NOV-2016

M.C.A. Semester:- 3 Examination November-2016

Paper Code: 3606 Paper Title: Operating System Principals

Time: 02:30 Hours Marks: 70

Q1 Answer any FIVE from the following: [10]

a. What are the different types of threads?

b. Discuss bit map method

c. List out various services provided by operating system

d. What is ready queue?

e. What is the use of device status table?

f. List out various types of files

g. What is the use of MMU?

Q2 Answer any FIVE from the following: [15]

a. What do you mean by polling?

b. Explain double buffering with example

c. Discuss multiprocessing.

d. Explain general structure of PCB

e. Give the advantages and disadvantages of priority CPU scheduling

f. Define track, sector and seek time

g. Discuss various directory structures

Q3 Answer any FIVE from the following: [25]

a. Differentiate long term and short term scheduler

b. What do you mean by compaction? What are the limitations of it?

c. Explain system call with example

d. Explain resource allocation graph and wait for graph with example

e. Compare SCAN, C-SCAN and LOOK, C-LOOK algorithms

f. What do you mean by demand paging? How many page faults occur for OPTIMAL algorithm? Consider the given reference string for 4 page frames. 9,1,6,4,9,8,6,1,2,3,4,2

g. Discuss file allocation method - FAT

Q4 Answer any TWO from the following: [20]

a. What is contiguous memory allocation? What are the limitations of it? Given memory partitions of 200k, 300k, 700k, 400k and 100k (in order), how would each of first fit, best fit and worst fit algorithms place processes of 250k, 322k, 90k, 100k and 600k.

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b. What is preemptive and non-preemptive CPU scheduling? What are the different scheduling criteria? Discuss FCFS and Round Robin CPU scheduling algorithms.

c. Explain in brief different types of operating system.