

VVM's
Shree Damodar College of Commerce and Economics, Margao-Goa
First Year B.C.A, Semester II, End Semester Examination – April 2016
OPERATING SYSTEM CONCEPTS (BCA-202)

Duration: 2 hours

Total Marks: 50

Instructions: 1) All questions are **compulsory**.
2) figures to the right indicate full marks.

Q.1 A) Fill in the blanks with the most appropriate option

(5*1=5 mks)

1. A _____ is a small OS core that provides the foundation for modular extensions.

- ~~a) kernel~~
- b) thread
- c) task
- d) microkernel

2. In _____ a process can be moved temporarily out of memory to a backing store, and then brought back into the memory for continued execution.

- a) compression
- b) segmentation
- c) compaction
- d) swapping

3. _____ register contains the instruction most recently fetched

- a) program counter
- b) Instruction
- c) control
- ~~d) Memory address~~

4. _____ time is the amount of time required to execute a particular process

- a) ready
- b) waiting
- c) response
- d) turnaround

5. In a _____ scheme, once a C.P.U is given to the process it cannot be preempted until it completes its CPU burst.

- a) preemptive
- b) non-preemptive
- c) preventive
- d) FCFS

Q.1.B Define the following

(5*1=5 mks)

- a) Resident Monitor b) multi-threading c) thread
- d) demand paging e) fragmentation

Q.2 Answer the following

- a) Explain any two services provided by the operating system? 2 mks
- b) Define seek time. Briefly explain disk management. 3 mks
- c) Define Time Sharing Systems. Explain the concept of uniprogramming and multiprogramming with diagrams. 5 mks

Q.3 Answer the following

- a) What do you understand by mutual exclusion? 2 mks
- b) Explain the data structures for Banker's algorithm 3 mks
- c) Consider the following four processes, with the length of the CPU burst given in milliseconds 5 mks

Process	Burst Time
P_1	53
P_2	17
P_3	68
P_4	24

Find out the average waiting time for this round robin schedule with a time quantum of 20 by giving a gantt chart illustrating the execution of these jobs.

Q.4 Answer the following

- a) List the different file attributes. 2 mks
- b) Explain encryption in detail. 3 mks
- c) What is single-partition and multiple-partition allocation? Discuss first-fit, best-fit and worst fit. 5 mks

Q.5 Answer the following

- a) Define Trap door and logic bomb. 2 mks
- b) Discuss the reasons for choosing a distributed operating system. 3 mks
- c) Explain the advantages of a web operating system. 5 mks

*****All the best*****