D211

B.C.A. EXAMINATION, 2020

(Fourth Semester)

(Main & Re-appear)

BCA

BCA202B

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.   What is an Operating System ? What are its components ? Explain simple batch operating system in detail.   **15**

2.   (a) Differentiate between Parallel and Distributed Operating Systems.   **8**

      (b) What is Multiprogrammed Operating System ? What are its features ? Explain.   **7**

Unit II

3.   What is CPU Scheduling ? What are its levels ? State and explain various scheduling algorithms in brief.   **15**

4. (a) What is Deadlock ? State methods to handle deadlocks. **8**

(b) What is a Process State ? State and elaborate process control block in brief. **7**

Unit III

5. (a) What are Concurrent Processes ? State and explain critical section problem. **8**

(b) Discuss classical process coordination problems with their solution in brief. **7**

6. (a) How the memory management performed for single user operating system ? Explain. **8**

(b) Differentiate between Demand Paging and Segmentation. **7**

Unit IV

7. (a) What is File Management ? What are methods to access a file ? **8**

(b) Differentiate between Continguous and Linked Allocation Methods. **7**

8. (a) How can you manage a Device ? Explain Disk Structure. **8**

(b) Discuss FCFS and C-SCAN Disk Scheduling. **7**

D212

B.C.A. EXAMINATION, 2020

(Fourth Semester)

(Main & Re-appear)

RELATIONAL DATABASE MANAGEMENT SYSTEMS

BCA204B

(BCA)

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) Write and explain the Codd's rules for relational database model.   **8**

   (b) What are advantages offered by databases ? Do they have some disadvantage also ? If yes, list those.   **7**

2. Describe the following with respect to a relation giving suitable examples :   **15**

   (a) Attributes

   (b) Schemas

   (c) Tuples

   (d) Domain

   (e) Relation Instance.

Unit II

3. Differentiate between Logical data independence and Physical data independence ? Which one is harder to achieve ? Why ? **15**

4. Discuss the various types of inner join operations. Why is theta join required ? **15**

Unit III

5. A Table : Library

No.	Title	Author	Type	Pub	Qty.	Price
1	Data Structure	Lipschutz	DS	McGraw	4	217
2	Computer Networks	Tannenbaum	NET	Pearson	2	75
3	Java	Schildt	PROG	PHI	4	350
4	Dbase	Palmer	DBMS	PustakM	5	130
5	Mastering C++	Gurewich	PROG	BPB	3	295
6	Guide Network	Freed	NET	ZPress	3	200
7	Mastering Foxpro	Seigal	DBMS	BPD	2	135
8	DOS Guide	Norton	OS	PHI	3	175

Write SQL commands for the following on the basis of table Library :

(a) Select all the PROG type published by BPB from Library.

(b) Display a list of all books with Price more than 130 and sorted by Qty.

(c) Display all the books sorted by Price in ascending order.

(d) Count the number of books published by PHI.

(e) Give the output the following SQL commands on the basis of table Library :

    (i) Select MIN (Price) from Library where Price < 150;

    (ii) Select COUNT(DISTINCT Pub) from Library.

6. List SQL DDL commands. How referential integrity is achieved by SQL ? Explain. **15**

Unit IV

7. List any *five* characteristics of PL/SQL. Also list and explain the data types supported by PL/SQL. **15**

8. What do you mean by PL/SQL packages ? What are the parts of the package ? Explain the purpose of each briefly. **15**

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B.C.A. EXAMINATION, 2020

(Fourth Semester)

(Main & Re-appear)

BCA

BCA206B

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.

Unit I

1. (a) Define internet ? Explain the working of it.   **8**

    (b) What is a web browser ? Explain its working.   **7**

2. Define computer topology. Explain the types of computer networks topologies. **15**

Unit II

3. What is HTTP ? Explain its working in detail.   **15**

4. Explain the following :

    (a) Searching criterion   **8**

    (b) Mailing list.   **7**

Unit III

5. What is a server ? Also explain web server and proxy server. **15**

6. Write notes on the following :
   (a) Dynamic web page **8**
   (b) URL. **7**

Unit IV

7. What are core level and block level events in HTML ? Explain. **15**

8. What is a style sheet ? Explain the types of style sheets in detail. **15**

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B.C.A. EXAMINATION, 2020

(Fourth Semester)

(Main & Re-appear)

BASIC ACCOUNTING

BCA208B

BCA

Time : 3 *Hours*]   [*Maximum Marks :* 75

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

Unit I

1. What do you mean by Accounting ? Explain its objectives and scope of accounting in present scenario.

2. Define the concept of Double Entry System. Explain its need and importance in present time.

Unit II

3. Recording the following Transitions in Journal book :
   (i)   Started business with Cash Rs. 10,00,000
   (ii)   Purchased Goods from Shubham Suppliers on credit of Rs. 7,50,000.

(iii) Deposit Cash into Bank Rs. 2,50,000

(iv) Sold goods to Dynamic Traders Pvt. Ltd. of Rs. 8,00,000

(v) Received a cheque of Rs. 6,00,000 from Dynamic Traders Pvt. Ltd.

(vi) Issued a cheque of Rs. 7,00,000 as a partial payment to Shubham Suppliers

4. What do you mean by Ledger ? Explain its importance and also discuss difference between journal and ledger.

Unit III

5. Understand the procedure of Preparing Trading and Profit and Loss Account and Balance Sheet of a business. The following trial balance have been taken out from the books of XYZ as on 31 st December, 2018 :

	Dr.	**Cr.**
	Rs.	Rs.
Plant and Machinery	1,00,000	
Opening stock	60,000	
Purchases	1,60,000	
Building	1,70,000	
Carriage inward	3,400	
Carriage outward	5,000	
Wages	32,000	
Sundry debtors	1,00,000	
Salaries	24,000	
Furniture	36,000	
Trade expense	12,000	
Discount on sales	1,900	
Advertisement	5,000	

Bad debts	1,800	
Drawings	10,000	
Bills receivable	50,000	
Insurance	4,400	
Bank balances	20,000	
Sales		4,80,000
Interest received		2,000
Sundry creditors		40,000
Bank loan		1,00,000
Discount on purchases		2,000
Capital		171,500
	7,95,500	7,95,500

Closing stock is valued at Rs. 90,000

Prepare the trading and profit and loss account of the business for the year ended 31.12.2018 and a balance sheet as at that date.

6. What do you mean by Bank Reconciliation Statement ? Prepare simple bank reconciliation statement by imaginary figure.

Unit IV

7. Write short notes on the following :
   (i) Source of rising of capital
   (ii) Application of computer in field of Accounting

8. Discuss the concept of working capital. Are the gross and net concepts of working capital exclusive ? Explain.

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B.C.A. EXAMINATION, 2020

(Fourth Semester)

(Main & Re-appear)

BCA

BCA210B

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 Unit. All questions carry equal marks.

Unit I

1. Define the following terms :   **15**

    (a) Polymorphism

    (b) Characteristics of OOP

    (c) Recursion.

2. (a) Differentiate between procedural and object oriented language.   **9**

    (b) How can pointers be helpful in arrays ?   **6**

Unit II

3. (a) What are the different access specifiers available in C++ ? **5**

   (b) What is a class ? **5**

   (c) What is a destructor ? What is the syntax of destructor ? **5**

4. (a) What is a constructor ? What are the properties of a constructor ? Differentiate between parametrized and copy constructor. **10**

   (b) What are the properties of static data and static functions ? **5**

Unit III

5. (a) What is function overloading ? Illustrate with suitable program. **7**

   (b) Write a program to overload + and = = operators for string class. **8**

6. (a) What is a virtual function ? Why is it required ? What is a pure virtual function ? **5**

   (b) Write a program to illustrate the concept of constructors in inheritance. **6**

   (c) What is a virtual base class ? **4**

Unit IV

7. (a) What is an exception ? Explain the use of keywords hit, try, throw and catch. What is meant by rethrowing an exception ? What is the syntax for rethrowing an exception ? **11**

   (b) What is a binary file ? **4**

8. (a) What is a function template ? Write a template function to find maximum of two numbers. **9**

   (b) Differentiate between overloaded function and template function. **6**