(6 pages)

Reg. No. : ....

Code No. : 20995   Sub. Code : GMCS 61/
                                    GMSE 61

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2016.

Sixth Semester

Computer Science — Main

OPERATING SYSTEM

(For those who joined in July 2012 and afterwards)

Time : Three hours   Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ——————— OS allows many users to share the computer simultaneously

   (a) Batch systems

   (b) Time sharing systems

   (c) Real time systems

   (d) Mainframe system

2. ——————— memory holds some instructions and datavalues that were recently accessed by CPU.

   (a) Main   (b) Secondary

   (c) Cache   (d) None of these

3. The decision as to which available process will be executed by the processor is called ——————— scheduling.

   (a) long term   (b) short term

   (c) medium term   (d) I/O

4. When the OS creates a process at the explicit request of another process the action is referred to a

   (a) process creation

   (b) child process creation

   (c) process swapping

   (d) new batch job

5. A semaphore that does not specify the order in which processes are removed from the queue is a ———————

   (a) strong semaphore

   (b) weak semaphore

   (c) binary semaphore

   (d) general semaphore

6. In this situation, the low priority request may never be serviced if high priority requests keep arriving in priority based scheduling.

   (a) mutual exclusion   (b) starvation

   (c) deadlock   (d) coherence

7. The separation of user logical memory from physical memory is ———

   (a) RAM   (b) ROM

   (c) Main memory   (d) Virtual memory

8. The page replacement policy which uses the principle of locality of reference for its replacement decision.

   (a) FIFO   (b) Optimal

   (c) LRU   (d) clock

9. ——— is a collection of similar records.

   (a) Process   (b) File

   (c) Monitor   (d) Node

10. ——— is a data file that contains the name of the file it is linked to

    (a) pile   (b) symbolic links

    (c) sequential   (d) named pipes

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Discuss about real time systems.

    Or

    (b) Write about the distributed operating system.

12. (a) Write about the states of process.

    Or

    (b) Write neat sketch briefly describe the three type of processor scheduling.

13. (a) Mention the basic concept of process scheduling.

    Or

    (b) How can we prevent a deadlock? Explain.

14. (a) Explain rules of memory.

    Or

    (b) Page replacement policies - Explain.

15. (a) Write short notes on various file types.

    Or

    (b) List the explain the various file operations.

PART C — (5 × 8 = 40 marks)

Answer ALL questions choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss the following (i) batch processing systems (ii) Realtime operating system.

Or

(b) Discuss in detail about the types of system components.

17. (a) Explain the following CPU scheduling algorithms.

(i) FIFO

(ii) Round Robin.

Or

(b) Explain about process scheduling.

18. (a) What are semaphores? How do they implement mutual exclusion? What are the different types of semaphores?

Or

(b) Write short notes on deadlock in resource allocation.

19. (a) List and explain various page replacement policies.

Or

(b) Explain different algorithm for page replacement policies for virtual memory.

20. (a) Explain the various file access methods.

Or

(b) Discuss in detail about disk scheduling.

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