

## Unit IV

7. (a) Describe various directory structures and file system organizations for operating systems.
- (b) How to store files on disk ? Explain the requirement and solution of file protection. **8,7**
8. What is a disk ? Draw disk structure. Explain the working of SCAN, C-SCAN, LOOK AND C-LOOK. **15**

No. of Printed Pages : 04

Roll No. ....

**D-211**

**B.C.A. EXAMINATION, May 2017**

(Fourth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-202-B

OPERATING SYSTEM

*Time : 3 Hours*

*[Maximum Marks : 75*

---

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

---

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

### Unit I

1. (a) Describe the essential properties of the following types of operating systems :
  - (i) Batch
  - (ii) Interactive
  - (iii) Time sharing Real-time
  - (iv) Distributed.  $2\frac{1}{2}\times 4$
- (b) Why OS of a personal computer and that of a server should differ ? Discuss. **5**
2. (a) What are the *three* main purposes of an operating system ? **9**
- (b) While designing operating system for a real-time environment what are the major challenges ? **6**

### Unit II

3. (a) What do you mean by CPU scheduling ? Explain any *two* scheduling algorithms with suitable examples. **6**

- (b) Describe the *four* necessary conditions for a deadlock to occur. Explain, how each of these can be avoided to prevent the occurrence of deadlock. **9**
4. (a) What are different levels of process scheduling ? What is multiprocessor scheduling ? **7**
- (b) What are the *two* differences between user-level threads and kernel threads ? Under what circumstances is one type better than the other ? **8**

### Unit III

5. (a) What is Paging ? What is demand paging ? Explain any *three* page replacement algorithms. **10**
- (b) What is the cause of thrashing ? How does the system detect thrashing ? **5**
6. What is the Dining Philosophers problem ? Show how semaphores can be used to solve it. **15**

No. of Printed Pages : 03

Roll No. ....

**D-212**

**B.C. A. EXAMINATION, May 2017**

(Fourth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-204-B

RELATIONAL DATABASE MANAGEMENT  
SYSTEMS

*Time : 3 Hours]*

*[Maximum Marks : 75*

---

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

---

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

### Unit I

1. Explain different views of data. Also discuss different Codd rules for relational model. **15**
2. Explain the following in relation to database models with appropriate example : **15**
  - (a) Network Model
  - (b) Client Server Architecture
  - (c) Relational Model.

### Unit II

3. Explain different relational algebra operations along with their equivalent command in SQL. **15**
4. Differentiate between tuple relational calculus and domain relational calculus. Take appropriate example. **15**

### Unit III

5. Explain database design (with stepwise normalization) by taking example of student admission system. **15**

6. Explain different functional dependencies and transitive dependencies in database design. Explain with example. **15**

### Unit IV

7. Explain different character set and data types of PL/SQL. **15**
8. Write short notes on the following : **15**
  - (a) Cursor
  - (b) Triggers.

No. of Printed Pages : 03

Roll No. ....

**D-213**

**B. C. A. EXAMINATION, May 2017**

(Fourth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-206-B

INTRODUCTION TO INTERNET AND WEB  
DESIGNING

*Time : 3 Hours]*

*[Maximum Marks : 75*

---

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

---

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(3-30/1) M-D-213

**P.T.O.**

### Unit I

1. (a) Explain working of DNS. 7  
(b) Explain various types of computer networks. 8
2. (a) Explain star and mesh topology with their pros and cons. 8  
(b) What is World Wide Web ? Explain working of Internet. 7

### Unit II

3. (a) What do you mean by a web browser ? Explain, how a web browser shows you the desired web page ? 8  
(b) What do you mean by a search engine ? Explain its various categories. 7
4. Explain the working of HTTP. 15

### Unit III

5. (a) Explain various phases of website development.  
(b) Explain working of web server. 15

6. Explain the following : 15
  - (a) URL
  - (b) Proxy server
  - (c) Server Side Scripting.

### Unit IV

7. Explain the following : 15
  - (a) Structure of HTML documents
  - (b) Image download issue
  - (c) Anchor tag.
8. What are CSS ? Write CSS for a HTML Page to : 15
  - (a) Set background colour
  - (b) Left indent text
  - (c) Increase spacing between lines
  - (d) Change the cursor
  - (e) Hyperlink with underline.

No. of Printed Pages : 03

Roll No. ....

**D-214**

**B. C. A. EXAMINATION, May 2017**

(Fourth Semester)

(B. Scheme) (Main & Re-appear)

(BCA)

BCA-208-B

BASIC ACCOUNTING

*Time : 3 Hours]*

*[Maximum Marks : 75*

---

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

---

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(3-30/3) M-D-214

**P.T.O.**

### Unit I

1. What do you understand by Accounting Equation ? Explain with suitable examples. **15**
2. Write short notes on the following : **5+5+5=15**
  - (a) Background of Accounting.
  - (b) Distinguish between Expenditure and Expenses.
  - (c) What are Liabilities ? Explain with suitable examples.

### Unit II

3. Explain the meaning of the term Journal. How posting is made from Journal to respective Ledger accounts ? **15**
4. Briefly explain the following : **5+5+5=15**
  - (a) Features of Cash Book
  - (b) Need and objectives of Trial Balance
  - (c) What is a Purchase Book ?

### Unit III

5. What do you mean by Final Accounts ? Why the preparations of Final Accounts are necessary for the business organizations ? **15**
6. Write short notes on the following : **5+5+5=15**
  - (a) State any *six* reasons when the cash book balance will be higher than the passbook balance.
  - (b) Purpose of preparing Bank Reconciliation Statement.
  - (c) Profit and Loss Account.

### Unit IV

7. What is Capital ? Explain different sources of raising capital in corporate undertaking. **15**
8. Briefly explain the following : **15**
  - (a) Applications of Computer in Accounting
  - (b) Features of Working Capital.

No. of Printed Pages : 03

Roll No. ....

**D-215**

**B.C.A. EXAMINATION, May 2017**

(Fourth Semester)

(B. Scheme) (Main & Re-appear)

BCA

BCA-210-B

Object Oriented Programming

*Time : 3 Hours]*

*[Maximum Marks : 75*

---

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

---

**Note** : Attempt *Five* questions in all, selecting at least *one* question from each Section. All questions carry equal marks.

(1-12/19)M-D-215

**P.T.O.**

## Unit I

1. What is an Object Oriented Programming Approach ? Discuss the different characteristics of Object Oriented Language. **15**
2. (a) What are the data types supported by C++ ? Explain hierarchy of data types in C++ ?  
(b) Discuss the benefits of Object Oriented Programming.

## Unit II

3. Explain the difference between :
  - (a) Public and Protected Access Specifier
  - (b) Constructor and Destructor
  - (c) Classes and Objects.
4. Explain the following with the help of examples in C++ :
  - (a) Copy constructor
  - (b) Static Member
  - (c) Parameterized Constructor.

## Unit III

5. What is Inheritance ? What are the different types of inheritance supported by C++ ? Explain the concept of single inheritance with the help of example in C++ ?
6. Why do you require friend class and friend function ? Give an example to prove that the friendship is neither inherited nor transitive.

## Unit IV

7. What is an exception ? How is an exception handled in C++ ? What are the advantages of using exception handling mechanism in a program ?
8. What are File Pointers ? Discuss the default actions on the file pointers while opening a file. Also discuss the functions that manage the movement of file pointer to any desired position inside the file.