

15. a) Write notes on character streams and byte classes in Java.  
 b) Discuss briefly about Java I/O classes.

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(b) Find the Norton equivalent of the circuit shown in the figure below :—

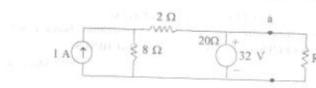


Fig. 2

12. (a) Deduce an expression for power in a 3-phase balanced circuit in terms of line voltage and line current. 5  
 (b) Derive the expressions for energy stored in inductance and capacitance. 5  
 13. (a) Explain the principle of operation of a transformer on no-load. 5  
 (b) A transformer on no-load takes 4.5 A at a power factor of 0.25 lagging when connected to a 230 V, 50 Hz supply. The number of turns of the primary winding is 250. Calculate  
 (a) the magnetising current,  
 (b) the core loss, and  
 (c) maximum value of flux in the core. 5  
 14. (a) Derive the emf equation of a dc generator. 5  
 (b) Explain the working principle of a dc motor. 5  
 15. (a) Explain the production of a rotating magnetic field with a 3-phase supply and 3-phase winding. 6  
 (b) Derive the torque equation of an induction motor. 4  
 16. (a) Explain the principle of operation of a stepper motor. 5  
 (b) Explain the principle of operation of a split phase capacitor start-capacitor run motor. 5  
 17. Write short notes on any THREE of the following :— 10  
 (a) Dot convention  
 (b) Transformer  
 (c) Three phase system  
 (d) Power factor  
 (e) Power factor correction  
 (f) Power factor improvement

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13. a) Explain the principle of operation of a dc motor. 6  
 b) A 240V DC shunt motor takes an input of 23kW. The armature and field resistances are 0.2Ω and 125Ω respectively. Neglecting stray and friction losses, determine the efficiency. 4  
 14. Describe the construction and explain the principle of operation of a 3-φ induction motor. 6  
 15. Explain the principle and operation of a brush less DC motor.  
 c) Split phase motor. 4



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2

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- Find the efficiency of the transformer at full load and unity power factor. 5  
 13. Describe the construction and working principle of a dc machine and explain how emf is produced in a generator. 10  
 14. a) Explain the production of rotating magnetic field. 5  
 b) Explain any one method of speed control of induction motor. 5  
 15. Explain the operation of capacitor start capacitor run single phase induction motor. 10  
 16. A 4 kVA, 400/200 V, 50 Hz, single phase transformer has the following test data.  
 OC test : 200 V, 2A, 90 W.  
 SC test : 20 V, 10A, 100 W.  
 Find the equivalent circuit referred to high voltage side. 10  
 17. Write a short notes on the following :  
 a) Autotransformer 3  
 b) Energy stored in capacitor 3  
 c) Application of DC motors. 4

2

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**FACULTY OF ENGINEERING**  
**B.E. 2/4 (CSE) II Semester (New) (Main) Examination, May/June 2012**  
**OBJECT ORIENTED PROGRAMMING USING JAVA**

Time : 3 Hours]

[Max. Marks : 75

**Note:** Answer all questions from Part A.  
 Answer any five questions from Part B.

**PART – A**

(25 Marks)

1. Define object oriented development. 3

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**FACULTY OF ENGINEERING**  
**B.E. 2/4 (CSE) II Semester (New) (Main) Examination, May/June 2012**  
**OBJECT ORIENTED PROGRAMMING USING JAVA**

Time : 3 Hours]

[Max. Marks : 75

**Note:** Answer all questions from Part A.  
 Answer any five questions from Part B.

**PART – A**

(25 Marks)

1. Define object oriented development. 3  
 2. What is a package ? 2  
 3. What are the different ways of defining constants in Java ? 2  
 4. Differentiate string and string buffer. 3  
 5. What are iterators ? 2  
 6. Differentiate label and test field. 2  
 7. List the byte stream classes. 3  
 10. What is serialization ? 2

**PART – B**

(50 Marks)

11. a) What is type conversion and casting ? Explain with example. 5  
 b) What is an interface ? Give example. 5  
 12. a) What is synchronisation ? Explain with example. 5  
 b) Write a program to create and use user defined exception. 5

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5. Explain about string tokenizer. 2  
 6. Explain about Bitset and Timer. 3  
 7. List the methods in Inputstream. 3  
 8. List the methods in OutputStream. 2  
 9. What is an frame ? 2  
 10. Explain the life cycle of an applet. 3

**PART – B**

50 Marks

11. Explain the concept of inheritance and give examples on each type of inheritance.  
 12. Write a program that shows three methods that exit in various ways, none without executing their finally clauses.

7. List the methods in Inputstream . 3  
 8. List the methods in OutputStream. 2  
 9. What is an frame ? 2  
 10. Explain the life cycle of an applet. 3

**PART – B**

50 Marks

11. Explain the concept of inheritance and give examples on each type of inheritance.
12. Write a program that shows three methods that exit in various ways, none without executing their finally clauses.

(This paper contains 2 pages)

1

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Code No.: 5211/N

FACULTY OF ENGINEERING  
B.E. II/IV (CSE) II Semester (Supplementary) Examination, December 2008  
OPERATING SYSTEM

Time : 3 Hours

[Max. Marks : 75]

Answer all questions of Part A.  
Answer any five questions from Part B.

Part A - (Marks : 25)

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1. What can be the various states of a process ? 2
2. What can be the different parameters to define a multilevel feedback queue scheduler? 3
3. Under what circumstances do page faults occur? 2
4. What is a Free - space list? What are the different approaches to implement it. 3
5. What is a Semaphore ? Where can it be used ? 2
6. What is a Resource - Allocation Graph? Where can it be used? 3
7. With regard to Disk scheduling, define seek time, rotational latency. 2
8. How does DMA increase system concurrency? 2
9. What are the aims of the central conflict resolution mechanism provided by LINUX system? 3
10. What are the design principles of the WindowsXP system? 3

Part B - (Marks :  $5 \times 10 = 50$ )

11. (a) Describe the actions taken by a Kernel to switch context between processes. 5  
or Explain the criteria for comparing CPU scheduling algorithms.
12. (a) Explain the "Segmentation with paging" scheme of memory management. 5  
(b) What are the advantages and disadvantages of contiguous, linked and indexed allocation schemes of disk space. 5
13. (a) Give an algorithm to solve the readers - writers problem using semaphores. 6  
(b) What are various schemes for recovery from deadlocks ? Explain. 4

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2-2 CSE

Code No.: 5238

FACULTY OF ENGINEERING  
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OPERATING SYSTEMS

FACULTY OF ENGINEERING  
B.E. 2/4 (CSE) II Semester (Suppl.) Examination, January 2012  
OPERATING SYSTEMS

Time: 3 Hours

[Max. Marks: 75]

Note: Answer all questions from Part A, answer any five questions from Part B.

PART - A

(25 Marks)

1. What are the five major activities of an operating system in regard to file management ? 3
  2. Enlist the major criteria for comparing CPU scheduling algorithms. 2
  3. What is the use of translation look aside buffer in memory management ? 3
  4. Enlist the different file allocation methods to effectively utilize the disk space. 2
  5. How is the "condition construct" useful in the Monitor-synchronization scheme ? 3
  6. What are the necessary conditions for deadlock to occur ? 2
  7. How is reliability by redundancy obtained in disks ? 2
  8. What is the specific advantage of using interrupt priority levels ? 3
  9. What are the basic design principles of LINUX system ? 3
  10. What is the importance of hardware abstraction layer in WINDOWS-XP ? 2
- DADT D - - - - - DADT D
- b) What is the advantage of Acyclic-graph directory structure as compared to the tree directory structure of files ? 5

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FACULTY OF ENGINEERING  
B.E. 2/4 (CSE) II Semester (Old) Examination, May/June 2012  
OPERATING SYSTEMS

Time : 3 Hours]

[Max. Marks : 75

**Note :** Answer all questions of Part A.  
Answer five questions from Part B.

PART – A

(25 Marks)

9. List the layers of network structure in LINUX. 2  
10. What is the importance of process manager in Windows XP ? 3

PART – B

(50 Marks)

11. a) Explain about process control block. 5  
b) Explain about importance of a medium term scheduler. 5

(This paper contains 2 pages)

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OPERATING SYSTEMS

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1

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FACULTY OF ENGINEERING  
B.E. 2/4 (CSE) II Semester (Main) Examination, June 2010  
OPERATING SYSTEMS

Time : 3 Hours]

[Max. Marks : 75

**Note :** Answer all questions of Part A.  
Answer five questions from Part B.

PART – A

(Marks : 25)

1. What is the operating system's role in a computer system ? 2  
2. What is the difference between a process and a thread ? 2  
3. What is understood by – ‘Belady’s Anomaly’ ? 3  
4. What are the different schemes for – Free space management on the disk ? 2  
5. What are the requirements that a solution to the critical section problem must satisfy ? 3  
6. Differentiate between “Request Edge” and “Assignment Edge” in a Resource Allocation Graph. 2  
7. What is the importance of different RAID levels. 2  
8. Differentiate between blocking and non-blocking I/O. 2  
9. What are the aims of The Conflict Resolution Mechanism in LINUX ? 3  
10. What are the basic services provided by Windows XP Executive ? 3

PART – B

(Marks : 50)

11. a) How does the addition of a medium-term scheduler affect the process execution time ? Explain. 5  
b) Discuss the various criteria for comparing CPU scheduling algorithms. 5  
  
12. a) What is ‘thrashing’ ? What is the cause ? How can it be prevented ? 5  
b) Explain about ‘Mounting’ a file system. 5  
13. a) How can ‘Monitors’ be used in providing a solution to the Dining-Philosophers problem. 6  
b) What are the various mechanisms of implementation of Access Matrix. 4  
14. a) What is the advantage of the shortest-seek time First Disk Scheduling algorithm ? How is it different from SCAN scheduling algorithm ? 5  
b) What are the various kinds of performance overheads associated with servicing an interrupt ? 5  
15. a) Briefly discuss the components of the “LINUX System”. 5  
b) What is the working of Cache Manager in WINDOWS XP ? 5  
16. a) Briefly describe the concept of multithreaded programming and state the benefits of it. 5  
b) Describe the steps in a DMA transfer and explain the advantage. 5  
17. Write short notes on any two : (5x2)  
a) Revocation of Access Rights  
b) Virtual File System in Linux  
c) Process Management in Windows XP.

(This paper contains 2 pages)

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**FACULTY OF ENGINEERING**  
**B.E. 2/4 (CSE) II Semester (Old) Examination, May/June 2012**  
**DATA COMMUNICATIONS**

Time: 3 Hours]

[Max. Marks : 75]

**Note:** Answer all questions of Part A. Answer any five questions from Part B.

**PART – A**

**25**

1. What is a protocol ? 2
2. Define Manchester and differential Manchester encoding. 3
3. What is interfacing ? 3
4. What is a parity check ? 2
5. What is congestion ? 3
6. What is the use of AAL protocol ? 2
7. Compare Bus topology with star topology. 3
8. What is Ad-HOC Networking ? 2
9. Define FDDI. 2



Code No. : 5239/O

**FACULTY OF ENGINEERING**  
**B.E. 2/4 (CSE) II Semester (Old) Examination, May/June 2012**  
**DATA COMMUNICATIONS**

Time: 3 Hours]

[Max. Marks : 75]

**Note:** Answer all questions of Part A. Answer any five questions from Part B.

**PART – A**

**25**

1. What is a protocol ? 2
2. Define Manchester and differential Manchester encoding. 3
3. What is interfacing ? 3
4. What is a parity check ? 2
5. What is congestion ? 3
6. What is the use of AAL protocol ? 2
7. Compare Bus topology with star topology. 3
8. What is Ad-HOC Networking ? 2
9. Define FDDI. 2
10. What are the advantages of CSMA/CD over CSMA ? 3

**PART – B**

**50**

11. What are the transmission impairments ? Explain all of them. 10
12. Write a notes on :
  - a) Guided transmission media. 5
  - b) Sliding window protocol. 5

(This paper contains 2 pages)

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