(6 pages)

Reg. No. : ....

Code No. : 21025   Sub. Code : GMCA 61

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2017.

Sixth Semester

Computer Application – Main

OPERATING SYSTEM

(For those who joined in July 2012 – 2015)

Time : Three hours   Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer.

1. Time sharing system also called ——————.

   (a) multi programming

   (b) batch processing

   (c) multi tasking

   (d) none

2. Multi process system have —————— CPU.

   (a) 0   (b) 1

   (c) 2   (d) 3

3. The process scheduler is also called as ——————.

   (a) Dispatcher

   (b) Interlock

   (c) PCB (Process Control Block)

   (d) Process State Diagram

4. Switching of old process to have process is called —————— switch.

   (a) fork   (b) content

   (c) swap   (d) none of these

5. The Dining-philosophers problem is a solution for

   (a) semaphore   (b) critical register

   (c) main for   (d) none

6. The process scheduler is also called as

   (a) Dispatcher

   (b) Interlock

   (c) PCB

   (d) Process state diagram

7. A routine loaded with ——————— loading is not loaded until it is called

(a) static   (b) memory

(c) dynamic   (d) none of these

8. ——————— uses demand loading of process components to give the illusion of a large memory.

(a) RAM   (b) Virtual Memory

(c) HDD   (d) All the above

9. Which of the following is not disk scheduling algorithm?

(a) scan   (b) Lscan

(c) look   (d) raid

10. Information on each existing File's status must be maintained in a table called

(a) file system   (b) file handler

(c) file directory   (d) file scheduler

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) What is an operating system? Explain.

Or

(b) Write a brief note on : Distributed system.

12. (a) What is meaning of IPC? Explain.

Or

(b) Discuss about priority scheduling algorithm.

13. (a) What are the factors used for deadlock detection algorithm?

Or

(b) How to prevent a deadlock?

14. (a) State and explain the functions of virtual memory handler.

Or

(b) Explain about LRU page replacement algorithm.

15. (a) Explain how to implement file directory structure using hash table.

Or

(b) Discuss about Recovery.

Nesamony Memorial Christian College, Marthandam

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Write a brief note on :

    (i) batch processing

    (ii) clustered system.

    Or

    (b) What are the various categories of system programs? Give an example.

17. (a) Mention the concepts of process and discuss the operations on it.

    Or

    (b) What are the advantages of Real time scheduling in details?

18. (a) How to detect and recover from a deadlock?

    Or

    (b) Explain in detail about critical section problem.

19. (a) Briefly discuss on the paged memory management system.

    Or

    (b) Write in details about the following page replacement algorithm :

    (i) FIFO

    (ii) Optimal.

20. (a) Explain the following file operations :

    (i) creating a file

    (ii) writing a file

    (iii) reading a file

    (iv) repositioning a file

    (v) deleting a file

    (vi) truncating a file.

    Or

    (b) Explain the following disk scheduling :

    (i) FCFS

    (ii) SSTF.

Nesamony Memorial Christian College, Marthandam