

Madhya Pradesh Bhoj (Open) University, Bhopal

M.Sc.(CS)- Previous Year

Subject: I- Computer Organisation and Architecture

Maximum Marks: 30

निर्देश-

1. सभी प्रश्न स्वयं की हस्तलिपि में हल करना अनिवार्य है।
2. दोनों सत्रीय प्रश्न पत्र में से किसी एक प्रश्नपत्र को हल करना अनिवार्य है।
3. सत्रीय कार्य उत्तर पुस्तिकाओं के स्थान पर A4 साईज के सादे कागज पर छात्र द्वारा लिखे जायेंगे जिन पर क्षेत्रीय निदेशक के हस्ताक्षरित मुहर अंकित किया होना अनिवार्य है।
4. सत्रीय कार्य जमा करने की अंतिम तिथि 15 अक्टूबर 2011 है।
5. सत्रीय कार्य उत्तर पुस्तिकाओं को जमा करने की रसीद अवश्य प्राप्त कर लें।

First Assignment

1. What do you mean by floating point representation?
2. What do you mean by Instruction? Describe the computer instructions in brief.
3. Explain the term Instruction cycle in detail.
4. Explain the following- .
 - i. Combinational circuits
 - ii. Arithmetic circuits
5. Explain various Address modes in detail.

Second Assignment

1. What is the role of Cache memory? Also describe the virtual memory
2. Give the difference between Asynchronous data transfer and Synchronous data transfer.
3. Explain the term Multiprocessing. How it is differ from Multiprogramming.
4. Describe the methods of parallel processing.
5. Explain with the help of an example, how an interrupt initiated I/O works.

Subject: 02: Operating System

Maximum Marks: 30

First Assignment

1. What do you mean by Memory management? Explain
2. Describe the file systems of Operating systems.
3. What do you understand by File Replication? Explain in detail.
4. Describe the various topologies of network.
5. Describe the page replacement algorithms in detail.

Second Assignment

1. What is an Operating system? Describe the structure of Operating system.
2. Explain various process scheduling techniques.
3. What is semaphores Explain.
4. Explain various methods for handling Deadlock.
5. What do you mean by a Process management? Explain in detail.

Subject: 03: Data Structures through C

Maximum Marks: 30

First Assignment

1. What is Linked list? Write an algorithm to create a Linked list.
2. What do you mean by binary tree? Describe the tree traversing methods with example.
3. Write a C program to insert a node in a linked list at specified position.
4. Write a C program for Bubble sort in array of size 12.
- 5.. What do you mean by searching? Describe the binary search technique

Second Assignment

1. Describe the all data types used in C language.
2. Explain the various operators used in C language.
3. What is an array? Describe the types of array with example.
4. Write a C program that creates a multi dimension array.
5. Describe the various applications of stack with a suitable example.

Subject: 04: Microprocessor and Assembly Language

Maximum Marks: 30

First Assignment

1. Explain about memory interfacing?
2. Draw the block diagram of 8255 & explain the control word?
3. Explain cache controller.
4. Explain Program Counter (PC) and Stack Pointer (SP)?
5. Write an assembly language program to find out factorial number?

Second Assignment

1. Explain the term hardware interrupt and software interrupt?
2. Draw the pin diagram of 8086 micro-processor?

3. Explain External system bus architecture with diagram?
4. Write an assembly language program for 8086up to multiply two numbers?
5. What is flag register in 8085 microprocessor? Describe it in brief?

Subject: 05: Discrete Mathematics

Maximum Marks: 30

First Assignment

1. Define equivalence relation
2. Define Homomorphism with example.
3. Proof that if every element of a group G is its own inverse, then G is an Abelian group.
4. Define partial order relation.
5. Prove that every finite Lattice is bounded.

Second Assignment

1. Define weight Graph with figure.
2. Define Incidence Matrices with example.
3. Prove that every sub graph of cyclic group is cyclic
4. What is lattice? Explain all its types.

Subject: 06: RDBMS

Maximum Marks: 30

First Assignment

1. What do you mean by system recovery? Explain in detail.
2. Describe various concurrency control techniques in brief.
3. Describe Query processing in Distributed database.
4. What is SQL? Describe its data types
5. Explain the Normalization .

Second Assignment

1. What is RDBMS? How it is different from DBMS? Explain
2. Describe various DML commands with example.
3. What are Object oriented database systems? Give the characteristics of ORDBMS.
4. Describe relational algebra operations with example.
5. Explain the process of Rollback with example .

Subject: 07: Numerical and Statistical Analysis

Maximum Marks: 30

First Assignment

1. Define probability distribution. Explain with example.
2. Derive an equation for fitting a straight line $y = a + bx$
3. Write a computer program for Simpson's 3/8 rule of solving integration
4. What do you mean by Random Variable? Explain the various types.
5. Differentiate between Point Estimation and Interval Estimation.

Second Assignment

1. Define rectangular and hypergeometric distributions.
2. What is the procedure of testing if hypothesis?
3. Illustrate with examples the concept of overflow and underflow.
4. Distinguish between round off errors and transaction errors.
5. What are three primitive numerical differentiation formulae? Compare their truncation errors.