

GOVT DEGREE COLLEGE KISHTWAR

Semester-VI (NON-CBCS) EXAMINATION 2020-21

BA/BSc (Computer Applications)

Course Code: CA-601

Course Title: Fundamentals of Operating System

Time : 3 hr

Max Marks:80

Note : Attempt any Four questions. Each question carry equal marks.

Q1:- Do the following:

- a) Differentiate between Batch Operating System and Time shared Operating System.
- b) Discuss evolution of Operating System.

Q2:-What is Disk Scheduling? Explain various Disk Scheduling Algorithms giving examples.

Q3:- Do the following:

- a) Define deadlock and state the necessary conditions for deadlock.
- b) What is Critical Region, Race Condition & Mutual Exclusion?

Q4:- Explain basic architecture of Unix/Linux System. What is Kernel and Shell?

Q5:- Explain following terms :

- a) Static partitioning
- b) Swapping.
- c) Demand Paging
- d) Virtual memory
- e) Internal Fragmentation

Q6:- Given a page reference string (arrival) with four page frames, calculate the number of page faults with FIFO and LRU page replacement algorithms respectively :

1,2, 3, 4, 5, 1, 2, 5, 1, 2, 3, 4, 5, 1,6,7,8,7,8,9,7,8,9,5,4,4,5,4,2

Q7:- What is Shell Programming? What are various types of shells available in UNIX? What are Shell variables and Shell Keywords?

Q8:- Give the syntax and use of following commands :

- (a) **cp**
- (b) **who**
- (c) **cal**
- (d) **kill**
- (e) **grep**