

## DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION

Marks: 6 x 5 = 30

### PART – A Answer all the Questions

1. Find 2's complement for the numbers given below.

a) 1000 0001

b) 0011 0110

(Or)

Convert the following .

a) Hexadecimal to binary – 9AF

b) Binary to hexadecimal - 1000 1100

2. What is multiplexer? Explain about 16 to 1 multiplexer with neat diagram.

(Or)

Explain about parity generators and checkers.

3. Explain half subtracted with diagram and the truth table.

(Or)

Write short note on Binary subtraction

4. Write short notes on common bus systems

(Or)

Write short notes on control memory organization.

5. Explain in detail about stack organization

(Or)

Brief Auxillary memory

6. Explain in detail about half adder and full adder.

(Or)

Write short notes on demultiplexer.

### PART – B Answer any TWO Questions

Marks: 2 x 10 = 20

1. Explain the basic gates with truth table and diagram

2. Discuss about Karnaugh simplification with an example.

3. Brief Arithmetic building blocks with diagram.

4. Explain about the design of basic computer organization.

5. Explain about RISC machine.

## Object Oriented Programming with C++

Marks: 10 x 5 = 50

### Answer all the Questions

- 1) Differentiate between procedure oriented and object oriented programming.  
(Or)  
Write a short note on user defined data types.
- 2) Explain the basic concepts of OOPS.  
(Or)  
Discuss in detail about expression and their types.
- 3) What is a friend function? What are the merits and demerits of friend function?  
(Or)  
Describe the concept of copy constructor with an example.
- 4) Define Constructor and Destructors.  
(Or)  
Explain about static member function.
- 5) List out the rules of operator overloading.  
(Or)  
In what order the class constructor called when a derived class object is created?
- 6) Explain any three types of Inheritance in detail  
(Or)  
How to overload binary operator using friend function.
- 7) What is meant by this pointer and list out the applications?  
(Or)  
Briefly discuss the features of I/O supported by C++.
- 8) What is meant by virtual function? Why do we need virtual function?  
(Or)  
Explain about Unformatted I/O operations.
- 9) What is a file mode? Explain various file modes.  
(Or)  
Describe various sequential input and output operations.

10) Explain the concept of Template with example.

(Or)

Explain the purpose of command line arguments.