Code No: RR220503 **Set No. 1**

II B.Tech II Semester Supplimentary Examinations, Aug/Sep 2008
OPERATING SYSTEMS AND SYSTEMS PROGRAMMING
(Computer Science & Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Distinguish the term-multiprogramming from multiprocessing. [6]
   (b) Compare the features of Windows 2000 OS with UNIX OS. [10]
2. (a) With a neat sketch, explain the process control block. [6]
   (b) Write about the *preemptive* SJF CPU scheduling algorithm giving merits and demerits. [10]
3. Giving syntax and implementation details, write in detail about fork-join construct. [16]
4. (a) What are the various ways of managing deadlocks? [6]
   (b) Explain how deadlocks are *detected* and *recovered*. [10]
5. Write about segmentation, a memory management scheme, giving example, hardware diagram, and segment table implementation. [16]
6. (a) Explain the typical operations performed on a file and a directory. [6]
   (b) Write about Acyclic Graph-Structured file-directory structure. [10]
7. (a) What is meant by a 2-pass assembler?
   (b) Explain the various data structures used in the 2-pass assembling in detail. [4+12]
8. Explain the design of a macro processor in detail giving flowcharts. [16]

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Code No: RR220503 **Set No. 2**

II B.Tech II Semester Supplimentary Examinations, Aug/Sep 2008
OPERATING SYSTEMS AND SYSTEMS PROGRAMMING
(Computer Science & Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain the characteristics of a modern operating system. [8]
   (b) Write about the features of Windows 2000. [8]
2. (a) Explain the terms-context switching, dispatcher. [8]
   (b) Describe the process management in traditional UNIX. [8]
3. (a) Distinguish a thread from a process. [6]
   (b) Write in detail about symmetric multiprocessing. [10]
4. (a) What are the various ways of managing deadlocks? [6]
   (b) Explain how deadlocks are *detected* and *recovered*. [10]
5. (a) What is meant by relocation? [6]
   (b) Give the necessary hardware for implementing above mechanism. [10]
6. (a) What are the different free-space management schemes? State their merits and demerits.
   (b) Write the merits and demerits (ONLY) of the various disk-file allocation methods. [8+8]
7. Explain the design of a *two*-pass assembler in detail, giving format of all the data structures used. [16]
8. (a) What is meant by a macro and macro processor?
   (b) Distinguish the terminology: Macro definition, Macro call, Macro expansion. [8+8]

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Code No: RR220503 **Set No. 3**

II B.Tech II Semester Supplimentary Examinations, Aug/Sep 2008
OPERATING SYSTEMS AND SYSTEMS PROGRAMMING
(Computer Science & Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Position the operating system in the diagram indicating the components of a computing system. [6]
   (b) Brief the functions of an operating system. [6]
   (c) State the goals of an operating system succinctly. [4]
2. (a) List the various methods for evaluation of CPU scheduling algorithms. [4]
   (b) Distinguish the *simulation* method from other methods. [12]
3. Explain the problem of critical section (CSP) through illustrative example. [16]
4. (a)) Write the Bankers' algorithm. [10]
   (b) Illustrate the above algorithm by taking a typical snapshot of a system. [6]
5. (a) Explain the logical memory concept used in Segmentation. [6]
   (b) With a neat hardware diagram, explain the Segmentation concept. [10]
6. Giving merits and demerits, write about the file-directory structures. [16]
7. What is meant by assembling? Explain the various elements of assembly language programming through a simple assembly program. [16]
8. Explain the design of a macro processor in detail giving flowcharts. [16]

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Code No: RR220503 **Set No. 4**

II B.Tech II Semester Supplimentary Examinations, Aug/Sep 2008
OPERATING SYSTEMS AND SYSTEMS PROGRAMMING
(Computer Science & Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Write about hardware protection in multi-user environment. [9]
   (b) Brief the characteristics of real-time OS. [7]
2. (a) Distinguish a program from a process. [2]
   (b) Write about Process Control Block (PCB). [8]
   (c) Draw the process state diagram. [6]
3. Explain the problem of critical section (CSP) through illustrative example. [16]
4. (a) What are the various ways of managing deadlocks? [6]
   (b) Explain how deadlocks are *detected* and *recovered*. [10]
5. (a) Explain the partitioning-based memory management schemes.
   (b) Compare the memory management in Windows 2000 with that of Linux. [10+6]
6. (a) Explain how a General-graph directory structure eliminates the demerits of Acyclic graph file-directory structure. [12]
   (b) Explain how the compaction problem can be solved. [4]
7. Explain the design of a *two*-pass assembler in detail, giving format of all the data structures used. [16]
8. (a) Explain the terms- macro and macro processor.
   (b) List and brief the advanced macro features. [8+8]

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