AN/**2013**

Reg. No.

(To be **filled by the** candidate**)**

09CS51

(2009 Onwards)

COIMBATORE INSTITUTE OF TECHNOLOGY

(Government Aided Autonomous Institution**)**

COIMBATORE 641 **014**

B.E. DEGREE EXAMINATIONS**,** NOVEMBER **2013 (**Fifth Semester)

COMPUTER **SCIENCE** AND ENGINEERING **BRANCH**

09CS51 OPERATING SYSTEMS (Common to B.Tech. **IT V** Sem. **09/T51)**

Time: 3 Hours

1.

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Max**:** 75 **Marks**

INSTRUCTIONS

1.

2.

Answer ALL questions in PART A and **as per** choice **in** PART **B.**

PART **A and** PART **B** questions **should** be answered **separately** in the same answer sheet.

3. Question No. **11 is** compulsory.

PART - A

What **is** the function of kernel of **an** operating system**?**

2. State the difference between mode switching and process switching.

3. Define semaphore **and** its operations. **What** are its types**?**

4. What are **the** necessary conditions for occurrence of a deadlock**?**

5. Distinguish between pre-emptive and non-preemptive scheduling.

6. **What** is thrashing?

7. What **is** the purpose of translation look aside buffer?

8. What is double buffering**?**

9. What is the relationship between a pathname and working **directory?**

10. Define the terms: loading and linking.

PART - B

(10 X **2** = 20)

11. a) Explain the benefits **of** microkernel organization and its performance. (6)

b) Distinguish between the function of user level threads and kernel level **threads**. (5)

12. **a)** Which type of process is generally favored by **a multilevel** feedback queuing scheduler. **A** processor bound or **an** I/O bound process. Briefly explain **why?** (5)

b) Explain the following process scheduling algorithms with example. **(i)** Round Robin (**ii)** Fair share scheduling. (6)

(5 X 11 = 55)

(OR)

13. **a) Illustrate the** hardware solution **for** enforcing mutual exclusion. (5)

b) Write and Explain bankers' algorithm for deadlock **avoidance**. Explain **with** example. (6)

Contd . . .

14. a) Write short notes on buddy **system**.

b) Explain various page replacement policies **used**.

(OR)

15. a) Explain paging and segmentation **and** Illustrate the **address** translation mechanism **used in it**.

b) Write a note on Resident set **management**.

16. **a)** Discuss about I/O buffering system. (5)

b) Write a short note on File Directories. (6)

(OR)

17. a) Explain the various disk scheduling algorithms **and compare their** performance. (6)

b) Write a short note on secondary **storage** management. (5)

18. **a)** Explain File system architecture. (6)

b) Discuss the functions of **macro** processor.

(5)

(OR)

19. a) Explain **the** design of Macroprocessor.

(5)

b) List and explain blocking methods.

(6)

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