

VVM's
Shree Damodar College of Commerce and Economics, Margao-Goa
First Year B.C.A, sem II, End semester examination – April 2017
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. Define the following

(5*2=10 mks)

- a) Disk bandwidth b) Multilevel queue scheduling c) Logic bomb
d) RAID e) Time sharing systems

Q.2 Answer the following

- a) Briefly explain basic instruction cycle with a diagram 2 mks
b) Explain the different process states with a neat diagram. 3 mks
c) Define a microkernel. Explain the multi-threading models with diagrams. 5 mks

Q.3 Answer the following

- a) What are semaphores? 2 mks
b) Explain the data structures for Banker's algorithm 3 mks
c) Consider the following four processes with the priority and length of the CPU burst given in milliseconds 5 mks

Process	Burst time	Priority
P1	10	3
p2	1	1
p3	2	4
p4	1	5
p5	5	2

Find out the average waiting time for this priority schedule 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 SCAN and C-SCAN disk scheduling algorithm in brief **3 mks**
- c) Briefly explain multiple-partition allocation? Explain the steps involved in handling a page fault with a diagram. **5 mks**

Q.5 Answer the following

- a) Explain asymmetric encryption. **2 mks**
- b) With a neat diagram explain the storage structure of a web O.S. **3 mks**
- c) What is a distributed system? Explain the reasons for choosing distributed systems. **5 mks**

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