

Software Project Management

Attempt any TWO questions of each subject

Assignment 1

Differentiate between

- i) Software projects Vs other projects
- ii) Requirement verification Vs Requirement validation

Assignment 2

Write short notes on the following:

- a) Spiral Model
- b) McCall's quality triangle

Assignment 3

Distinguish between PERT and CPM methods.

Assignment 4

What do you mean by requirement engineering? Discuss the types of requirements with example.

Assignment 5

Discuss the concept of work breakdown structure with suitable example.

Assignment 6

“Adding more manpower to an already delayed project delays it further” Express your views.

Assignment 7

Write short notes on the following:

- a) Use case point estimation
- b) Team structures

Assignment 8

Write a short note on the following

- a) Scheduling resources

b) Project Organization

Assignment 9

Define project management. Describe stepwise project planning activities.

Assignment 10

Explain Function point Analysis method of software effort estimation with examples.

Artificial Intelligence and Applications

Assignment 1

Write good state-space representation for Water-Jug problem, Analyze the problem with respect to seven problem characteristics.

Assignment 2

Define Artificial Intelligence. Explain A.I. Techniques with the help of a suitable example.

Assignment 3

Draw block diagram of a typical expert system. Explain its various components in detail.

Assignment 4

What is heuristic search? Explain different heuristic search techniques.

Assignment 5

What is predicate logic? Explain concept of unification.

Assignment 6

Describe probabilistic reasoning in handling uncertainty.

Assignment 7

Write short notes on the following:

- a) Unification
- b) Fuzzy logic

Assignment 8

Write short notes on the following:

- a) Expert System
- b) Semantic nets

Assignment 9

Discuss the following expert system in short:

- i) DENDRAL

ii) MYCIN

iii) ELISA

iv) PROSPECTOR

Assignment 10

a) What is Frame? Explain in detail frames as set and instances.

b) Explain in detail „Conflict Resolution“.

(I.T.E-III) a) Design of Language Processors

Assignment 1

Explain the terms Left most derivation, Rightmost derivation and Derivation tree ambiguity.

Assignment 2

Prove that: If L is accepted by an NFA with E – transitions, then L is accepted by an NFA without E – transitions.

Assignment 3

- a) Explain Hash Table storage allocation for symbol tables.
- b) Explain in brief static and Dynamic Memory Allocation.

(I.T.E-III) b) COMPUTER GRAPHICS AND MULTIMEDIA

Assignment 1

Obtain 3 dimensional transformation matrices for:

- a) Translation
- b) Scaling
- c) Rotation about an arbitrary axis

Assignment 2

Perform a 45°

rotation of triangle A (0, 0), B (1, 1) C (5, 2)

- a) About the origin
- b) About P(-1,-1)

Assignment 3

Explain curve generation methods with example.

Assignment 4

Compare RGB and HVS color models.

Assignment 5

Explain Cohen Sutherland algorithm for clipping.

Assignment 6

What are fractals? Explain the use of fractals to generate fractal surfaces. Give two examples of fractal surfaces.

Assignment 7

What is interpolation? Explain Lagrangian interpolation method.

Assignment 8

Why computer graphics is emerging as an important field in computer science? Discuss in brief.

Assignment 9

List various graphics devices and explain any one of them in detail

Assignment 10

Discuss the Sutherland-Hodgeman algorithm in detail with an appropriate example.

I.T. E-III – d) Embedded System Interfacing & Embedded Communication System

Assignment 1

What is protocol? How TCP does differ from UDP in all respect?

Assignment 2

Discuss in brief synchronous serial communication.

Assignment 3

Explain the terms:

- a) System
- b) Communication ports

Assignment 4

Explain the keyboard interfacing with the help of flowchart.

Assignment 5

Describe in detail communication services.

Assignment 6

Explain in detail interrupts.

Assignment 7

Explain in detail difference between synchronous and Asynchronous communication.

Assignment 8

Write a Embedded C program to interface LCD to 8051 family micro controller
“Welcome” message on LCD.

Assignment 9

Write a Embedded C program for a serial port 8051 family micro controller and to display a message on serial port of PC.

Assignment 10

Write a Embedded C program to interface servo motor to 8051 family micro controller.

I.T. ELECTIVE-IV a) PROGRAMMING WITH MFC

Assignment 1

Explain in detail the programming model for Windows operating system. Provide appropriate code snippets to support your explanation.

Assignment 2

Write short notes on the following:

- a) Collection Classes in MFC
- b) Different Form Views

Assignment 3

What is a „message“ in Windows environment? Explain in detail with appropriate code snippets.

Assignment 4

Differentiate between the following

- a) Procedural Programming Vs Object Oriented Programming
- b) Constructor Vs Destructor in C++

Assignment 5

What is multithreading? How it can be achieved in a MFC application?

Assignment 6

What is serialization? How to implement the same using MFC?

Assignment 7

What is the purpose of following features of VC++ IDE and how to use them?

- a) Class View
- b) Resource View

Assignment 8

Write a code segment to illustrate the implementation of OnDraw and OnChar member functions in the C View derived class for displaying and accepting data.

Assignment 9

Write an algorithm for drawing a rectangle using a user- defined pen. Also write a code segment to create and select a red pen to draw a rectangle.

Assignment 10

Write a code snippet to change the mouse cursor to the cursor identified by `IDC_CURSOR` when the left mouse button is pressed.

IT Elective IV- b) NET TECHNOLOGY

Assignment 1

Explain .NET framework with its components in detail.

Assignment 2

Explain state management in ASP.NET web applications.

Assignment 3

a) Explain data access using DataReader.

b) Write a code snippet to convert any database table to XML file. Assume suitable data.

Assignment 4

What is .NET framework? Explain its architecture.

Assignment 5

Explain Control statement in .NET with example.

Assignment 6

Explain in Details Jagged Array with Example.

Assignment 7

Explain the ref and out parameter with example.

Assignment 8

What is inheritance? Explain its types with example.

Assignment 9

Explain in details delegates and its types with examples?

Assignment 10

Write a note on:

a) Assembly

b) Server Controls

I.T. E-IV – d) Embedded System Programming Using High Level Language

Assignment 1

Explain the code optimization techniques used in 'C' in embedded system.

Assignment 2

Explain the difference between structures and union

Assignment 3

What is the use of inline assembly code? Explain the advantages of the same.

Assignment 4

What are the different modes of programming in Linux? Explain any one in detail.

Assignment 5

Explain in detail bit – wise operations.

Assignment 6

Write short notes on:

- a) Dynamic Kernel Module programming
- b) Memory management

Assignment 7

Explain the difference between user mode and kernel mode programming with the help of example.

Assignment 8

Write a 'C' program to interface a keyboard to accept the input from user and display it on character device.

Assignment 9

Write a 'C' code and required command steps to do the following in Linux environment.

- a) Create our-math library to contain functions: add, sub, mul and div.
- b) Use this library in 'C' program.

Assignment 10

Write a proc device driver for a primitive 8 – bit LED device. (The primitive LED device displays the ASCII value of output character byte.

(B.M. Elective-II) a) KNOWLEDGE MANAGEMENT

Assignment 1

Write a note on:

- a) Using single and multiple experts
- b) KM Post Implementation Review

Assignment 2

Write a note on:

- a) Nonaka's Model of knowledge creation
- b) Knowledge Developers

Assignment 3

Develop a KM system for a bank having branches all over India.

Assignment 4

Differentiate between tacit knowledge and explicit knowledge. Give examples.

Assignment 5

Explain logical testing and user acceptance testing in detail.

Assignment 6

Discuss knowledge capturing techniques in detail.

Assignment 7

Elaborate in detail the various information systems with their unique features.

Assignment 8

Compare KMLC with conventional system life cycle.

Assignment 9

Explain the need of knowledge codification. What are prerequisites of codification process?

Assignment 10

What challenges need to be addressed in developing a KM system? Discuss key attributes of knowledge.

(B.M. Elective-II) c) Design and Implementation of E-Commerce Application

Assignment 1

Explain the concept of Commerce Value Chain.

Assignment 2

Explain the concept of Standards in E-commerce.

Assignment 3

What do you mean by Project Management? Explain the various approaches of Project Management.

Assignment 4

What are the various design principles of Internet? Explain with example.

Assignment 5

Explain the history of evolution and fundamentals of World Wide Web with its Privacy and Security issues related to web.

Assignment 6

What are the various design issues in the E-commerce system? What is the philosophy of design?

Assignment 7

What is internet commerce? Write in detail risks associated, security associated, security design in relation to e-commerce.

Assignment 8

Write in detail on Internet Fraud.

Assignment 9

What is computer security?

Assignment 10

What do you mean by Programming Client? How many types of Programming Clients are there?