**NTK/KW/15–5846**

# Third Semester B. Sc. Examination

## COMPUTER SCIENCE

## Paper - II

## (Operating Systems)

Time : Three Hours ] [ Max. Marks : 50

N. B. : (1) All questions are compulsory and carry equal marks.
(2) Draw neat diagram wherever necessary.

**EITHER**

1. (a) Discuss characteristics of modern operating system. 5

(b) Explain FCFS CPU Scheduling algorithm with suitable example. 5

**OR**

(c) Explain :—

(i) User level thread

(ii) Kernel level thread. 5

(d) What is scheduler and dispatcher ? Explain role of medium term scheduler. 5

**EITHER**

2. (a) Explain following methods for recovery from Dead lock.

(i) Process termination

(ii) Resource preemption. 5

(b) Write short note on Performance analysis. 5

**OR**

(c) Explain following circumstances in which deadlock may occur.

(i) Mutual exclusion

(ii) Hold and wait. 5

(d) Explain Banker's Algorithm for Dead lock avoidance. 5

**EITHER**

3. (a) Explain Dynamic Partitions memory management scheme with suitable example. 5

(b) Explain :—

(i) Swapping

(ii) Relocation. 5

**OR**

(c) Write short note on :—

(i) Protection

(ii) Sharing. 5

(d) Explain segmentation with paging considering suitable example. 5

**EITHER**

4. (a) Explain Scan disk scheduling algorithm with example. 5

(b) Explain linked file allocation method with example. 5

**OR**

(c) Explain single, double and circular buffer with example. 5

(d) Write short note on :—

(i) Cryptography

(ii) User authentication. 5

5. Attempt any **ten** :—

(a) What is multithreading ?

(b) Give one major difference between program and process.

(c) Mention role of a dispatcher.

(d) Give purpose of Resource allocation graph.

(e) What do you mean by selecting a victim process in dead lock condition ?

(f) What do you mean by aborting all deadlocked processes ?

(g) What is page break ?

(h) What do you mean by loading ?

(i) Define physical address.

(j) What is digital signature ?

(k) Write full form of LRU.

(l) Define Access time. 10