

**B.C.A. (Part–II) Semester–III (Old) Examination****3ST4 : ADVANCED OPERATING SYSTEM**

Time : Three Hours]

[Maximum Marks : 60

**Note :—** (1) All questions carry equal marks.

(2) Draw neat sketches wherever necessary.

1. (A) Define Process and explain the process control block in detail. 6
- (B) Explain Batch Operating System in detail. 6

**OR**

2. (A) Define Operating System and explain function of Operating System. 6
- (B) Explain Process State Transitions diagram in detail. 6
3. (A) Explain the Peterson algorithm with example. 6
- (B) Explain the parallel processors in detail. 6

**OR**

4. (A) Explain the control structure for indicating Parallelism-Parbegin/Parend. 6
- (B) Explain N-Process Synchronization with the help of semaphore. 6
5. (A) What is deadlock and explain the deadlock necessary conditions. 6
- (B) Explain deadlock recovery. 6

**OR**

6. (A) Explain Banker's algorithm with the help of a suitable example. 6
- (B) Explain deadlock prevention in Operating System. 6
7. (A) Explain the architecture for paging mechanism. 6
- (B) What is page fault and explain Most Recently Used (MRU) page replacement algorithm with suitable example. 6

**OR**

8. (A) Explain fixed and variable partition in multiprogramming. 6
- (B) Explain in brief : 6
  - (i) Demand paging
  - (ii) Swapping
9. (A) Explain the Pre-emptive vs. Non-Pre-emptive scheduling HRN. 6
- (B) Explain the case study on UNIX System. 6

**OR**

10. (A) Explain the scheduling levels in detail. 6
- (B) State and explain multilevel feedback queues fair share scheduling. 6