V.V.M'S Shree Damodar College of Commerce & Economics,

Margao-Goa

F.Y.B.C.A, SEM II, END SEMESTER EXAMINATION, MAY 2016 (supplementary)

OPERATING SYSTEMS, BCA-202

Duration: 2 Hours Total Marks: 50

Instructions: 1) All Questions are Compulsory.
2) Figures to the right indicate Full Marks.
3) Write Every Question on Fresh page.

Q1.Answer the following

A. Define the following **Marks(5)**

1. Virtual memory
2. Safe State
3. Bounded Waiting
4. Thrashing
5. Page fault

B. Fill in the blanks **Marks(5)**

1. In mutual exclusion, each processes observe _____, _____, _____basic protocols.
2. Critical section comprises of _____,_____,_____ section.
3. PCB stands for _____.
4. _____,_____,_____ are the 3 stages of address binding.
5. External fragmentation problems are resolved by _____.

Q2.Answer the following

1. Write a short note on the 2 major operations on processes (2)
2. With a diagram explain PCB. (3)
3. With a diagram explain page replacement. What are the steps in handling page fault. (5)

Q3.Answer the following

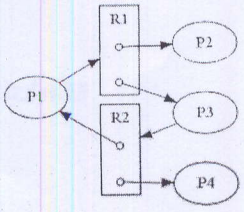
1. Which are the necessary conditions that can cause deadlock. (2)
2. Which are the different multithreading models. (3)
3. With suitable diagram explain the different Directory structures. (5)

Q4.Answer the following

1. With a diagram explain the difference between single thread and multithreaded process (2)
2. Write a short note on distributed file system. Include the types ,design issues, advantages and structure. (3)
3. With suitable diagrams explain paging and segmentation Also explain the structure of page table and segment table (5)

Q5.Answer the following

1. Define resource allocation graph? Which are the different edges ?Does the below graph contain deadlock? (2)



2. What is a monitor? Why is it used? State the Monitor Rules (3)
3. Differentiate between pre emptive and non pre emptive scheduling. (5)
   Solve the below using pre emptive SJF . Compute average waiting time .
   Draw the Gantt chart.

Process	Arrival Time	Burst Time
P_1	0.0	7
P_2	2.0	4
P_3	4.0	3
P_4	5.0	4