7187

BCA 4th Semester Examination, January 2011

OPERATING SYSTEM ORGANIZATION AND UNIX

Paper - BCA-206

Time allowed : 3 hours] *[Maximum marks :75*

***Note :** Attempt **five** questions by selecting at least two questions from each Unit. All questions carry equal marks.*

1. (a) Describe Operating System. Explain Operating System Architecture. 7

(b) Explain Portability, Flexibility and Reliability of an Operating System. 8

2. Discuss in detail.

(a) Multiprogramming 5

(b) Multitasking 5

(c) Time Sharing 5

3. Discuss in detail various techniques of Memory Management in Single User Operating System. 15

4. Discuss in detail.

(a) I/O devices 5

(b) Device Independent I/O 5

(c) File Management functions 5

5. Discuss the directory structure of an UNIX Operating System. Explain different Operation used in Directory Structure. 15

6. Describe the following

(a) File Locking 5

(b) File Protection and Security 5

(c) Distributed file System 5

7. (a) Describe in detail Deadlock Prevention and Deadlock avoidance. 7

(b) Explain any eight UNIX Commands. 8

8. (a) Describe in detail Critical Code Section and Mutual Exclusion. 8

(b) Describe in detail Banker's Algorithms 7

7190

BCA 4th Semester Examination, January–2011

FINANCIAL ACCOUNTING

Paper - BCA-209

Time allowed : 3 hours] *[Maximum marks :75*

Note :Attempt five questions in all. All questions carry equal marks.

1. What are Accounting Standards? Give their features and significance.

2. What are capital and revenue receipts? Give their features and difference.

3. Explain the procedure of assigning the codes to accounting heads through Computerised Accounting System in detail. Give its importance.

4. Explain the traditional and accounting equation approach of recording business transactions. How do they differ?

5. What is lease accounting? Give its types and significance.

6. What is Budgetary control? Give its importance to the business in the light of the use of computers.

7. What is Marginal Costing? How is it important for managers in present day life?

8. What is variance? Explain various material variances with the help of imaginary figures.

7189

BCA 4th Semester Examination, January 2011

OBJECT ORIENTED DESIGN AND PROGRAMMING

Paper - BCA-208

Time allowed : 3 hours] *[Maximum marks :75*

***Note** :Attempt any **five** questions.*

1. What do you mean by object-oriented programming? Explain its various features. 15

2. (a) Define function and its declaration in C++. How can a function be defined inline? 4

   (b) What is inheritance? Discuss different types of inheritance with example. 11

3. (a) What is a friend function? What are the pros and cons of using a friend? 6

   (b) What do you mean by overloading of a function? When do you use this concept? Give an example of function overloading. 9

4. (a) Discuss basic data types in C++. 6

   (b) Discuss memory management operators with the

help of examples. 6

(c) C++ permits explicit conversion of variable and expressions, comment. 3

5. (a) What is meant by dynamic initialization of object? Discuss with the help of an example of your own choice. 8

(b) What do you mean by data-hiding? How it can be implemented in C++? Give an example. 7

6. What is virtual function? Why it is needed? What are the basic rules for creating virtual functions? Write down a program in C++ for virtual function. 15

7. (a) Define abstraction, aggregation and generalization. 8

(b) What is meant by call by value and call by reference? Under what circumstances call by reference is preferred over call by value? 7

8. Write a note on the following : 15

(a) Scope Resolution operator

(b) Container class and their usage.

(c) 'This' pointer in C++

7187

BCA 4th Semester Examination, January 2011

OPERATING SYSTEM ORGANIZATION AND UNIX

Paper - BCA-206

Time allowed : 3 hours] *[Maximum marks :75*

***Note** :Attempt **five** questions by selecting at least two questions from each Unit. All questions carry equal marks.*

1. (a) Describe Operating System. Explain Operating System Architecture. 7

   (b) Explain Portability, Flexibility and Reliability of an Operating System. 8

2. Discuss in detail.

   (a) Multiprogramming 5

   (b) Multitasking 5

   (c) Time Sharing 5

3. Discuss in detail various techniques of Memory Management in Single User Operating System. 15

4. Discuss in detail.

   (a) I/O devices 5

   (b) Device Independent I/O 5

   (c) File Management functions 5

5. Discuss the directory structure of an UNIX Operating System. Explain different Operation used in Directory Structure. 15

6. Describe the following

   (a) File Locking 5

   (b) File Protection and Security 5

   (c) Distributed file System 5

7. (a) Describe in detail Deadlock Prevention and Deadlock avoidance. 7

   (b) Explain any eight UNIX Commands. 8

8. (a) Describe in detail Critical Code Section and Mutual Exclusion. 8

   (b) Describe in detail Banker's Algorithms 7

7188

BCA 4th Semester Examination, January–2011

SOFTWARE ENGINEERING

Paper - BCA-207

Time allowed : 3 hours] *[Maximum marks :75*

***Note :** Attempt any **five** questions. All questions carry equal marks.*

1. (a) What is a Waterfall Model? What are the major outputs in a development project which follows the Waterfall Model? Explain. 8

   (b) What tools and techniques are available for Software Maintenance? Discuss two of them in detail. 7

2. (a) What is Software Testing? List and explain various software testing techniques. 10

   (b) Discuss the principles that may be useful in software development and show how they are related. 5

3. (a) What is 'Software Crisis'? State its significance in reference to 'Software Engineering' discipline. 5

(b) What is meant by Software Quality and Productivity? Briefly describe the various factors which influence quality and productivity of a software product. 10

4. (a) What is Software Failure? Explain three necessary and sufficient conditions for Software failure through an example. 7

(b) What is meant by Software Quality Assurance? Explain the role of testing and its relationship to quality assurance. 8

5. (a) How do Object-Oriented Design (OOD) and Structured Design differ? What aspects of these two design methods are the same? 8

(b) Why is completeness more difficult to achieve as abstraction level increases and why must interactivity increase if completeness is to increase? 7

6. (a) What is Software Reliability? Explain how is it related to : 8

(i) Hardware Reliability

(ii) Failure Intensity

(b) What do you understand by Software Specification Reviews? What are its benefits? Explain. 7

7. (a) What is Configuration Management? State its relevance to the Software Engineering discipline. 5

(b) What is the difference between Software Verification and Validation? Describe the importance of each in the Software Development process. Also enumerate few important verification and validation techniques. 10

8. Explain the following :

(i) CASE Tools and their utility 8

(ii) Software Implementation 7