**Short Question**

1. Define shell variable.
2. Grep command.
3. Define Operating system.
4. Difference between Linux and Windows.
5. Explain OS as resources manager.
6. What are the types of System calls?
7. Chmod command.
8. Define Kernal and list its basic functions.
9. Cat command.
10. Difference between hard real time system and soft real time system.
11. Difference between shall variable and environmental variable.
12. List types of operating system.
13. Define spooling.
14. Define System call.
15. Explain expr command.

**Long Question**

1. Explain system call and its classification in detail.
2. Explain Multiprogramming operating system in detail.
3. Write a shall script to accept a login name. If not a valid login name display message – “Entered login name is invalid”.
4. Write different services provided by operating system.
5. Explain Batch operating system in detail.
6. Write a shall script to display the multiplication table for entered number.
7. Explain real time operating system in detail.
8. Explain all types of operators in UNIX.