APC - 5338

Second Year B.C.A (Semester - I) Examination
Paper - 15BCA205
Operating System

Time : Three hours] [Full Marks - 60

N.B. : i) All questions carry equal marks
ii) Due credit will be given to neatness & adequate dimensions.
iii) Illustrate your answer necessary with the help of neat skectches.
iv) Use Blue/Black ink/refill only for writing the answer book.

Q.1 Select the correct alternatives and rewrite the following statements. 5

a) Process is_____
   i) Program in High Level Language kept on disk
   ii) Contents of main memory
   iii) A program in execution
   iv) A job in secondary memory

b) The processes that are residing in main memory and are ready and waiting to execute are kept on a list called ____
   i) Job queue ii) Ready queue
   iii) Execution queue iv) process queue

c) Memory management technique in which system stores and retrives data from secondary stoarage for use in main memory is called ____
   i) Fragmentation
   ii) Paging
   iii) Mapping
   iv) None of the mentioned

d) A ____ is a collection of electronics that can operate a port, a bus, or a device.
   i) Controller
   ii) Driver
   iii) Host
   iv) Bus

e) Which part of the UNIX operating system interacts with the hardware ?
   i) Kernel
   ii) Shell
   iii) VI editor
   iv) Application program

Q.2 a) Write and explain characteristics of operating system. 6

b) Explain the concept of Inter-process communication in operating system. 5

OR

Q.3 a) Explain the components of operating system. 5

b) Explain process, process states and process state transition. 6

Q.4 a) Explain the following scheduling algorithm. 6
   i) SJF ii) Round Robin

b) Explain the concept of deadlock detection and prevention in detail. 5

OR

Q.5 a) Compare preemptive and non preemptive scheduling in detail. 5

b) Explain the concept of semaphores in process synchronization. 6

Q.6 a) Write and explain the any two allocation methods in memory management concept. 6

b) Explain partioning with its types in detail. 5

OR

Q.7 a) Explain the following Page Replacement Algorithm. 6
   i) First - In-First-Out (FIFO)
   ii) Least Recently Used (LRU)

b) Explain of paging in detail. 5

Q.8 a) Explain the concept swap space management in brief. 5

b) Explain Interrupt in detail. 6

OR

Q.9 a) What is Disk Scheduling ? Explain any three. 6

b) Explain application of I/O Interface. 5

Q.10 a) Explain the architecture of UNIX operating system. 6

b) Explain the security in UNIX operating system. 5

OR

Q.11 a) Explain the features of UNIX operating system. 5

b) Explain process management in UNIX operating system. 6

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