UNIVERSITY OF KERALA

SCHOOL OF DISTANCE EDUCATION

BCA Third Semester
Assignment Questions

CP 1331 COMPUTER ORIENTED NUMERICAL METHODS

1. Evaluate the following:
    a. Find a root of the equation f(x) = 3x - Cosx - 1, correct to four decimals using Regula Falsi method.
    b. Find the cube root of 27, using Newton Raphson's method.
2. Evaluate the following:
    a. Using Simpson one third rule $\int_{1.1}^{1.5} e^x dx,$ using n = 10.
    b. Using bisection method find a root of the equation x^3 - 4x - 9=0 up to 3 significant figures.
3. Write short note on:
    a. Mathematical model in numerical computing with examples
    b. Accuracy
    c. Precision
    d. significant digits and its properties
4. Solve the following system by Gauss- Jacobi and Gauss – Seidel method:
    5x + 3y + z = 2;
    4x +10y + 4z = -4;
    2x + 3y + 8z = 20
5. Explain in detail about different types of errors in numerical computing.
6. Find the solution of system of linear equations (given below), by using Gauss-Elimination method correct up to three significant figures:
    x + 2y + z = 0
    2x + 2y + 3z = 3
    x + 3y = -2

CP 1341 COMPUTER NETWORKS

1. Explain OSI layered architecture in detail.
2. What is meant by network security? Explain various network security measures.
3. Write short note on stop and wait ARQ and Sliding window protocol?
4. What is topology? Explain various types of topologies in computer network?
5. Explain about the following network interfacing devices:
    a. Bridge
    b. Hub
    c. Switch
    d. Router
    e. Gateway
6. Explain in detail the different types of data transmission medium?

CP 1342 OPERATING SYSTEMS

1. Explain in detail about the different types of Operating Systems?
2. Explain Banker's Algorithm with an example?
3. What is an Operating System? Explain the different functions of an Operating system?
4. What is meant by a process? Draw the process state transition diagram and explain it? Also explain the different types of schedulers, context switching and dispatcher?
5. Write short note on the following:
    a. Dining Philosophers Problem
    b. Readers Writers Problem
    c. Producer Consumer Problem
6. Differentiate between Paging and Segmentation? Also explain the different page replacement algorithms?

CP 1343 COMPUTER ORGANIZATION & ARCHITECTURE

1. Explain the various types of addressing modes in detail.
2. Explain Von Neumann architecture in detail.
3. Explain memory hierarchy with a neat diagram.
4. Explain the characteristic of RISC architecture its advantages and disadvantages.
5. Explain in detail about assembly language program. Write an assembly Language program to add two numbers?
6. Explain in detail about Flynn's Classification?

CP 1344 PROGRAMMING IN JAVA

1. Explain about different control statements in java.
2. What are the different methods to create a thread? Explain with an example.
3. Explain exception handling mechanism in java.
4. Write a java program to add two matrices?
5. What is an applet? Explain its working with examples.
6. Write short note on the following:
    a. Java tokens
    b. Java string functions
    c. JVM
    d. Java API
    e. Interfaces