

SHIVAJI COLLEGE, UNIVERSITY OF DELHI
DEPARTMENT OF COMPUTER SCIENCE
INTERNAL ASSIGNMENT/PROJECTS/PRESENTATIONS
(Academic Year 2023-24)

Name of the Course : B.Sc. (Prog.) with Computer Science

Semester : IV

Name of the Paper : Operating Systems

Max. Marks : 12

Faculty Name : Mr. Rakesh Yadav

Last Date of Submission: **05.04.2024**

ANSWER ALL QUESTIONS IN YOUR OWN HANDWRITING

Q1 Define first fit, best fit and worst fit strategies for dynamic memory allocation.

Given memory partitions of 200KB, 600KB, 100KB, 300KB and 500KB (in order), How would each of the first fit, best fit and worst fit algorithm place processes of 350 KB, 150KB, 250KB and 450KB(in order)? Which algorithm makes the most efficient use of memory?

Q2 What are the drawbacks of contiguous memory allocation schemes? How are they solved by paging and segmentation schemes of allocation?

Assuming the 1-KB page size, what are the page numbers and offsets for the following address references under paging scheme of memory allocation?

(i) 2375

(ii) 4075

(iii) 33

(iv) 14866

Consider the following segment table:

Segment	Base	Length
0	219	600
1	2300	14
2	90	100
3	1327	580
4	1952	96

What are the physical addresses for the following logical addresses?

0, 429

1, 11

2, 510

3, 700

4, 96

Q.NO. 3

(a) Describe some advantages and disadvantages of using SSDs as a caching tier and as a disk-drive replacement compared with using only magnetic disks.

(b) Write short notes on the following (i) Single Level Directory Structure. (ii) Two Level Directory Structure. (i) Tree Level Directory Structure.

Faculty Signature:

