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KAL-1414 Seat No._____

B. C. A. (Sem. IV) Examination

April / May – 2013

BCA - 404 : Operating System (Elective - I)

(New Course)

Time : **3** Hours] [Total Marks : **70**

1 (a) Do as directed : **8**

(1) What is operating system ?

(2) Define kernel with advantages and disadvantages.

(3) What is spooling ?

(4) What do you mean by multiprogramming.

(b) Answer the following : (any two) **10**

(1) Explain the functions of operating system.

(2) Describe the client server model.

(3) Compare : Monolithic and layered system approach of operating system.

2 (a) Do as directed : **4**

(1) What is context switch ?

(2) Which process scheduling algorithm sufferes from starvation ?

(3) Define the term : Through put.

(4) Give difference between Turnaround time and response time.

(b) Answer the following : (any two) **8**

(1) What do you mean by scheduler ? Distinguish among them.

(2) What is PCB ? Explain it in detail.

(3) Give difference between process and thread. Draw state transition diagram of process.

(c) Explain SJF preemptive algorithm with example. **5**

OR

(c) Explain RR scheduling algorithm with example. **5**

3 (a) Do as directed : **6**

(1) What is semaphore ? Give types of it.

(2) Distinguish multithreading and multitasking.

(3) What is the use of Resource allocation graph ?

(b) Answer the following : (any three) **12**

(1) What is deadlock ? Describe the causes of dead lock.

(2) What are the methods of handling deadlock ? Discuss.

(3) Explain Deadlock avoidance algorithm.

(4) How semaphore is used to solve the problem of starvation.

4 (a) Do as directed : **5**

(1) Define : pure demand paging.

(2) What is MMU ?

(3) What is thrashing ?

(4) What is the use of ATU ?

(5) Define Demand Paging.

(b) Answer the following : (any three) **12**

(1) Explain the process of address binding.

(2) Describe the steps in handling page faults.

(3) Give difference between segmentation and fragmentation.

(4) What is paging ? Discuss inverted page table.
