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C14-CM-402/

C14-IT-402

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**BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2018
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. List any three types of operating systems.
2. Write about timesharing and multiprogramming.
3. Explain briefly the concept of process creation.
4. List any three CPU scheduling algorithms.
5. List the necessary conditions for the occurrence of deadlock.
6. Explain the concept of dynamic loading.
7. Define thrashing.
8. Explain briefly about contiguous allocation method in disk.
9. Explain Bit vector free space management technique.
10. Explain briefly about file protection.

- * **Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.
11. (a) Explain about real-time operating systems.
(b) Explain any six services provided by operating system.
12. (a) Differentiate preemptive from non-preemptive scheduling with one example each.
(b) Explain about the four necessary conditions for deadlock occurrence.
13. Explain various techniques used for deadlock prevention.
14. (a) Explain about CPU scheduling criteria.
(b) Define semaphore and explain the operations on it.
15. (a) Explain variable-sized multiple partitioning with an example.
(b) Explain the concept of virtual memory.
16. Explain the following page replacement algorithms each with a suitable example: (a) FIFO (b) LRU
17. Explain the following disk scheduling algorithms each with a suitable example : (a) FCFS (b) C-SCAN
- * 18. (a) What is a file ? List any four file attributes.
(b) Explain in detail about two-level directory structure.

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