CBCS Scheme

USN | | | | | | | | | | |

16SCS11

First Semester M.Tech. Degree Examination, Dec.2016/Jan.2017
Advances in Operating System

Time: 3 hrs. Max. Marks: 80

Note: *Answer any FIVE full questions, choosing one full question from each module.*

2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-1

1 a. What are the three objectives of an operating system design? Briefly explain the typically provided services of an operating system. **(08 Marks)**

b. Draw the General structure of operating system control Tables and explain each Table. **(08 Marks)**

OR

2 a. Explain the UNIX – SVR4 process states with a neat diagram. **(08 Marks)**

b. Discuss the Five principal storage management responsibilities necessary for the efficient and orderly control of storage allocation. **(08 Marks)**

Module-2

3 a. List the differences between a thread and a process. Explain with an example the concept of sequential and multithreaded computation. **(08 Marks)**

b. With a neat diagram, explain thread management in SOLARIS. **(08 Marks)**

OR

4 a. Explain with example difference between variable allocation, global scope and fixed allocation local scope. **(08 Marks)**

b. Explain lazy buddy algorithm with appropriate example. **(08 Marks)**

Module-3

5 a. Explain the key design issues of multiprocessor operating system. **(08 Marks)**

b. Explain in detail Linux real time scheduling classes along with draw backs. **(08 Marks)**

OR

6 a. List and briefly define five general characteristics of a real operating system. **(08 Marks)**

b. Explain the distributed algorithm for mutual exclusion with an example. **(08 Marks)**

Module-4

7 a. Discuss some of the key characteristics of an embedded operating system. **(08 Marks)**

b. What is eCOS? Explain the various eCOS components with help of layered structure architecture. **(08 Marks)**

OR

8 a. With a neat diagram. Explain the components of Tiny OS. **(08 Marks)**

b. List and explain the key categories of malicious software. **(08 Marks)**

Module-5

9 a. Explain the different mechanisms by which a user process can perform IPC using the Kernel. **(08 Marks)**

b. With a neat diagram, explain the process and resource management organization in LINUX. **(08 Marks)**

OR

10 a. Explain with figure how traps, interrupts and exceptions are handled by the windows NT/2000 organization. **(06 Marks)**

b. Explain the windows NT trap modules with a block diagram. **(10 Marks)**

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