

Roll No.....

Total No. of Questions : 05

Total No. of Printed Pages : 02

Code No. : B-424(A)

Annual Examination - 2017

BCA -III

BCA-303

OPERATING SYSTEM

Max.Marks : 100

Min.Marks : 40

Time : 3 Hrs.

Note : Attempt any two parts from each question. All questions carry equal marks.

Unit-I

- Q-1.(a) What are the functions of Operating System? Differentiate among multiprogramming, multitasking and multiprocessing operating systems.
- (b) What is real time system? Where you will use these real time operating systems (RTOS)?
- (c) Write short notes on the following:
  - (i) Spooling
  - (ii) Batch Processing

Unit-II

- Q-2.(a) What do you understand by process scheduling? Clearly state the objective of long term, short term, and medium term scheduler.
- (b) Explain the concept of process along with process control block (PCB)?
- (c) Consider the following set of jobs, with CPU burst time in milliseconds:

Job	Burst Time	Priority
J1	8	3
J2	2	1
J3	4	2
J4	2	1
J5	6	3

Find average turnaround time and waiting time, considering SJF and RR (q=1) algorithm.

P.T.O.

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**Unit-III**

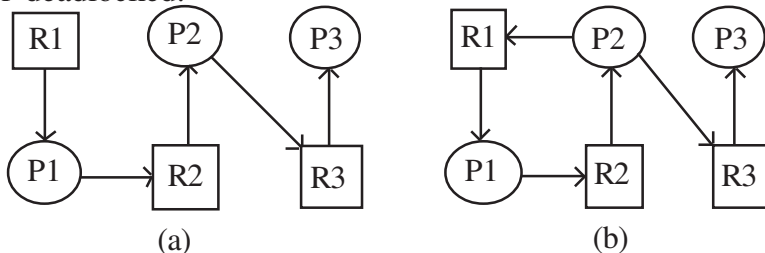
- Q-3.(a) What is virtual memory? How it is different from main memory?  
 (b) Differentiate between internal fragmentation and external fragmentation.  
 (c) Consider the following page reference string:  
 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1  
 Find out the number of page faults by FIFO, LRU and OPT replacement algorithm for a memory with three frames.

**Unit-IV**

- Q-4.(a) Explain different methods for file allocation and compare them on the basis of space and time utilization by them.  
 (b) Briefly discuss the concept of File? Explain general model of file system.  
 (c) Write short note on the following:  
 (i) Symbolic File System      (ii) Disk Based File System

**Unit-V**

- Q-5.(a) What is deadlock? What are the conditions of deadlock? List any two examples that are not related to the computer system environment.  
 (b) List out different steps to reduce a graph in deadlock detection algorithm. Find out whether following systems are deadlock free or deadlocked.



- (c) Write short notes on:  
 (i) Resource Allocation Graph      (ii) Banker's Algorithm

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**Unit-III**

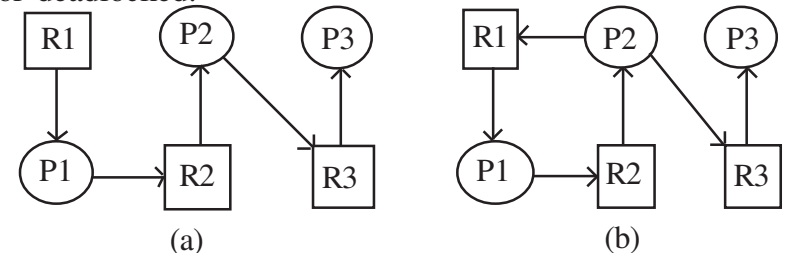
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