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C14-IT-CM-402

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BOARD DIPLOMA EXAMINATION, (C–14)

JUNE—2019

DCME—FOURTH SEMESTER EXAMINATION

OPERATING SYSTEMS

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define an operating system and write two examples.

2. Write briefly about distributed operating systems.

3. Explain any 3 fields stored in the PCB of a process.

4. Define a semaphore and write its purpose.

5. Explain the process termination option used for a recovery from a deadlock state.

6. Explain briefly about single partition allocation.

7. Explain the concept of demand paging.

8. List any three storage allocation methods in disk.

9. Explain grouping free space management technique.

10. What is a file? List any two types of file.

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. *(a)* Explain any four components of operating system.

(b) Define a system call and explain any two types of system call.

12. *(a)* Explain the purpose of multi-threading.

(b) Explain scheduling queues with appropriate sketch of queuing diagram.

13. Explain the following CPU scheduling algorithms :

(a) SFJ

(b) Multilevel feedback queue

14. *(a)* Explain the concept of inter process communication.

(b) Explain the process of recovering from dead lock.

15. *(a)* What is address binding? Explain about compile time binding.

(b) Explain paging concept with appropriate diagram.

16. Explain the following page replacement algorithms with a suitable exmples :

(a) LRU

(b) Optimal

17. Explain the following disk scheduling algorithms with a suitable example :

(a) FCFS

(b) SCAN

18. Explain about direct file access method and list any two advantages.

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