

- (g) What is allocation and deallocation in Memory management ?
- (h) Give two disadvantages of paging.
- (i) What do you mean by swapping in respect of main memory utilization ?
- (j) What is Buffer ?
- (k) Define Latency time.
- (l) What is the full form of 'LFU' ? 1×10=10

**NTK/KW/15/5954**

**Bachelor of Computer Application (B.C.A.) Semester-I  
Examination**

**COMPUTER SCIENCE**

**Paper—V  
(Operating Systems)**

Time—Three Hours]

[Full Marks—50

- N.B.:**— (1) All questions are compulsory and carry equal marks.
- (2) Draw diagrams wherever necessary.

**EITHER**

1. (a) What are the different states of process ? How process creation and termination is done ? 5
- (b) Explain :
  - (i) User level thread
  - (ii) Kernel level thread 5

**OR**

- (c) Explain SRTF CPU scheduling algorithm with example. 5
- (d) Draw structure of Operating System and explain. 5

**EITHER**

2. (a) Explain :  
 (i) Deterministic Modelling  
 (ii) Queuing Analysis. 5  
 (b) Explain Banker's algorithm for deadlock avoidance. 5

**OR**

- (c) Explain :  
 (i) Dynamic loading  
 (ii) Dynamic linking 5  
 (d) Write short note on Simulator. 5

**EITHER**

3. (a) Explain fixed multiple partition memory management scheme alongwith its advantages and disadvantages. 5  
 (b) Explain Segmentation with paging giving suitable example. 5

**OR**

- (c) Explain :  
 (i) Logical address space  
 (ii) Physical address space. 5

- (d) Explain Internal and External Fragmentation with example. 5

**EITHER**

4. (a) Explain following five RAID levels RAID 0 to RAID 4. 5  
 (b) Explain the following :  
 (i) Cryptography  
 (ii) Digital Signature. 5

**OR**

- (c) Explain Contiguous and Linked list File allocation method with example. 5  
 (d) Explain protection mechanism in brief. 5  
 5. Solve any **Ten** :  
 (a) Define Operating System.  
 (b) Differentiate between program and process.  
 (c) What is Multi-threading ?  
 (d) What is deadlock ?  
 (e) Explain purpose of Backing Store.  
 (f) Explain Relocation.