

Time: 3 Hours

Max. Marks: 80

N.B.: 1) Question No.1 is **compulsory**.

2) Attempt any **THREE** questions out of remaining **FIVE** questions.

3) **Figures** to the **right** indicates **full** marks.

4) Assume suitable data if **necessary**.

- Q1 Answer any FOUR 20**
- a Explain memory fragmentation.
 - b Compare process scheduling and process switching.
 - c Describe the implementation of file allocation techniques?
 - d Explain process state model.
 - e Explain about IPC.
- Q.2**
- a Explain RAID with different levels. **10**
 - b What is a process? Explain Process control block in detail. **10**
- Q.3**
- a What are different types of process scheduling algorithms? Explain anyone scheduling algorithm with example. **10**
 - b What is a critical region? Explain necessary conditions for deadlock. **10**
- Q.4**
- a Give detail comparison of user level and kernel level threads. **10**
 - b What is an Operating System? Explain structure of Operating System. **10**
- Q.5**
- a Explain objectives and characteristics of modern operating system. Explain Network OS. **10**
 - b List page replacement algorithms? Explain anyone page replacement algorithms with example. **10**
- Q.6 Write short notes on any FOUR 20**
- a Deadlock recovery
 - b Real Time OS
 - c Semaphores
 - d Virtual Memory
 - e Android
 - f File Allocation Methods
