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Computer System Architecture **Marks : 4*5=20**

1. What is multiplexer? What are functions of multiplexer input? Draw logic diagram of 4 to 1 line multiplexer giving function Table also.

2. Explain the various registers and their functions used in basic Computer.

3. Consider a four variable Boolean function

   $F = \Sigma (0, 4, 6, 7, 8, 10, 11, 15)$.
   Minimize this function using K map and realize it using gates.

4. Compare RISC and CISC architecture in brief. Also discuss the Advantage and disadvantage of each .

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Communication & Soft Skills **Marks : 4*5=20**

1. Discuss the different types of resume writing. Which one is effective in getting Job to experience personnel ?

2. Discuss the david barlov model for business communication.

3. What is resume? Explain element or contents of good resume.

4. What is social networking? Explain how networking is a powerful of building Personal and professional relationship .

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Data communication and computer networks **Marks: 4*5=20**

1. Discuss TCP and UDP transport layer protocol in detail.
2. Compare and contrast between OSI model and TCP/IP model.
3. What is CSMA/CD? Define its collision detected feature. Also define Time Division Multiplexing and differentiate it with SDM.
4. What is framing, and why it is required? Explain the framing concept with respect to Data Link Layer.

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Relation Data Base Management System **Marks: 4*5=20**

1. Write a SQL query to display Employee name and Company name.
2. Explain the use of UNION,INTERSECT and EXCEPT in SQL query.
3. What is data dictionary? Explain its function with a neat diagram.
4. What do you mean by relational algebra? Define all the operations of relational algebra.

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Visual Basic .NET **Marks: 4*5=20**

1. How do List Box and Combo Box differ from each other? Illustrate.
2. What is the difference between console application and window application?
3. What is constructor and destructor? Define with a program.
4. What is exception handling? How can we use the exception handling in a program.

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Data Structures **Marks: 4*5=20**

1. What do you mean by AVL tree? How an AVL tree is different from a binary search tree?
2. Explain DFS and BFS with suitable examples.
3. What is hashing? Give the characteristics of hash function.
4. What is Recursion? Explain it's characteristic and uses?

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System Analysis And Design **Marks: 4*5=20**

1. What do you mean by SDLC? Describe the different phases of SDLC.
2. Write short notes On all of the following:
   (a) Decision Tree
   (b) Decision Table
   (c) Structured English
3. What is cost and benefit analysis? Explain the procedure of benefit/cost determination?
4. Describe Transaction Processing System (TPS) with example:

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Operating Systems **Marks : 4*5=20**

1. What is deadlock? How can deadlock be prevented by not Following "hold and wait"? Is it feasible policy?

2. Most round robin schedulers use a fixed size quantum. Give an Argument in favor of and against a small quantum .

3. Describe an operating system. Explain the differences between Personal computer operating system and large computer operating System. Explain the various characteristics of an operating system. Give typical examples.

4. What is process? Explain 2 stated process. Explain 5 state process Model. Explain operation on process-creation-termination.

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Compiler **Marks : 4*5=20**

1. Write the procedure to minimize the number of states in a DFA With the help of an example .

2. How many phase a compiler normally consists of ? Illustrate each Phase with suitable example .

3. What is intermediate codes in compilers ? Why is it needed in Compiler design ? Discuss different type of intermediate codes Generated by intermediate code generation phase .

4. Explain the different type of the compiler with the help of a block Diagram.

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Computer Graphics **Marks: 4*5=20**

1. What do you mean by Computer Graphics? Explain hardware and software required for computer graphics.

2. Write short notes on any **three** of the following computer graphics devices:

   (a) Graphics Tablet

   (b) Voice System

   (c) LCD Device

   (d) Track Ball

3. Explain the diffuse reflection in 3D computer graphics. What is Homogeneous and Cartesian Co-ordinate System?

4. Differentiate between raster and vector graphics.

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Java Programming **Marks: 4*5=20**

1. What is Applet? Explain its life cycle. Also explain the various event listener and their respective handlers of an Applet.
2. What is Swing? Explain the features of swing. Also write a swing program to implement login process.
3. Explain Exception in Java? How it is handled? Give example for runtime and compile times exception.
4. What is abstract class? Why it is needed? Differentiate between abstract class and interface. Also explain dynamic method dispatch.

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Software Engineering **Marks: 4*5=20**

1. Define software engineering. Explain types of software products.
2. Describe Software Project Management.
3. What is alpha and beta testing? Explain with example.
4. Explain SDLC phases in detail.

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Artificial Intelligence **Marks : 4*5=20**

1. What is expert system? Discuss knowledge base and inference Engine.

2. What is heuristic? Define heuristic function. Give an example of Heuristic that is useful for combinatorial problem .

3. What do you mean by Artificial intelligence? Mention some of the Characteristics of intelligence .

4. What is the knowledge representation supported by expert system Tools? What is the task domain of AI? List the properties of Knowledge .

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Programming In C **Marks : 4*5=20**

1. Write an algorithm and then develop a program to evaluate the Roots of a function cal roots" () to calculate the roots such that Roots are also available in calling function i.e. use pointers.

2. Explain the difference between parameter passing mechanisms "call By value" and "call by reference". Which is more efficient and why?

3. What are pre-processors in C? Explain each of them with simple Examples.

4. Explain the binary search with the program.

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Introduction to Information Technology **Marks : 4*5=20**

1. What is networking? Give the name of the essential hardware and software Used for networking.
2. Explain in your own words the advantage and impact of IT in our lives.
3. Explain the difference between hardware and software with their definition And uses.
4. Explain Management information system (MIS) and decision support System (DSS) .

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Programming in C++ **Marks: 4*5=20**

1. Explain operator overloading with examples.
2. What is inline function? How does it differ from ordinary function? Explain the merits and demerits of it.
3. What is a class template? Write a template-based complete program for adding tow objects of the vector class. Use dynamic data member instead of array for storing vector elements.
4. What is stream? Define Input Stream and Output Stream hierarchy.