

# University of Sargodha

BS 5<sup>th</sup> Term Examination 2016

Subject: I. T    Paper: Operating System (CMP:3621)

Time Allowed: 2:30 Hours

Maximum Marks: 60

## Objective Part Compulsory

**Q.NO.1:-Answer the following questions in 2-3 lines having 2 marks each** [12x2=24]

1. What are the states of a process?
2. What are the advantages of multiprocessor system?
3. What is thrashing?
4. Describe the differences among short-term, medium-term,
5. What is virtual memory?
6. What is RR scheduling algorithm? *Round Robin*
7. What is PCB?
8. What is multitasking?
9. What is a race condition?
10. What is monitor?
11. What is a Kernel?
12. Name some advantages and disadvantages of user-level threads.

## **Subjective Part**

**Note: Attempt any three Questions. All carry equal marks**

[12x3=36]

Q.No.1. a) Briefly explain the different types of System Calls.

b) Briefly explain the direct and indirect process communications?

Q.No.2 a) Explain the multithreading models. *1-1, 1-M, M-M*

b) Differentiate between Multilevel Queue and Multilevel Feedback Queue.

Q.NO.3 What do you understand by safe and unsafe state? Explain the Bankers algorithms?

Q.No.4 Consider the following page reference string: 1, 2, 1, 1, 1, 3, 4, 2, 1, 5, 6, 2, 1, 2,

3, 7, 6, 3, 2, 1, 2, 3, 6. How many page faults would occur Optimal Page Replacement with

(a) Four frames (b) seven frames. Remember that are frames are initially empty.

Q.No.5 a) what is the purpose of interrupts? What are the differences between a trap and an Interrupt? Can traps be generated intentionally by a user program? If so, for what purpose?

b) Briefly explain paging