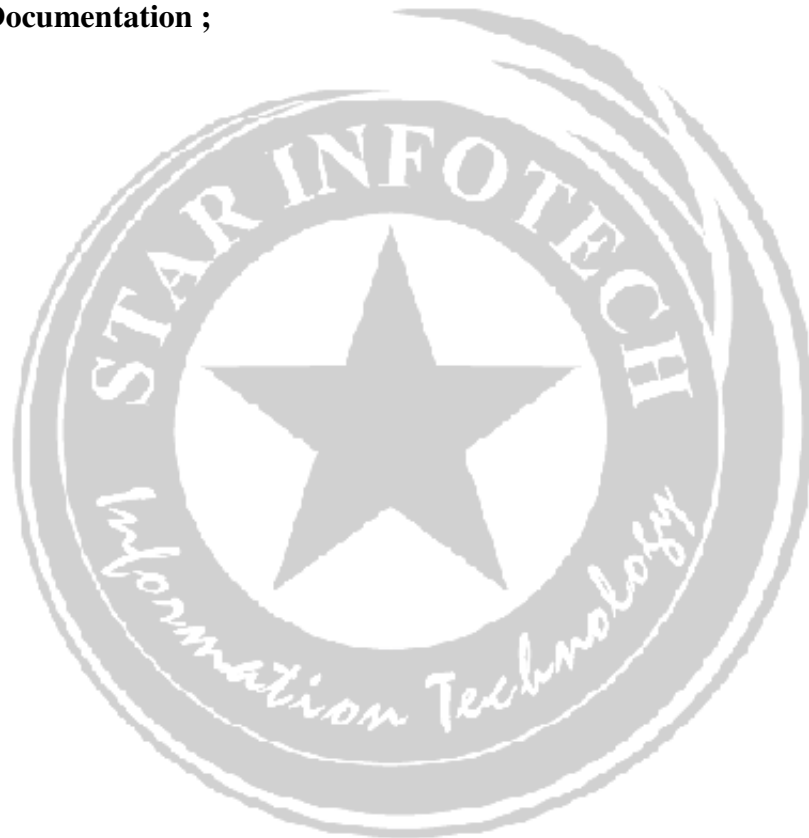
**Maximum Marks : 50**

**Attempt any Five question . All questions carry equal marks.**

1. (a) Are they different ? Explain : (5)
  - (i) Release and Deliverable
  - (ii) System Design and Software Design.
- (b) Differentiate and relate the following : (5)
  - (i) Test Case and Test Result :
  - (ii) Top Down and Bottom-up debugging
2. (a) Why is it essential to use system , analysis and design methodologies To build a system ? Give three reason. (3)
- (b) With the of an example application , explain the use of data diction-ary. (3)
- (c) What is structured Design? Explain this with an example. (4)
3. (a) What is MIS ? Give four features of typical MIS . Explain the steps followed in the development of an MIS. (5)
- (b) List four actors considered while designing a form . Also give four characteristics of forms. (5)
4. (a) What is the role played by user interface of the software in the system development ? Also explain four steps of GUI development. (5)
- (b) Explain the role of system analyst in software development



5. What is a feasibility study ? Why is it important for system design ? How Does cost benefit analysis contribute in it ? (10)
6. What do you mean by DFD ? Explain system used in DFD with their Purpose ? Construct the zero level and first level DFD for the problem of “ On – line examination “. (10)
7. Explain the following (any two ) : (10)
- (a) Quality Assurance ;
  - (b) system Testing ;
  - (c ) Disaster Recovery ;
  - (d) System Documentation ;





**B.Sc. (Part II) (Information Technology)  
EXAMINATION, 2008**

**CLIENT SERVER TECHNOLOGY  
(B.Sc. I.T.-23)**

**Time allowed : Three Hours**

**Maximum Marks : 50**

Attempt any Five question . All questions carry equal marks.

1. What is a client server computing ? Explain the need of client server approach in what ways the world wide web has effected client-server computing . (10)
2. What are the building blocks of client server ? Explain each one of them in detail along with diagram . (10)
3. (a) Explain client process and server process  
(b) what are the different client / server processing styles. (5+5)
4. Explain the challenge that is being faced by NOS Explain the various types of transparencies that NOS middleware is expected to provide (10)
5. Differentiate between the following :  
(a) Two-tier architecture and three- tier architecture ;  
(b) Fat server and fat client model ;  
(c) ORB and RPC ( Object request broker and remote procedure calls ) (3+3+4)
6. (a) What are the different types of servers ?  
(b) Discuss security issues in the client server computing. (5+5)
7. (a) What is system application architecture ?  
(b) What is remote data management. (5+5)
8. Explain data dynamic exchange (DDE) and object linking and embedding (OLE) in detail. (10)
9. (a) Discuss various client-server applications.  
(b) Give reasons why CORBA ORS make a great client /server middleware (5+5)

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**B.Sc. (Part II) (Information Technology)  
EXAMINATION, 2008**

**SYSTEM ANALYSIS AND DESIGN  
(B.Sc. I.T.-25)**

**Time allowed : Three Hours**

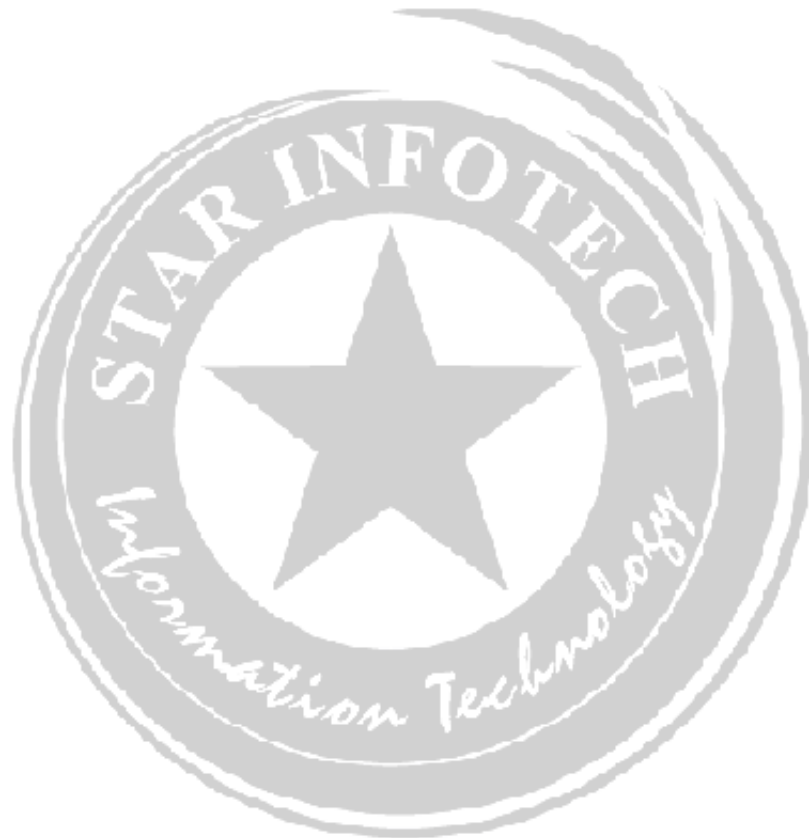
**Maximum Marks : 50**

Attempt any Five question . All questions carry equal marks.

1. (a) What do you mean by output devices ? Explain its types. write the working of Dot Matrix Printer. (6)
- (b) Explain scanner and light pen. (4)
2. Write short notes on :
  - Digitizer
  - DVST
  - Shadow mask method
  - LCD
  - Refresh rate
3. (a) Consider a triangle POR where P(2,3) Q(3,3) R (7,7) . Scale this triangle to this triangle to its double by fixing point Q. (5)
- (b) Reflect a triangle ABC , where A(4,4) B(8,4) C(6,8) on a line passing through origin and cut a point (3,4). (5)
4. (a) What do you understand by 2-D transformation Explain its types. (5)
- (b) What is homogeneous coordinate system ? Write all the transformation homogeneous coordinate matrix. (4)
5. (i) Write the Bresenham line drawing algorithm and explain with example (5)
- (ii) Draw a line from A(3,2) to B (7,5) using DDA algorithm (5)
6. Write short notes on :
  - (i) Viewing transformation ; (5)
  - (ii) Polygon clipping (5)



7. What is the use of filling algorithm ? Explain boundary fill algorithm and flood fill algorithm. (10)
8. What do you understand by clipping ? Explain CohenSutherland Line clipping algorithm in detail . (10)
9. Give a window PQRS is represented by P (0,0) Q(100,0) R(100,100) and S(0,100) . Also view port ABCD is given by (0,0) B (5,0) C(5,10) and D(0,10) Find normalized device coordinates are given by  $(X_w, Y_w) = (30, 30)$  (10)
10. Give clipping window PQRS where P(0,0) Q(30,0) R(30,20) and S(0,20) Use cohen's algorithm to determine visible portion of line A (5,30) and B(20,-10)







**B.Sc. (Part II) (Information Technology)  
EXAMINATION, 2008**

**OBJECT ORIENTED TECHNOLOGY  
C++ PROGRAMMING  
(B.Sc. I.T.-26)**

**Time allowed : Three Hours**

**Maximum Marks : 50**

Attempt any Five question . All questions carry equal marks.

1. (a) Differentiate between POP and OOPs  
(b) Explain concepts of OOPs
2. Write short notes on :  
(a) C++ operators ;  
(b) Macros and functions ;  
(c) Virtual functions ;  
(d) Inline function ;
3. What are the functions in C++ ? give an example of 2D's multiplication through recursive function .
4. Explain constructor and destructors with example .
5. Differentiate :  
(a) Overloading and overriding ;  
(b) Static and friend function .
6. What are stream state member function ? Show use of these function on files .
7. What is polymorphism ? Explain through examples the types of it .
8. What is inheritance ? Explain . Give an example through multiple inheritance.

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