

Operating System

Assignment # 02

Spring 2011

Marks: 30

Due Date

Your assignment must be uploaded before or on **2nd May 2011**.

Uploading instructions:

Please view the **Assignment Submission Process** document provided to you by the Virtual University for uploading assignments.

- Assignment should be in .doc format.
- Save your assignment with your ID (e.g. bx020200786.doc).
- Assignment submission through email is highly discouraged.

Rules for Marking:

It should be clear that your assignment will not get any credit if:

- The assignment is submitted after due date.
- The submitted assignment file is corrupted.
- The assignment is copied.

Note:

Your answer must follow the below given specifications. **You will be assigned zero marks if you do not follow these instructions.**

- Font style: "Times New Roman"
- Font color: "Black"
- Font size: "12"
- **Bold** for heading only.
- Font in *Italic* is not allowed at all.
- No formatting or bullets are allowed to use.

Assignment submission instructions:

Your Assignment should be a well formatted word document. Upload your assignment in word format (**ID.doc**) as (**bx020200786.doc**).

Question 2:

Marks: 10

Suppose there are number of processes running on a system. New process in this system arrives at an average of ten processes per minute. Each process requires an average of 4 seconds of service time. Estimate the fraction of CPU busy time in a system with a single processor.

Question 2:

Marks: 10

The Round Robin algorithm has been applied on the following processes with quantum size=8 milliseconds. You have to answer the question given below related with processes. Calculate the average waiting time and average turnaround time for each process by using round robin algorithm?

Process	CPU burst time (milliseconds)	Arrival time (milliseconds)
P0	25	0
P1	10	5
P2	15	7
P3	9	8
P4	33	10
P5	16	10

Question 3:

Marks: 10

Suppose you have to apply FCFS and SJF (non-preemptive) scheduling algorithms on the following given processes. Considering all the processes arrives in the ready queue within time 0 seconds. Calculate the average waiting time for each algorithm. You have to identify that which of these two algorithms is better reference to waiting time?

Process	CPU burst time (seconds)
P0	25
P1	10
P2	15
P3	9
P4	33
P5	5