

(20519)

Roll No.

Total Questions : 13]

[Printed Pages : 4

18006

B.C.A. IInd Semester Examination, May-2019

C-PROGRAMMING

(BCA-202)

Time : 3 Hrs.]

[M.M. : 75

Note :- Attempt all the Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note :- Attempt all five questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.

1. What are *three* dimensional arrays ? How can you initialize them ?
2. How a union is different from a structure ?
3. What do you mean by a dangling pointer ?

NA-564

(1)

Turn Over

4. What are bit fields ?

5. What are the use of standard functions fopen() and feof() ?

Section-B

(Short Answer Type Questions)

Note :- Attempt any two questions out of the following three questions. Each question carries 7.5 marks. Short answer is required not exceeding 200 words.

6. Write a program that will count the number occurrences of a specified character in a given line of text.
7. Write a program to pre-multiply a matrix by its transpose.
8. Design a structure named student to store data about a student which contains following data element :

Date Item	Type	Length
Roll No.	int	-
Name	char	20
College	char	40
Score	float	-

Assume that there are not more than 100 students. Write a program to input the data about students, and output the stored data according to the merit of the students.

NA-564

(2)

Section-C

(Long Answer Type Questions)

Note :- Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail.

9. (i) How is a multidimensional array defined in terms of an array pointer ? What does each pointer represent ? How does this definition differ from a pointer to a collection of contiguous arrays of lower dimensionality ?
- (ii) What is meant by dynamic memory allocation ? What library function is used to allocate memory dynamically ? How is the size of the memory block specified ? What kind of information is returned by the library function ?
10. (i) Write short notes on the following :
- (a) strlen()
 - (b) strcpy()
 - (c) strcat()
 - (d) strcmp()
- (ii) What are the important points to be considered when implementing bit-fields in structures ?

11. (i) 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 ?
- (ii) Write a function using pointers to add two matrices and to return the resultant matrix to the calling function.
12. (i) What is a masking operation ? What is the purpose of each operand ? Which operand is the mask, and how is it chosen ?
- (ii) Write macro definitions with arguments for calculation of simple Interest and Amount. Store these macro definitions in a file called 'Interest.n'. Include this file in your program, and use the macro definitions for calculating simple interest and amount.
13. (i) What are the difference between Union and Structure ?
- (ii) Write short notes on the following :
- (a) fwind()
 - (b) fseek()
 - (c) fgetc()
 - (d) fscanf()

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18007

B.C.A. IInd Semester Examination, May-2019

**DIGITAL ELECTRONICS AND
COMPUTER ORGANISATION**

(BCA-204)

Time : 3 Hrs.]

[M.M. : 75

Note :- Attempt all the Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note :- Attempt all five questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.

1. Give the truth table and symbol for X-OR logic gate.
2. What is Subtractor ?

NA-565

(1)

Turn Over

3. Define associative memory.
4. Give the applications of shift registers.
5. State the boolean distributive law.

Section-B

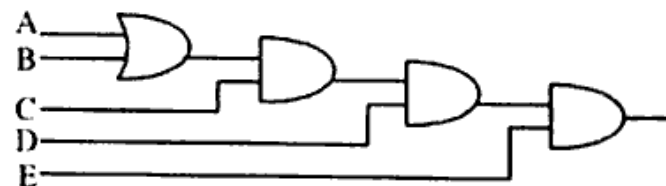
(Short Answer Type Questions)

Note :- Attempt any two questions out of the following three questions. Each question carries 7½ marks. Short answer is required not exceeding 200 words.

6. Simply the given function using k-maps :

$$F(A, B, C, D) = \Sigma(0, 2, 3, 5, 7, 9, 11, 13, 14)$$

7. Derive the Boolean expression for logic circuit shown below :



8. Draw RS flip flop and explain its working.

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(2)

Section-C

(Long Answer Type Questions)

Note :- Attempt any *three* questions out of the following five questions. Each question carries 15 marks. Answer is required in detail.

9. Give difference between the following :

- (i) SRAM vs DRAM
- (ii) Registers vs Counters

10. Design 5-Mod counters using J-K flip flop.

11. (i) What is cache memory ? Why is it called high speed memory ?
- (ii) Design 8×1 Multiplexer

12. Describe the following terms :

- (i) ROM
- (ii) PROM
- (iii) EPROM
- (iv) RAM
- (v) Virtual Memory

13. Discuss various types of Logic Gates. Also discuss their applications.

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18009

B.C.A. IInd Semester Examination, May-2019

**FINANCIAL ACCOUNTING AND
MANAGEMENT**

(BCA-205)

(New)

Time : 3 Hrs.] [M.M. : 75

Note :- Attempt all the Sections as per instructions. Use of calculator is not prohibited.

Section-A

(Very Short Answer Type Questions)

Note :- Attempt all five questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.

1. Define Financial Accounting.
2. Explain the meaning of term 'Journal'.

NA-567

(1)

Turn Over

3. Define book keeping.
4. What do you mean by trial balance ?
5. What is the use of cash book ?

Section-B

(Short Answer Type Questions)

Note :- Attempt any two questions out of the following three questions. Each question carries 7½ marks.

Short answer is required not exceeding 200 words.

6. Distinguish Management Accounting from Financial Accounting.
7. What are the differences between cash flow statement and fund flow statement ?
8. Explain the classification of balance sheet items.

Section-C

(Long Answer Type Questions)

Note :- Attempt any three questions out of the following five questions. Each question carries 15 marks.

Answer is required in detail.

9. Explain the different rules for journalising the transactions with appropriate illustrations.

NA-567

(2)

10. The total assets and total liabilities of Dollup Ice Cream owned by Dolly as shown by the Balance Sheet at the beginning and at the end of the year were as follows :

	Beginning of year	End of year
Asset in ₹	4.60.000	5.80.000
Liabilities in ₹	2.20.000	2.80.000

Compute the net income or net loss for the year in each of the following independent cases :

- (i) Dolly made no withdrawals during the year and no additional investments.
- (ii) Dolly made no withdrawals during the year, but made an additional capital investment of ₹ 1,10,000.
- (iii) Dolly made withdrawals of ₹ 40,000 during the year but made no additional investments.

11. The ratios relating to Rainy Ltd. are given as follows :

Gross Profit Ratio	15%
Stock Velocity	6 months
Debtors Velocity	3 months

Gross profit for the year ending 31st March, 2012 amounts to ₹ 60,000. Closing stock is equal to opening stock.

Find out :

- (i) Sales
- (ii) Closing Stock
- (iii) Sundry Debtors

12. Explain the Traditional theory of cost of capital and capital structure.

13. What are the objectives of cash management ? Explain cash cycle.

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18010

B.C.A. IInd Semester Examination, May-2019

MATHEMATICS-II

(BCA-201)

(New)

Time : 3 Hrs.]

[M.M. : 75

Note :- Attempt all the Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note :- Attempt all the five questions. Each question carries 3 marks.

1. Differentiate finite sets and infinite sets with example.
2. Define trigonometric function, exponential function and logarithmic function.

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(1)

Turn Over

3. What do you mean by 'Principle of Duality' ?

4. If $u = f\left(\frac{y}{x}\right)$ then prove that :

$$x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = 0$$

5. Evaluate the triple integral $\int_0^1 \int_1^2 \int_2^3 dx dy dz$.

Section-B

(Short Answer Type Questions)

Note :- Attempt any two questions out of the following three questions. Each question carries 5 marks.

6. Define equivalence relation. If $A = \{1, 2, 3, 4\}$ and $R = \{(1, 1), (1, 2), (2, 1), (2, 2), (3, 4), (4, 3), (3, 3), (4, 4)\}$. Then prove that R is an equivalent relation.
7. Find the area of the region bounded by the circle $x^2 + y^2 = a^2$, by double integration.
8. Show that the lines $\frac{x-1}{2} = \frac{y-2}{3} = \frac{z-3}{4}$ and $4x - 3y + 1 = 0 = 5x - 3z + 2$ are coplanar. Also find their point of intersection.

NA-568

(2)

Section-C

(Long Answer Type Questions)

Note :- Attempt any three questions out of the following five questions. Each question carries 15 marks.

9. (i) If Q be the set of rational numbers and $f: Q \rightarrow Q$ be defined by $f(x) = 2x + 3$ then prove that f is bijective. Also find f^{-1} .

(ii) If $f: R \rightarrow R$ and $g: R \rightarrow R$ be defined by $f(x) = x - 1$ and $g(x) = x^2 + 1$ then find $f \circ g(1)$, $f \circ g(2)$, $g \circ f(2)$, $f \circ f(2)$ and $g \circ g(2)$.

10. (i) Let (L, \leq) is a lattice. If $a, b \in L$ then prove that :

$$a \leq b \Leftrightarrow a \wedge b = a$$

$$\text{and } a \leq b \Leftrightarrow a \vee b = b$$

(ii) Let (L, \leq) be a lattice with least element 0 and greatest element 1. If $a \in L$ then show that :

$$a \vee 1 = 1 \text{ and } a \wedge 1 = a$$

$$\text{Also } a \vee 0 = a \text{ and } a \wedge 0 = 0$$

(i) Discuss the maxima or minima of the function :

$$u = xy + \left(\frac{a^3}{x}\right) + \left(\frac{a^3}{y}\right)$$

(ii) If $u = \log \left(\frac{x^2 + y^2}{x + y}\right)$ then prove that :

$$x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = 1$$

12. (i) Show that the lines $\frac{x+1}{-3} = \frac{y-3}{2} = \frac{z+2}{1}$ and

$$\frac{x}{1} = \frac{y-7}{-3} = \frac{z+7}{2}$$
 are coplanar.

(ii) Find the angle of intersection of the spheres :

$$x^2 + y^2 + z^2 - 2x - 4y - 6z + 10 = 0$$

$$\text{and } x^2 + y^2 + z^2 - 6x - 2y + 2z + 2 = 0$$

13. (i) Evaluate the double integral

$$\int_0^a \int_0^{\sqrt{a^2-x^2}} x^2 y \, dx \, dy.$$
 Also mention the region of integration involved in this double integral.

(ii) Prove that the value of triple integration :

$$\int_0^1 \int_0^{\sqrt{1-x^2}} \int_0^{\sqrt{1-x^2-y^2}} xyz \, dz \, dy \, dx, \text{ is } \frac{1}{48}.$$

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18008

B.C.A. IInd Semester Examination, May-2019

ORGANIZATIONAL BEHAVIOUR

(BCA-203)

Time : 3 Hrs.]

[M.M. : 75

Note :- Attempt all the Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note :- Attempt all five questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.

1. Write a short note on supportive model.
2. Discuss the nature of organisational behaviour.
3. Give the various functions of organisational culture.

NA-566

(1)

Turn Over

4. Define Motivation.

5. Discuss about the symptoms of stress.

Section-B

(Short Answer Type Questions)

Note :- Attempt any two questions out of the following three questions. Each question carries 7.5 marks. Short answer is required not exceeding 200 words.

6. What do you understand by the term 'Personality' ? Discuss.
7. Explain the interactionist approach of conflict.
8. Explain the Type A and Type B personality and differentiate between them.

Section-C

(Long Answer Type Questions)

Note :- Attempt any three questions out of the following five questions. Each question carries 15 marks. Answer is required in detail.

9. What are the emerging aspects of organisation behaviour in India ? Explain the need and importance of study on organisational behaviour.

NA-566

(2)

10. What are the causes of employee grievances in an organisation? How can such grievances be managed effectively?
11. How can effective teams be created?
12. What are the three levels of analysis in organisation behaviour model? Are they related? If so, how?
13. Is job satisfaction correlated with work motivation? Give your arguments by giving special reference to theories of motivation.

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Total Questions : 13]

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18008

B.C.A. IInd Semester Examination, May-2019

ORGANIZATIONAL BEHAVIOUR

(BCA-203)

Time : 3 Hrs.]

[M.M. : 75

Note :- Attempt all the Sections as per instructions.

Section-A

(Very Short Answer Type Questions)

Note :- Attempt all five questions. Each question carries 3 marks. Very short answer is required not exceeding 75 words.

1. Write a short note on supportive model.
2. Discuss the nature of organisational behaviour.
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NA-566

(1)

Turn Over

4. Define Motivation.

5. Discuss about the symptoms of stress.

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(Short Answer Type Questions)

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NA-566

(2)

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