

V

(20516)

Roll No.

BCA-II Sem.

18006

B. C. A. Examination, May 2016

C Programming

(BCA-202)

(New)

Time : Three Hours]

[Maximum Marks : 75

Note: Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Attempt all the *five* questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words. $3 \times 5 = 15$

1. What are two-dimensional arrays ? How can you initialize them ?
2. How does a structure differ from an array ?

(2)

3. Distinguish between (*m)[5] and *m[5].
4. How can you declare and initialize a string ?
5. Explain the meaning of the following :
 - (i) Tag
 - (ii) Size of.

Section-B

(Short Answer Questions)

Attempt any *two* questions out of the following three question Each question carries $7\frac{1}{2}$ marks. Short answer is required not exceeding 200 words. $7\frac{1}{2} \times 2 = 15$

6. What is a dynamic array ? How is it created ? Give a typical example of use of a dynamic array.
7. Write a program to illustrate the comparison of structure variables.
8. What is a pointer ? How can it be initialized ? Write a program using pointer to read in an array of integers and print its elements in reverse order.

Section-C

(Detailed Answer Questions)

Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. $15 \times 3 = 45$

9. (a) Give the main advantage of storing data as a file. Describe various ways in which data files can be categorized in 'C'. Illustrate by using examples.
- (b) Enumerate the difference between functions and parameterized macros. Why do we recommend the use of parentheses for formal arguments used in a macro definition?
10. (a) Describe the two bitwise shift operators. What requirement must be operands satisfy? What is the purpose of each operand?
- (b) Describe two different approaches to updating a data file. Which approach is better and why? For what kinds of applications are unformatted data files well suited?

11. (a) Write a program to illustrate the use of structure pointers.
- (b) What are jumping statements? Explain the difference between break and continue statements.
12. (a) Describe the limitation of using getch and scanf functions for reading strings. Write a program which will read a text and count all occurrences of a particular word.
- (b) What is prototyping? Why is it necessary? Distinguish between the following:
- (i) Scope and visibility of variables
- (ii) Actual and formal arguments.
13. (a) What is a 'slack byte'? How does it affect the implementation of structures? Describe three different approaches that can be used to pass structures as function arguments.
- (b) Write a function using pointers to add two matrices and to return the resultant matrix to the calling function.

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(20516)

Roll No.

BCA-II Sem.

18007

B.C.A. Examination, May 2016

DIGITAL ELECTRONICS AND COMPUTER

ORGANISATION

(BCA-204)

(New)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Attempt all the *five* questions of this Section. Each question carries 3 marks. Very short answer is required not exceeding 75 words. $3 \times 5 = 15$

1. What are logic gates? Draw the schematic block diagram of a 3-input AND gate. Give its truth table. 3

(2)

2. What is decoder and encoder? 3
3. What do you mean by Cache memory? 3
4. What is the function of shift-register? Where are such registers used? 3
5. Differentiate RAM and ROM. 3

Section-B

(Short Answer Questions)

This Section contains three questions, attempt any *two* questions. Each question carries $7\frac{1}{2}$ marks. Short answer is required not exceeding 200 words. $7\frac{1}{2} \times 2 = 15$

6. Draw K-map and simplify the following boolean expression : 7½

$$Y(A, B, C, D) = \sum(0, 2, 4, 6, 8, 10, 12, 14, 15).$$
7. What is shortcoming of an S-R flip-flop? Explain how its shortcoming is removed by J-K flip-flop. Describe its operating principle. 7½
8. Explain the difference between static and dynamic memories. 7½

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Section-C

(Detailed Answer Questions)

This Section contains five questions, attempt any *three* questions. Each question carries 15 marks. Answer is required in detail. $15 \times 3 = 45$

9. Explain the various Boolean laws and simplify the following boolean expressions : 5×3
- (a) $(\bar{A} + B + \bar{B}A)D$
 - (b) $\bar{A}\bar{B}\bar{C} + A\bar{B}\bar{C} + \bar{A}\bar{B}C + A\bar{B}C$
 - (c) $\bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}C\bar{D} + \bar{B}\bar{C}$
10. (a) Implement a full-subtractor with two half-subtractors and an OR-gate. $7\frac{1}{2}$
- (b) Show how a full-adder can be converted to a full-subtractor with the addition of one inverter circuit. $7\frac{1}{2}$
11. Write short notes on the following : 3×5
- (a) EPROM
 - (b) Dynamic RAM
 - (c) Hard disk
 - (d) Floppy disk
 - (e) CD-ROM.

12. Discuss the working principle of a synchronous (parallel) counter with its block diagram. What is the advantage of synchronous counters over asynchronous (ripple) counters? Give same example(s) of both types of counters. 15
13. What is associative memory? Draw and explain its block diagram. How read operations and write operations are performed in associative memories. 15

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Roll No.

BCA-II Sem.

18009

B. C. A. Examination, May 2016

Financial Accounting and Management

(BCA-205)

(New)

Time : Three Hours]

[Maximum Marks : 75

Note: Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Attempt all the *five* questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words. $3 \times 5 = 15$

1. How the accounts are classified ?
2. What is the use of funds ?
3. What is the need for holding inventory ?
4. What is Trading Account ?
5. What is a cash-book ?

Section-B

(Short Answer Questions)

Attempt any *two* questions out of the following three questions. Each question carries $7\frac{1}{2}$ marks. Short answer is required not exceeding 200 words. $7\frac{1}{2} \times 2 = 15$

6. What are the objectives of preparing trial balance ?
7. Give the difference between single and double column cash-book.
8. Why inventory management is important ?

Section-C

(Detailed Answer Questions)

Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. $15 \times 3 = 45$

9. Draw a typical organization chart highlighting the finance function of a company and explain the functions of finance manager.
10. What do you mean by appropriate capital structure ? Explain with reference to the cash flows analysis.

18009

11. From the following information, find out (a) Sales (b) Closing Stock (c) Sundry Debtors (d) Sundry Creditors :

- * Gross Profit Ratio : 25%
- * Debtor's Turnover Ratio : 4 months
- * Stock Turnover Ratio : 4 times
- * Creditor's Turnover Ratio : 6 months
- * Closing stock is Rs. 10,000 more than the opening stock. Bills receivables amount to Rs. 65,000 and bills payables to Rs. 80,000. Cost of Goods sold for the year is Rs. 9,00,000.

12. From the following balances, calculate Cash from Operations : <https://www.ccsustudy.com>

	December 31, 2009 (Rs.)	December 31, 2010 (Rs.)
Debtors	50,000	47,000
Bills Receivable	10,000	12,500
Creditors	20,000	25,000
Bills Payable	8,000	6,000
Outstanding Expenses	1,000	1,200
Prepaid Expenses	800	700
Accrued Income	600	750
Income Received in advance	300	250
Profit made during the year	-	1,30,000

13. What do you mean by working capital management? What are the elements of working capital management ?

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Roll No.

BCA-II Sem.

18009

B. C. A. Examination, May 2016

Financial Accounting and Management

(BCA-205)

(New)

Time : Three Hours]

[Maximum Marks : 75

Note: Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

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Section-B

(Short Answer Questions)

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13. What do you mean by working capital management? What are the elements of working capital management ?

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Roll No.

BCA-II Sem.

18010

B. C. A. Examination, May 2016

MATHEMATICS-II

(BCA-201)

(New)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Attempt all the five questions of this Section. Each question carries 3 marks. 3x5=15

1. If A and B are two sets such that $A \cup B$ has 50 elements, A has 28 elements and B has 32 elements. How many elements does $A \cap B$ have?
2. Show that $\log_b a \times \log_c b \times \log_b c = 1$, where a, b, c all are positive numbers.
3. Find $\frac{\partial f}{\partial x}$, if $f = ye^{(x^2+y^2)}$.

(2)

4. Show that the planes $3x - 2y + z + 17 = 0$ and $4x + 3y - 6z - 25 = 0$ are at right angles.
5. Evaluate $\int_0^3 \int_1^2 xy(1+x+y) dx dy$.

Section-B

(Short Answer Questions)

This Section contains three questions, attempt any two questions. Each question carries 7½ marks.

7½x2=15

6. A function f from set of rational numbers to itself is defined by $f(x) = 4x + 3$. Show that f is a bijective function. Also find its inverse function.
7. If $u = \sin^{-1} \left\{ \frac{x^2 + y^2}{x + y} \right\}$, show that $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = \tan u$.
8. Find the distance of the point (0, 0, 0) from the point of intersection of the line $\frac{x-2}{3} = \frac{y+1}{4} = \frac{z-2}{12}$ and the plane $x - y + z = 5$.

Section-C

(Detailed Answer Questions)

This Section contains five questions, attempt any three questions. Each question carries 15 marks.

15x3=45

18010

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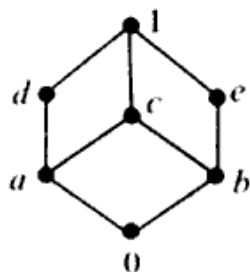
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9. (a) Let $X = \{1, 2, 3\}$ and f and g be functions from X to itself given by $f = \{(1, 2), (2, 3), (3, 1)\}$ and $g = \{(1, 1), (2, 2), (3, 1)\}$. Find $f \circ g$ and $g \circ f$.
- (b) Give examples of relations on the set $\{a, b, c\}$ which is :
- reflexive but is neither symmetric nor transitive.
 - Symmetric and transitive but not reflexive.

10. (a) Consider the lattice L in figure given below :



- Is L a complemented lattice?
 - Is L a complete lattice?
 - Find complements, if they exist, for the elements a, b, c .
- (b) Show that the relation of divisibility is a partial order on the set N of natural numberse.

11. (a) If $x = r \cos \theta, y = r \sin \theta$, show that :

(i) $\left(\frac{\partial r}{\partial x}\right)^2 + \left(\frac{\partial r}{\partial y}\right)^2 = 1$

(ii) $\frac{\partial^2 \theta}{\partial x^2} + \frac{\partial^2 \theta}{\partial y^2} = 0.$

- (b) Find the minima and maxima of $xy(a - x - y)$.

12. (a) Find the area between the line $y = x$ and curve $y = x^2$ enclosed in first quadrant.
- (b) Evaluate by changing the order of integration :

$$\int_0^1 \int_x^{\sqrt{2-x^2}} \frac{xdxdy}{\sqrt{x^2+y^2}}$$

13. (a) Find the equation of the tangent planes to the sphere $x^2 + y^2 + z^2 = 9$ which can be drawn through the line :

$$\frac{x-5}{2} = -\frac{y-1}{2} = \frac{z-1}{1}$$

- (b) Find the equation of the line through the point $(1, 2, 3)$ and parallel to the line

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Roll No.

BCA-II Sem.

18008

B. C. A. Examination, May 2016

Organization Behaviour

(BCA-203)

(New)

Time : Three Hours

[Maximum Marks : 75

Note : Attempt questions from all Sections as per instructions.

Section-A

(Very Short Answer Questions)

Attempt all the *five* questions. Each question carries 3 marks. Very short answer is required. $3 \times 5 = 15$

1. What is Group Dynamics ? Give the importance of groups.

2. What are the factors that affect organizational climate ?
3. What are the traditional styles of leadership ?
4. Explain the nature and process of perception.
5. Explain the learning process.

Section-B

(Short Answer Questions)

Attempt any *two* questions out of the following three questions. Each question carries $7\frac{1}{2}$ marks. Short answer is required. $7\frac{1}{2} \times 2 = 15$

6. Explain the different models of Organizational Behaviour.

Or

How to manage stress at workplace ? Explain.

7. Give a comparative analysis of Herzberg's two-factor theory and Maslow's hierarchy of needs.

Or

Explain the various stages of group development.

8. Explain the Fiedler's contingency model of leadership.

Or

What is Organizational Climate? Discuss the features of a strong organizational climate.

Section-C

(Detailed Answer Questions)

Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail. $15 \times 3 = 45$

9. What are the sources of interpersonal and intrapersonal conflict? How can a conflict be resolved?
10. Explain the following:
- (a) Theory X and Theory Z
 - (b) The Big five personality traits.

11. Explain the various types of grievances. How are grievances handled in an organization?
12. How are group decisions made? How can group decisions be made more effective?
13. Explain cultural diversity in an organization. How Organizational culture effects the employee efficiency?