

**C-09-CM-402**  
**3459**  
**BOARD DIPLOMA EXAMINATION, (C-09)**  
**MARCH/APRIL 2013**  
**D.C.M.E - IV SEMISTER EXAMINATION**  
**OPERATING SYSTEMS**

**TIME: 3 Hours]**

**[Total Marks :80]**

**PART - A**

**10\*3=30**

***Instruction: (1) answer all question and each question carries THREE marks***

***(2) answer should be brief and straight to the point and shall not exceed five simple sentences***

1. What is spooling?
2. Define system call.
3. List three overall strategies in handling deadlocks
4. what is FCFS?
5. List three examples of deadlocks that are not related to a computer-system environment.
6. What are P and V operations with semaphore?
7. How many frames are needed for each page? Why?
8. What is the page-fault frequency strategy?
9. Brief about disk structure.
10. List operations to be performed on directories

**PART- B**

**5\*10=50**

***Instructions: (1) Answer any five questions and each question carries ten marks. (2) The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.***

11. What are the services of operating system? Explain.
12. Explain the queuing diagram?
13. Explain the process state diagram.
14. Explain the threads.
15. Write about page replacement algorithms
16. (a) write about the swapping. (b) Write about the single partition allocation
17. Compare the contiguous, linked and indexed disk space allocations.
18. Explain the differences among the file access methods.

**C-09-CM-403**  
**458**  
**BOARD DIPLOMA EXAMINATION, (C-05)**  
**MARCH/APRIL 2013**  
**D.C.M.E - IV SEMISTER EXAMINATION**  
**OPERATING SYSTEMS**

**TIME: 3 Hours]**

**[Total Marks :100]**

**PART - A**

**10\*4=40**

***Instruction: (1) answer all question and each question carries 4 marks***

***(2) answer should be brief and straight to the point and shall not exceed five simple sentences***

1. Explain the concept of buffering.
2. List any six components of operating system.
3. Explain briefly the concept of a process
4. Define waiting time and turnaround time.
5. List the necessary conditions for deadlock.
6. What is the concept of dynamic linking?
7. What is paging? Write its purpose
8. Define virtual memory.
9. List the three file allocation methods
10. What is a file? List any four file attributes.

**PART- B**

**12\*5=60**

***Instructions: (1) Answer any five questions and each question carries 12 marks. (2) The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.***

11. (a) Explain the two types of operating systems each with two examples. (b) Explain briefly about distributed systems. List any two advantages.
12. . (a) Explain the concept of cooperating processes with two examples. (b) Differentiate preemptive and non-preemptive scheduling each with one example.
13. (a) Differentiate long-term and short-term schedulers. 9b) Define semaphore. Explain its operations

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BOARD DIPLOMA EXAMINATION, (C-00)

OCT/NOV-2011

DCME THIRD YEAR EXAMINATION

OPERATING SYSTEMS

Time : 3 Hours]

[Total Marks: 100

**PART-A** 10\*4=40

*Instructions: (1) Answer all questions and each question carries four marks. (2) Answers should be brief and straight to the point and shall not exceed five simple sentences.*

1. Define an operating system. List any two operating systems. 2+2
2. Define (i) process (ii) Thread
3. List any four scheduling algorithms.
4. What is a semaphore?
5. Define swapping.
6. What is segmentation?
7. What is thrashing?
8. List various allocation methods.
9. List various file operations
10. List the advantages of macro

**PART-B****5\*12=60**

Instructions: (1) Answer any five questions and each question carries twelve marks. (2) The Answers should be comprehensive and criteria for valuation is the Content but not the length of the answer.

11. (a) Explain multiprogramming and timesharing. (b) what is a system call and list various systems calls.
12. (a) explain process control block. (b) explain round robin scheduling algorithm.
13. (a) explain the necessary conditions for deadlocks. (b) explain techniques for deadlock prevention
14. Explain address binding, dynamic loading and dynamic linking.
15. (a) explain demand paging. (b) explain multiple partition allocation
16. Explain free space management
17. Explain various file access methods
18. (a) explain the functions of an assembler and its design. (b) explain the steps followed in designing an assembler

**C05-CM-403**  
**458**  
**BOARD DIPLOMA EXAMINATION, (C-05)**  
**OCTOBER/NOVEMBER-2011**  
**DCME-IV SEMESTER EXAMINATION**  
**OPERATING SYSTEMS**

**TIME: 3 HOURS]**

**[TOTAL MARKS:100**

**PART A**

*Instructions: (1) Answer all questions and each question carries four marks.(2) Answer should be brief and straight to the point and shall not exceed five simple sentences.*

1. Explain briefly about timesharing.
2. List any six operating system services
3. What is the purpose of multi-threading model? List any two models.
4. What is the difference between preemptive and non-preemptive scheduling?
5. Explain the wait and signal operations on a semaphore S
6. What is address binding? Explain about compile time binding?
7. Explain the concept of demand paging.
8. When does a page-fault occur?
9. Explain linked-list free space management technique.
10. Explain briefly about sequential file access method.

**PART-B**                      **5\*12=60**

*INSTRUCTIONS: (1) Answer any five questions and each question carries twelve marks. (2) The answer should be comprehensive and the criteria for valuation is the content but not the length of the answer.*

11. (a) expand "SPOOL". Explain the concept of spooling with appropriate sketch. (b) define a system call. Explain any two types of system calls.
12. (a) explain the five states of a process. (b) explain any five pieces of information stored in PCB.
13. (a) Explain ready queue and I/O queue with appropriate sketch of queuing diagram. (b) discuss about message system in interprocess communication
14. (a) Define a deadlock state.(b) Explain the following two options used for recovery from a deadlock state. (i) process termination(ii) resource preemption.
15. (a) explain paging with appropriate diagrams. Give one example (b) Explain briefly the concept of virtual memory.
16. (a) Write the procedure for handling a page-fault. (b) Explain the cause for thrashing.
17. (a) explain linked and indexed file allocation methods. (b) Explain SSTF disk scheduling algorithm.
18. (a) explain in detail about the structure of tree structured directory. (b) explain any four basic file operations.

**C-09-CM-402**  
**3452**  
**BOARD DIPLOMA EXAMINATION, (C-09)**  
**OCTOBER/NOVEMBER 2011**  
**D.C.M.E - IV SEMESTER EXAMINATION**  
**OPERATING SYSTEMS**

**TIME: 3 Hours]**

**[Total Marks :80]**

**PART - A**

**10\*3=30**

*Instruction: (1) answer all question and each question carries THREE marks*

*(2) answer should be brief and straight to the point and shall not exceed five simple sentences*

1. What is spooling?
2. What is you mean of distributed systems?
3. Write the differences between threads and processes.
4. What does 'preemptive' mean in the context of scheduling? Give an example.
5. What is semaphore?
6. Give examples of non-sharable resoures.
7. When external fragmentation happens?
8. What is the cause of thrashing? Briefly explain
9. What is the problem with FCFS scheduling with disks?
10. List steps you need to follow to delete a subdirectory in your account.

**PART- B**

**5\*10=50**

*Instructions: (1) Answer any five questions and each question carries ten marks. (2) The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer.*

11. Describe various types of operating systems.
12. Explain the queuing diagram, with respect to scheduling queues.
13. What is a process? Write about sequential and concurrent processes.
14. Explain the deadlock detection.
15. Explain the optimal page replacement algorithm, with an example.
16. Describe the page-to-frame translation, with appropriate example.
17. Compare the methods of the free disk space management
18. Explain the differences among the file access methods.

## BOARD DIPLOMA EXAMINATION, (C-09)

Oct/Nov-2012

## DCME IV SEMESTER EXAMINATION

## OPERATING SYSTEMS

Time : 3 Hours]

[Total Marks: 80

## PART-A 10\*3=30

*Instructions: (1) Answer all questions and each question carries four marks. (2) Answers should be brief and straight to the point and shall not exceed five simple sentences.*

1. What do you mean by multiprocessor system?
2. What do you mean by spooling and buffering?
3. What is meant by shared memory in interprocessor communication?
4. List the benefits of multithreading programming.
5. What are the turnaround time and response time?
6. Consider a system of four of the same type that are shared by the three processor each of the needs most two resources. show that the system is deadlock-free
7. How is the page number and offset numbers obtained?
8. What is the cause of thrashing? How does the system detect thrashing? Once it detects thrashing what can the system do to this problem?
9. What information is needed for disk i/o?
10. List operations to be performed on directories.

**PART-B****5\*10=50**

Instructions: (1) Answer any five questions and each question carries twelve marks. (2) The Answers should be comprehensive and criteria for valuation is the Content but not the length of the answer.

11. Explain the different types of system calls
12. Explain the multilevel queue scheduling
13. Explain the processes of recovery from deadlocks?
14. What is the process?
15. Write about page replacement algorithms
16. (a) write about the swapping  
(b) Write about the single allocation
  17. Explain the disk structure
  18. What are the file operations? Explain them

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BOARD DIPLOMA EXAMINATION, (C-09)  
APRIL/MAY-2012  
DCME IV SEMESTER EXAMINATION  
OPERATING SYSTEMS

Time : 3 Hours]

[Total Marks: 80

**PART-A** 10\*3=30

*Instructions: (1) Answer all questions and each question carries four marks. (2) Answers should be brief and straight to the point and shall not exceed five simple sentences.*

1. What do you mean of multiprocessor systems?
2. Write how the spooling is different from buffering?
3. List two ways that we can break the second condition to prevent deadlock.
4. Write short notes on semaphores.
5. What is meant by shared memory in inter process communication
6. What is a starvation problem with respect to CPU Scheduling
7. List the different ways of implementing the page table
8. What is the cause of thrashing? Briefly explain
9. What are the advantages and disadvantages of the bit vector free space approach?
10. How to protect files on a single-user system?

**PART-B**

**5\*10=50**

Instructions: (1) Answer any five questions and each question carries twelve marks. (2) The Answers should be comprehensive and criteria for valuation is the Content but not the length of the answer.

11. What are the services of operating system? Explain
12. Consider the following set of processes, with the length of the cpu burst time given in milliseconds:

Process	burst time	priority
P1	10	3
P2	1	1
P3	2	3
P4	1	4
P5	5	2

The processes are assumed to have arrived in the order P1,P2,P3,P4,P5, all at time 0. Draw four Gantt charts illustrating the execution of these processes using FCFS, SJF, a

non-pre-emptive priority (a smaller priority number implies a higher priority), and RR (quantum=1) scheduling. Which of the above schedules in the minimal average waiting time (over all processes) /

13. Explain the process state diagram
14. Explain the scheduling criteria
15. Write about FIFO and LRU page replacement algorithms, with appropriate examples.
16. (a) explain the difference between internal and external fragmentation. (b) explain the difference between logical and physical addresses.
17. (a) write about the SCAN disk scheduling. (b) write about the C-SCAN disk scheduling.
18. What are the file operations? Explain.