

Code No. : 20995

Sub. Code : GMCS
GMSI

B.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2018.

Sixth Semester

Computer Science/Software Engineering – 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. An operating system is a _____.

- (a) program that manages the computer hardware
- (b) application program
- (c) computing resource
- (d) hardware

_____ provide an interface to the services made available by an operating system.

- (a) User Interface
- (b) System calls
- (c) GUI
- (d) Resource allocation

Each process is represented in the operating system by a _____.

- (a) process control block
- (b) task control block
- (c) process number
- (d) (a) or (b)

Interprocess communication is _____.

- (a) communication within the process
- (b) communication between two process
- (c) communication between two threads of same process
- (d) none of the above

The number of processes that are completed per time unit is called _____.

- (a) Throughput
- (b) Turnaround time
- (c) Waiting time
- (d) Response time

6. Banker's algorithm is for dead lock _____
(a) Avoidance (b) Prevention
(c) Detection (d) Recovery
7. Swapping requires a _____.
(a) keyboard (b) monitor
(c) backing store (d) mother board
8. The physical memory is divided into fixed size blocks called _____.
(a) Frames (b) Pages
(c) Backing store (d) Blocks
9. The function of usual file extension commands are
(a) Libraries of routines for programmers
(b) Ready-to-run machine language programs
(c) Commands to the command interpreter
(d) Source code in a programming language
10. _____ manages metadata information
(a) File-control Block
(b) Extended File system
(c) Logical File System
(d) Basic File System

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Write about system components.
Or
(b) Write a short note on virtual machines.
12. (a) Explain process scheduling in detail.
Or
(b) Describe multiple-processor scheduling.
13. (a) Explain the concept of contiguous memory allocation.
Or
(b) Describe critical section problem.
14. (a) What is Deadlock? Explain its characterization.
Or
(b) Write short on the basic concepts of demand paging.
15. (a) Describe the file concepts.
Or
(b) Write about file system structure.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain the operating system functions in main frame, multiprocessor, distributed and clustered systems.

Or

(b) Explain :

- (i) Operating system services,
- (ii) System programs.

17. (a) Describe the operations on processes.

Or

(b) Explain any two CPU scheduling algorithms in detail.

18. (a) Describe the classical problems of process synchronization.

Or

(b) Explain how the deadlock can be avoided.

19. (a) Explain the paging scheme in detail.

Or

(b) Explain the page replacement concepts in detail.

20. (a) Explain File access methods.

Or

(b) Explain File Allocation methods in detail.
