[Time:2.30 Hrs]   **[Marks:75]**

Please check whether you have got the right question paper.

N.B: 1. All question are compulsory.
         2. Figures to the right indicate full marks.
         3. Students answering in the regional language should refer in case of doubt to the
             main text of the paper in English.

Q.1   Attempt **any three** of the following: 15
         a. Explain the process of Booting in computer.
         b. Explain different types of operating system.
         c. Explain first come and first serve scheduling
         d. What is operating system? Explain fourth generation operating systems.
         e. Explain SJF scheduling algorithm with example
         f. Explain the process states

Q.2   Attempt **any three** of the following: 15
         a. Give the difference between logical address and physical address.
         b. Explain various directory operations
         c. Discuss the concept of virtual memory.
         d. Explain FIFO page replacement algorithm with an example.
         e. What is segmentation?
         f. What is demand paging?

Q.3   Attempt **any three** of the following: 15
         a. Write a short note on Clock hardware.
         b. Explain Direct Memory address access?
         c. Explain Hold and await and non prempt conditions for Deadlock prevention
         d. What is meant by RAID?
         e. Explain banker's algorithm.
         f. Explain deadlock prevention techniques in Details.

Q.4   Attempt **any three** of the following: 15
         a. What is I/O Virtualization?
         b. Explain type 1 and type 2 hypervisors.
         c. Explain memory virtualization.
         d. Differentiate between Multiprocessor, Multicomputer and Distributed Systems.
         e. Write a short note on load balancing.
         f. Explain memory management in Linux

Q.5   Attempt **any three** of the following: 15
         a. Explain process model for Android.
         b. Write short note on memory management in windows
         c. Explain the architecture of windows NT.
         d. Write a short note on security in windows.
         e. Write a short note on kernel structure.
         f. Write a note on history of Unix.

******THE END*****