**UNIT- 1**

**Short questions**

1. Define Operating System.
2. Define: Program, Software, Hardware
3. Brief Introduction about: Assembler, Linker.
4. **Brief Introduction about: Loader, Compiler.**
5. **What are the needs of an Operating system?**
6. **What are system calls? What is the use of them?**
7. **What is a Master Boot Record? Briefly define it.**
8. **Advantages and Disadvantages of multitasking systems?**
9. **Briefly define functions of OS.**

**(10)** How does the real time operating system work? What is the critical parameter in it?

# Long Questions (Explore and write)

# **What happens when we turn on the computer? Explain the process.**

## Introduction & Functions of BIOS

## Privileged and Non-Privileged Instructions Hint: In perspective of User mode, kernel mode

## Difference between 32-bit and 64-bit operating systems

## Explain working of Virtual Machine architecture with Advantages, disadvantages and examples.

**UNIT- 3**

**one line questions**

1. why we need IPC?

2. write down types of semaphore

3.what is bounded waiting?

4. reader and writer can access same file at a time (yes/no) and?

5. what is critical section ?

**Long question**

1. explain race condition with example

2. what is need if critical section and solution to critical explain

3. explain reader and write problem in brief

4. explain dinning philosopher’s problem

5. explain producer and consumer problem.