B.Sc. (Information Technology) (Part II)
Examination, 2011
OBJECT ORIENTED TECHNOLOGY
AND C++ PROGRAMMING
Sixth Paper
(B.Sc. I.T-26)
Time allowed: Three Hours
Maximum Marks : 50

Part – A (Compulsory) (Marks : 10)
Answer all ten questions (20 words each).
Each question carries equal marks.

Part – B (Compulsory) (Marks : 10)
Answer all five questions (50 words each).
Each question carries equal marks.

Part – C (Marks : 30)
Answer all three questions (400 words each).
Each question carries equal marks.

Part – A

1. What do you mean by C++?
2. List the different type of inheritance?
3. Why we use functions?
4. Why are constructors used?
5. What is the basic difference between private and public?
6. Explain inline function?
7. What do you mean by pointers?
8. What is cin and cout?
9. How many parameters are there in a binary operator implemented as a friend?
10. What is the difference between an object and a class?

Part – B

1. What is default constructor?
2. What do you mean by symbolic constants? How we can define a symbolic constant?
3. Write C++ program which accepts a number from keyboard and return square and qube of number as result?
4. What do you mean protected in c++? Where it is used?
5. List features of POP (Procedure Oriented Programming).

Part – C

1. Explain various types of control statements used in C++?

   OR

   Write short note on:
   - Reference Variable
   - Scope Resolution Operator
   - New and Delete Operator
   - Polymorphism

2. Explain with example:
   (a) Function over loading
   (b) Static variable
   (c) Const keyword

   OR

   Explain with example:
   (a) Operator Overloading
   (b) Friend function
   (c) Virtual function

3. What do you mean by storage classes? Explain all types of storage classes.

   OR

   How data is read from and write to file in C++, justify with suitable example.

B.Sc. (Information Technology) (Part II)
Examination, 2011
JAVA PROGRAMMING
Fourth Paper
(B.Sc. I.T-24)
Time allowed: Three Hours
Maximum Marks : 50

Part – A (Compulsory) (Marks : 10)
Answer all ten questions (20 words each).
Each question carries equal marks.

Part – B (Compulsory) (Marks : 10)
Answer all five questions (50 words each).
Each question carries equal marks.

Part – C (Marks : 30)
Answer all three questions (400 words each).
Each question carries equal marks.

Part – A

Answer all ten questions (20 words each). Each question carries, equal marks.

1. Define Variable.
2. What are different data type in JAVA?
3. Explain in brief operator.
4. What is string?
5. What is ODBC?
6. Explain in brief CGI?
7. Define Java bean?
8. Explain in brief object serilization.
9. What is package?
10. Define Applet in JAVA.

Part – B

Answer all five questions (50 words each). Each question carries, equal marks.

1. Explain in brief different string comparison methods.
2. Explain in brief CORBA services and product.
3. Describe AWT using example.
4. Describe applet life cycle.
5. Give differences between java and C++.

Part – C

Answer all three questions (400 words each). Each question carries, equal marks.

1. Explain exception handling in detail and also give an example of it.

2. Explain in detail JDBC component. Write a program to connect JAVA program to database using JDBC.
3. Describe multi-threading in detail. And also give example of it.

B.Sc. (Information Technology) (Part II)
Examination, 2011
ANALOG CIRCUITS AND COMMUNICATIONS
Second Paper
(B.Sc. I.T-22)
Time allowed: Three Hours
Maximum Marks : 50

Part – A (Compulsory) (Marks : 10)
Answer all ten questions (20 words each).
Each question carries equal marks.

Part – B (Compulsory) (Marks : 10)
Answer all five questions (50 words each).
Each question carries equal marks.

Part – C (Marks : 30)
Answer all three questions (400 words each).
Each question carries equal marks.

Part – A

1. What is a rectifier?
2. What do you understand by ripple factor?
3. Name the various types of filters.
4. What is the role of SMPS?
5. What is an Amplifier?
6. Define CMMR- Common mode rejection ratio.
7. Discuss the need of modulation.
8. Name the various types od modulation.
9. What are career waves?
10. What is phase modulation?

Part – B

11. Write a short note on halfwave, fullwave and bridge rectifiers.
12. Discuss the principal and working of switch mode power supply (SMPS).
13. What is feedback? Discuss positive and negative feedback and effects of feedback.
14. Discuss the principal and usage of sine wave [Wein Bridge] and square wave [Astable] generators.
15. Write a short note on types of modulation.

Part – C

16. Describe the regulated power supply using a block diagram.

OR

Write a detailed note on RC coupled amplifier.

17. What are the ideal characteristics of operational amplifiers. Discuss operational amplifiers using a block diagram?

OR

Write a note on basic operational amplifier series regulator and shunt regulator.

18. What do you understand by modulation. Discuss its types and needs?

OR

Describe AM and FM radio receivers using a block diagram approach.

B.Sc. (Information Technology) (Part II)
Examination, 2011
CLIENT SERVER TECHNOLOGY
Third Paper
(B.Sc. I.T-23)
Time allowed: Three Hours
Maximum Marks : 50

Part – A (Compulsory) (Marks : 10)
Answer all ten questions (20 words each).
Each question carries equal marks.

Part – B (Compulsory) (Marks : 10)
Answer all five questions (50 words each).
Each question carries equal marks.

Part – C (Marks : 30)
Answer all three questions (400 words each).
Each question carries equal marks.

Part – A

1. What is LAN manager?
2. What is Middleware?
3. What is two-tier architecture?
4. What is network traffic?
5. What does a client need from an operating system?
6. What is dynamic data exchange?
7. What is OLE?
8. What client/server computing?
9. Give the list of any five types of server?
10. What is remote system administration?

Part – B

11. Write the puos and cons of client/server architecture.
12. What are the three main component of system application architecture?
13. Digrammatically, illustrate and discuss the working of Remote procedure calls?
14. What are the different client/server processing styles?
15. What is the distributed and co- operative processing on the server side?

Part – C

16. (a) With a near sketch list, discuss the functions performed by the various layers of ISO-OSI reference model.
    (b) What is CORBA?

OR

(a) What are tools used to build- up client/server system?
(b) Explain the data distribution method in server operating system.

17.(a) Explain the components of a client/server system and their functions.
(b) Discuss the various LAN and Management issues in detail?

OR

(a) Explain the role of server?
(b) What is difference between RMI and RPC.

18. (a) What do you understand by IPC.
(b) Explain the use of API in client/server computing.

OR

(a) Describe the structure and features of client/server system?
(b) What is network operating system? List out the functions with example.

B.Sc. (Information Technology) (Part II)
Examination, 2011
COMPUTER GRAPHICS
Fifth Paper
(B.Sc. I.T-25)
Time allowed: Three Hours
Maximum Marks : 50

Part – A (Compulsory) (Marks : 10)
Answer all ten questions (20 words each).
Each question carries equal marks.

Part – B (Compulsory) (Marks : 10)
Answer all five questions (50 words each).
Each question carries equal marks.

Part – C (Marks : 30)
Answer all three questions (400 words each).
Each question carries equal marks.

Part – A

1. What is the importance of display processor in a computer graphic system?
2. What are the advantages of vector graphics?
3. List the disadvantages of raster graphics?
4. Discuss the term frame in computer graphics?
5. What is digitizer?
6. What is cartesion co-ordinator system?
7. List the various soft copy output devices used in graphics?
8. What is the difference between flat bed and drum plotters?
9. Describe the role of sound card in graphics?
10. Define the scaling rotation in geometric transformations.

Part – B

1. What are the uses of homogenous co-ordinate system?
2. What do you mean by view specifications?
3. Discuss basic transformation in 2-D.
4. Describe the color CRT monitors.
5. What is the use of virtual reality in 3-D view?

Part – C

1. (a) Give the interactive model of graphics and applications of computer graphics.
   (b) Describe the role of animation in entertainment and scientific visualization.
2. (a) Explain the role of computer graphics in the field of education.
   (b) Discuss the terms: Pixel, Buffer, bit plane and dpi.
3. (a) Point out difference between random scan and raster scan display devices.
   (b) In 2-D clipping, how are the end points generated for each line?

4. Describe the generalized Bresenham's line drawing algorithm in detail. Give suitable example.
5. (a) What are the various input devices used for graphics? Explain briefly how the operate.
   (b) Discuss the area filling techniques in graphics.

B.Sc. (Information Technology) (Part II)
Examination, 2011
COMPUTER ORIENTED STATISCAL METHODS
First Paper
(B.Sc. I.T-21)
Time allowed: Three Hours
Maximum Marks : 50

Part – A (Compulsory) (Marks : 10)
Answer all ten questions (20 words each).
Each question carries equal marks.

Part – B (Compulsory) (Marks : 10)
Answer all five questions (50 words each).
Each question carries equal marks.

Part – C (Marks : 30)
Answer all three questions (400 words each).
Each question carries equal marks.

Part – A

1. Write name of types of errors.
2. Define square matrix.
3. Write formula of A^{-1}.
4. Transpose of matrix is:

$$\begin{bmatrix} 1 & 3 & -1 \\ 4 & 3 & 2 \\ -1 & 0 & 5 \\ -1 & 6 & 0 \end{bmatrix}$$

5. Write formula of Newton Rephson method.
6. What is pivoting in gauss elimination method.
7. $\Delta^3 + (q+h) = ?$
8. Write formula for Newton forward interpolation.
9. Write the methods of interpolation with unequal interval.
10. What does gauss interpolation formula interpolate.

Part – B

1. If $\begin{bmatrix} 0 & 1 & 2 \\ 1 & 2 & 3 \\ 2 & 3 & 4 \end{bmatrix}$ and $\begin{bmatrix} 1 & -2 \\ -1 & 0 \\ 2 & -1 \end{bmatrix}$ form the product AB. Can the product BA be formed? Is so, find BA.

$$A = \begin{bmatrix} -3 & 6 \\ 3 & 4 \end{bmatrix}$$

2. Compute the adjoint of the matrix Hence find A^{-1}
3. Find the root of the equation $x^3 - 9x + 1 = 0$ between x=2 and x=4 by the method of bisection upto third approximation.
4. The population of a country is given by the following data:

Year	1951	1961	1971	1981
Population(in lacs)	352	405	473	554

What would be the population in 2011, if the population increases at the same rate.

5. Solve the following equations.
   $x + 2y + 3z = 1$
   $2x + 3y + 2z = 2$
   $3x + 3y + 4z = 1$
   By Gauss elimination method.

Part – C

1. By using Maurton Raphson method, find the root of the $x^4 - x - 10 = 0$ which is nearer to x = 2, correct to three places of decimals.
2. Solve by gauss seidel iteration method the following system of equations:
   $10x + 2y + z = 9$
   $2x + 20y - 2z = -44$
   $-2x + 3y + 10z = 22$
3. Solve the following system of equation by matrix method.
   $x + y + z = 6$
   $x + 2y + 3z = 14$
   $x + 4y + 9z = 36$