Bachelor of Science (B.Sc.) (Semester–III) Examination

COMPUTER SCIENCE (OPERATING SYSTEMS)

Optional Paper–II

Time : Three Hours] [Maximum Marks : 50

N.B. :— (1) All questions are compulsory and carry equal marks.

(2) Illustrate your answers with suitable examples and draw neat and labelled diagrams wherever necessary.

EITHER

1. (A) Explain the structure of operating system. 5

(B) What is a process ? Explain process states with well labelled diagram. 5

OR

(C) What is Scheduling ? Explain types of Schedulers. 5

(D) Explain the life cycle of a Thread. 5

EITHER

2. (A) What is resource allocation graph ? Construct resource allocation graph for three processes and four resources. 5

(B) Explain Bunker's algorithm for deadlock avoidance. 5

OR

(C) What is deadlock recovery ? Explain in detail. 5

(D) Explain deterministic modeling technique. 5

EITHER

3. (A) Write a short note on :

(i) Protection

(ii) Sharing. 5

(B) Explain dynamic loading and dynamic linking. 5

OR

(C) Differentiate between paging and segmentation. 5

(D) Explain the following terms :

(i) Fragmentation

(ii) Compaction. 5

EITHER

4. (A) What is I/O buffering ? Explain its types. 5

(B) Explain record blocking. 5

OR

(C) Define Intruders. Explain accidental data loss. 5

(D) Write a note on :

(i) Digital signature

(ii) Cryptography. 5

5. (A) Define Spooling. 2½

(B) Explain preemption and non-preemption. 2½

(C) Write note on logical address. 2½

(D) Explain the objectives of File Management System. 2½