* 4450 *

C14–CM-402/C14–IT–**402**

4450

BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2016

DCM—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 multi-user operating system and give two examples.

2. Define a system call and list any two types.

3. Explain the concept of process.

4. Explain briefly about threads.

5. Define a deadlock state.

6. Explain about swapping.

7. List any three page replacement algorithms.

8. Define seek time and latency time in disk.

9. List any three disk scheduling algorithms.

10. List any six basic file operations.

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 the concept of spooling and buffering.

(b) Explain about multiprocessor system.

12. *(a)* Explain the five states of a process with appropriate sketch.

(b) Explain about inter-process communication.

13. Explain the following CPU scheduling algorithms :

(a) SJF

(b) Round-Robin

14. *(a)* What is process scheduling? Differentiate between long-term and short-term schedulers.

(b) Explain the resource preemption option used for recovery from a deadlock state.

15. *(a)* Explain segmentation concept with appropriate diagram.

(b) What is page replacement? When does a page-fault occur?

16. *(a)* Explain the cause for thrashing with appropriate sketch.

(b) Explain about working set model.

17. *(a)* Draw disk structure with appropriate sketch.

(b) Explain linked file allocation method in disk.

18. *(a)* Explain briefly about sequential file access method.

(b) Explain about the structure of tree structured directory.

★ ★ ★