



44622/A0220

Reg. No.

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I Semester B.C.A. 5 Degree Examination, March - 2022

COMPUTER FUNDAMENTALS

(Repeater)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

1. Answer All Sections.
2. Draw neat diagrams wherever necessary.
3. Write question numbers Correctly.

SECTION-AI. Answer any **Ten** questions.

(10×2=20)

1. a) Define Data Processing.
b) State the functions of Input Unit.
c) Define Positional Number System.
d) Expand BCD and EBCDIC.
e) What is Main Memory?
f) Write the Steps to insert Column in a worksheet.
g) What is Multi Programming?
h) Define the term Application Software.
i) List the main functions of an OS.
j) How many Rows and Columns in a Excel worksheet?
k) Write the Purpose of cat and 'mv'. Command.
l) Define 'Track'.

SECTION-BII. Answer any **Four** questions.

(4×5=20)

- 2) Write the characteristics of Computers.
- 3) Perform the following calculations.
 - a) $10011_{(2)} + 1001_{(2)}$
 - b) Subtract $01110_{(2)}$ from $10101_{(2)}$.

[P.T.O.]



- 4) Write the Characteristics of Main Memory.
- 5) Briefly explain about Excel Interface with diagram.
- 6) Briefly explain about Status Bar and Dialog Boxes.
- 7) Explain different Types of Optical Disks.

SECTION-C

III. Answer any Four questions.

(4×10=40)

- 8) a) Write a short note on (any one):
 - i) Primary Storage
 - ii) I/O Devices.
 - b) Draw a neat diagram of Basic organization of a Computer system and explain.
 - 9) Briefly explain different types of positional number system with example.
 - 10) Draw neat diagram of Basic processor and Memory Architecture of a computer system and briefly explain.
 - 11) a) Briefly explain Main functions of an OS.
b) Write a short note on Windows OS.
 - 12) Briefly explain Key hardware technologies used in 1st to 5th Generation.
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41123/A230

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I Semester B.C.A. 4 Degree Examination, March - 2022

COMPUTER FUNDAMENTALS**(Repeaters)****Time : 3 Hours****Maximum Marks : 80****Instructions to Candidates:**

1. All the three sections are compulsory.
2. Draw diagram where necessary

SECTION-A**I. Answer all Ten questions.****(10×2=20)**

1. a) Define Data and Information.
b) What is 'Bit' and 'Byte'?
c) Name the types of Number System.
d) Convert the Binary number $(1010)_{(2)}$ into decimal number?
e) What is cache memory?
f) Expand RAM and ROM.
g) Define operating system.
h) Name the types of Software.
i) What is word Processor? Name some versions.
j) Write the Purpose of 'LIST' and 'CD' command in Linux OS.

SECTION-B**II. Answer any Four questions.****(4×5=20)**

- 2) Explain any Five characteristics of Computer?
- 3) Explain Positional number system.
- 4) Draw a neat diagram of optical disk? Explain Briefly.
- 5) Explain any five options of Desktop window.

[P.T.O.]



- 6) Write the syntax & examples of following commands.
- a) CAT
 - b) GREP
 - c) DATE
 - d) CAL
 - e) ECHO

SECTION-C

III. Answer any Four full questions.

(4×10=40)

- 7) Explain all the five generations of computer.
- 8) a) Convert the given binary number $(110110)_2$ to its equivalent decimal, octal & Hexadecimal. (5)
- b) Convert the given decimal number $(99)_{10}$ to its Equivalent Binary, octal and Hexadecimal. (5)
- 9) a) Write the difference between RAM & ROM. (5)
- b) Explain the advantages of magnetic Disk. (5)
- 10) Explain all the Directory commands used in Unix/Linux.
- 11) Write a short note on the following
- a) Control Panel
 - b) Printer.
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41122/A220

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I Semester B.C.A. 4 Degree Examination, March - 2022

MATHEMATICS-I

(Repeater)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer all questions

SECTION-A

Answer All following questions.

(10×2=20)

1. a) Find modulus of $3 + 4i$.b) Simplify $\frac{[\cos 4\theta + i \sin 4\theta]^3}{[\cos 2\theta - i \sin 2\theta]^4}$.c) If $a = 1$, $d = 2$ find a_5 .d) Find a_n if 5, 25, 125, ----- are in geometric series.e) If α and β are the roots of equation $2x^2 + 4x - 5 = 0$. Find the value of $\alpha + \beta$ and $\alpha\beta$.f) Expand using binomial theorem $(m + p)^3$.g) Prove that $\tan \theta \cdot \cot \theta = 1$.h) If $\vec{a} = \hat{i} + \hat{j} - \hat{k}$ and $\vec{b} = 2\hat{i} + 2\hat{j} - 2\hat{k}$ then find $\vec{a} \cdot \vec{b}$.i) Show that pairs of vectors are perpendicular to each other $7\hat{i} - \hat{j} + 2\hat{k}$ and $2\hat{i} + 6\hat{j} - 4\hat{k}$.

j) Find the distance from origin given A (2, 1).

[P.T.O.]



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SECTION-BAnswer any **Four** questions.

(4×5=20)

- 2) Express $1 + i$ in polar form.
- 3) Find the Sum of $7 + 77 + 777 + \dots$ to n terms.
- 4) Find the tenth term in the expansion of $\left[x + \frac{1}{x}\right]^{15}$.
- 5) Prove that $\frac{\tan A}{\sec A - 1} + \frac{\tan A}{\sec A + 1} = 2 \operatorname{cosec} A$.
- 6) Find cosine of angle between vectors $2\hat{i} - 3\hat{j} + \hat{k}$ and $5\hat{i} + \hat{j} - \hat{k}$.

SECTION-CAnswer any **Four** of the following.

(4×10=40)

- 7) a) Represent $2 + 3i + \frac{1}{1+i}$ into $x+iy$ form.
b) Find the cube root of $1 + \sqrt{3}i$. (5+5)
- 8) a) Find the three numbers in A.P whose sum of three numbers is 21 and their product is 280.
b) Insert 5 geometric means between 3 and 192. (5+5)
- 9) a) Find the middle term in the expansion of $\left[x + \frac{2}{x}\right]^8$.
b) Find the roots of the quadratic equation $x^2 + 2x + 1 = 0$ using formula method.(5+5)
- 10) a) Show that the pairs of lines $2x - 3y + 7 = 0$ and $8x - 12y - 5 = 0$ are parallel.
b) Find the coordinates of the points which divides internally the line Joining the points $(-1, 0)$ and $(7, -6)$ in the ratio 2:3. (5+5)
- 11) a) Find the equation of the straight line passing through $(-1, 5)$ and having slop $2/7$.
b) Find the point of intersection of the lines $2x + 3y + 7 = 0$ and $3x - 5y + 1 = 0$.(5+5)



41124/A240

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I Semester BCA. 4 Degree Examination, March - 2022

PROGRAMMING IN C

(Repeater)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) All the three sections are compulsory.
- 2) Draw diagram wherever necessary.

SECTION-A

1. Answer all Ten questions.

(10×2=20)

- a) Define Algorithm and state its characteristics.
- b) Write the advantages of Flowchart.
- c) What is Keyword? Give example.
- d) What is the Variable? Give the rules for variable declaration.
- e) What is Function Prototype?
- f) What is Goto statement? Write Syntax?
- g) Name any two library Functions for String.
- h) Define Static Storage Class.
- i) What is Structure? Write Syntax with example.
- j) How Unions are declared in 'C'?

SECTION-B

Answer any Four questions.

(4×5=20)

2. What is Flow Chart? Explain various symbols used in Flowchart.
3. Explain the Structure of C program?
4. Write the Syntax for nested IF and else-IF ladder.
5. Differentiate between one dimensional and Two dimensional Arrays.
6. Write a C program to find Largest of three numbers.

[P.T.O.]

**SECTION-C**

Answer any **Four** questions.

(4×10=40)

7. a) What are the input and output Functions? Explain Printf() and Scanf() functions with examples?
b) Draw the Flow Chart to find GCD of two numbers.
 8. Explain for Loop with syntax & Examples.
 9. Explain the various Operators used in C.
 10. a) Explain the String handling Functions?
b) Write a C program to compare two strings without using Library Functions.
 11. a) Define an Array? How to initialize one dimensional array.
b) Write a C program to Sort the given array elements in Ascending order.
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44621/A0210

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I Semester BCA 5 Degree Examination, March - 2022

C-PROGRAMMING

(Repeater)

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) All sections are Compulsory.
- 2) Enter the question numbers correctly.

I Answer any **TEN** of the following.

(10×2=20)

- 1) a) What are Keywords?
- b) Define Tokens.
- c) Mention the data types used in C.
- d) Define getchar () and putchar ().
- e) List any four mathematical functions.
- f) Write the syntax of Switch Statement.
- g) Write the syntax of declaring arrays.
- h) Name different types of functions.
- i) Define Structure.
- j) Define return and void.
- k) Define String.
- l) How is union different from Structure?

II Answer any **FOUR** of the following.

(4×5=20)

- 2) Explain the classification of programming languages.
- 3) Write the merits and demerits of Low level programming language.
- 4) Explain basic structure of C program.
- 5) Write a program to find factorial of a given number.

[P.T.O.]



- 6) Explain one dimension and two dimension array.
- 7) Write a program using structure to store the record of n students.

III. Answer any FOUR of the following questions.

(4×10=40)

- 8) a) Giving example explain different constants in C.
b) What rules are followed while naming variables. **(5+5)**
 - 9) a) What is looping? Explain For statement.
b) Differentiate between formatted and unformatted I/O statements. **(5+5)**
 - 10) Explain operators in C giving examples.
 - 11) What is branching? Explain varieties of if statements.
 - 12) a) Write a program to add two matrices.
b) Explain with syntax declaration of function. **(5+5)**
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