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ND—01—2023

FACULTY OF COMPUTER STUDIES

B.Sc. (CS) (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Paper)

COMPUTER SCIENCE

BCS–101

(Basic of Computer Science)

(Wednesday, 29-11-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks—75*

N.B. :— (*i*)   *All* questions are compulsory.

      (*ii*)   Figures to the right indicate full marks.

      (*iii*)   Assume suitable data if necessary.

1.   Attempt any *five* of the following :   15

   (*a*)   What is E-mail ?

   (*b*)   Write a note on OSI model.

   (*c*)   Explain web browser.

   (*d*)   Write a note on ROM.

   (*e*)   What is Network ?

   (*f*)   Explain Micro Computer.

   (*g*)   What is Network ?

                                              P.T.O.

2. Attempt any *three* of the following : 15

   (*a*) Explain client and server technology.

   (*b*) Explain the concept of workstation.

   (*c*) Explain fourth and fifth generation of computer.

   (*d*) Explain characteristics of computer.

   (*e*) Explain basic computer organization.

3. Attempt any *three* of the following : 15

   (*a*) Explain the concept of mouse.

   (*b*) Explain the concept of keyboard.

   (*c*) Explain the concept of monitor.

   (*d*) Explain the concept of RAM.

   (*e*) Explain Biometric device.

4. Attempt any *three* of the following : 15

   (*a*) Explain the concept of DVD.

   (*b*) Explain the concept of Hard Disk Drive.

   (*c*) Explain Disk O.S. in detail.

(d) Explain the concept of project.

(e) Explain USB flash drive.

5. Write short notes on the following (any *three*) : 15

(a) Linux O.S.

(b) Cache memory

(c) Memory Card

(d) Track ball

(e) What is operating system ?

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ND—22—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. CS (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper BCS-104 B

(Fundamentals of Digital Electronics)

(Wednesday, 6-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks—75*

N.B. :— (*i*)   *All* questions are compulsory.

(*ii*)   Figures to the right indicate full marks.

(*iii*)   Assume suitable data, if required.

(*iv*)   Use of any electronic media such as mobile phone, digital diary

and electronic calculator is not permitted.

1.   Attempt any *five* of the following (**3** marks each) :   15

(*a*)   Gray Code

(*b*)   Half Adder

P.T.O.

(c) One's Complement of Binary

(d) Hexadecimal number system.

(e) Encoder

(f) Ex-OR Gate

(g) T flip-flop.

2. Attempt any *three* of the following (**5** marks each) : 15

(a) Perform the following conversions :

(i) $(37)_{10} = (?)_2$

(ii) $(10101.01)_2 = (?)_{10}$

(iii) $(253)_8 = (?)_{16}$

(iv) $(D0E)_{16} = (?)_2$

(v) $(1632)_{10} = (?)_{16}$

(b) Perform the following Operations :

(i) $(1011)_2 + (11011)_2$

(ii) $(11000)_2 - (1011)_2$

(iii) $(111)_2 \times (101)_2$

(iv) $(1010)_2 \div (10)_2$

(v) $(10110)_2 = (?)_{2's \text{ Complement}}$

(*c*) What is Logic Gate ? Explain AND, OR and NOT Gates in detail.

(*d*) What is Number System ? Explain Binary and Octal number systems in detail.

(*e*) What is Parity Checking ? Explain Hamming code in detail.

3. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain NAND and NOR Gates in detail.

(*b*) State and prove DeMorgan's first and second theorem.

(*c*) Minimize the following using K-map :

$f(A,B,C,D) = \Sigma m(0, 1, 2, 4, 5, 7, 8, 9, 10, 11, 14, 15)$

(*d*) Minimize the following using K-map :

$f(A,B,C,D) = \pi M (1, 2, 3, 5, 6, 8, 9, 12, 13, 14)$

(*e*) Draw the logic circuit for the following expression

$Y = A'B'C' + C' + (A.B)' + (B+C)'$

4. Attempt any *three* of the following (**5** marks each) : 15

(*a*) Explain SOP and POS forms of the expression in detail.

(*b*) What is Multiplexer ? Explain 8 : 1 Multiplexer in detail.

(*c*) What is flip-flop ? Explain J-K flip-flop in detail.

P.T.O.

(*d*) What is Analog to digital converter ? Explain any *one* type of Analog to digital converter in detail.

(*e*) What is Shift register ? Explain SISO and SIPO shift registers in detail.

5. Write short notes on any *three* of the following (**5** marks each) : 15

(*a*) BCD code

(*b*) K-map

(*c*) Full adder

(*d*) D flip-flop

(*e*) Asynchronous Counter.

This question paper contains **3** printed pages]

ND—07—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (CS) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

Paper-BCS-102

(Introduction to Programming Language Using C : Part-1)

(Friday, 1-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—Three Hours   *Maximum Marks*—75

N.B. :— (*i*)   *All* questions are compulsory.

   (*ii*)   Figures to the right indicate full marks.

   (*iii*)   Assume suitable data, if required.

   (*iv*)   Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1.   Attempt any *five* of the following (**3** marks each) :   15

(*a*)   Explain application area of C programming language.

(*b*)   What is keyword ? Explain its purpose.

(*c*)   Explain if statement with example.

P.T.O.

(d) Write a program to print 10 to 1 numbers.

(e) Write a program to find given number is Even or Odd.

(f) Explain goto statement.

(g) Explain High Level Language.

2. Attempt any *three* of the following (**5** marks each) : 15

(a) Explain difference between compiler and interpreter.

(b) Explain flowchart symbols.

(c) Explain data types in C language.

(d) Write a program to print day name on number input using else if.

(e) Explain different types of operator in C language.

3. Attempt any *three* of the following (**5** marks each) : 15

(a) Explain difference between for loop and while loop.

(b) Explain nested if-else statement.

(c) Explain switch case with example.

(d) Write a program to reverse any integer number.

(e) Write a program to illustrate unformatted I/O statements.

4. Attempt any *three* of the following (**5** marks each) : 15

(a) Explain do while loop with example.

(b) Explain one-dimensional array.

(*c*)　　Explain declaration and initialization syntax for single and two dimensional array.

(*d*)　　Write a program to add two integer arrays.

(*e*)　　Write a program to demonstrate two-dimensional array.

5.　Write short notes on any *three* of the following (**5** marks each) :　　15

(*a*)　　Break statement

(*b*)　　Continue statement

(*c*)　　if-else statement

(*d*)　　Any *two* formatted I/O statement

(*e*)　　Rules of constructing variable name in C.

This question paper contains **3** printed pages]

ND—21—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Pattern)

COMPUTER SCIENCE

(Office Automation)

(Wednesday, 6-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks*—75

N.B. :—   (*i*)   *All* questions are compulsory.

     (*ii*)   Figures to the right indicate full marks.

     (*iii*)   Assume suitable data, if required.

     (*iv*)   Use of any electronic media such as mobile phone, digital diary and electronic calculator is not permitted.

1.   Attempt any *five* of the following (**3** marks each) :   15

   (*a*)   Explain about opening screen of MS-word.

   (*b*)   Write a note on creating index in MS-word.

   (*c*)   Introduce MS-Excel.

                             P.T.O.

(d) Describe conditional formatting.

(e) Explain adding audio and video on slide.

(f) Explain opening screen of MS-access.

(g) What is custom dictionary ? Explain.

2. Attempt any *three* of the following (**5** marks each) : 15

(a) Explain Home menu-font tab.

(b) Explain about editing options in MS-Word.

(c) Describe formatting cell, row and column in MS-Excel.

(d) Give a detailed note on creating presentation based on template.

(e) Give a detailed note on advantages and disadvantages of MS-Access.

3. Attempt any *three* of the following (**5** marks each) : 15

(a) Explain use of formulas and functions in Excel.

(b) How to use charts in MS-Excel in Excel ? Explain in detail.

(c) Give a detailed note on mail merge.

(d) Explain the use of slide transition in detail.

(e) Explain the use of query in MS-Access in detail.

4. Attempt any *three* of the following (**5** marks each) : 15

(a) What are the custom animation effects in MS-PowerPoint ? Explain in detail.

(*b*) Explain about the opening screen of MS-PowerPoint.

(*c*) How to use header and footer in Documentation ? Explain in detail.

(*d*) Explain the importance of Goal seek in MS-Excel.

(*e*) How to generate the report in MS-Access ? Explain it in detail.

5. Write short notes on any *three* of the following (**5** marks each) :   15

(*a*) Describe creating database in MS-Access in detail.

(*b*) How to create a form and add new record in it ?

(*c*) Explain about data validation and its use in detail.

(*d*) Describe the use of slideshow in MS-PowerPoint.

(*e*) What is the use of styles in MS-word ? Explain in detail.

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ND—14—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. CS (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(CBCS/Revised Course)

COMPUTER SCIENCE

Paper BCS-103

(Web Technologies)

(Monday, 4-12-2023)   **Time : 10.00 a.m. to 1.00 p.m.**

Time—3 Hours   *Maximum Marks—75*

N.B. :— (*i*) Attempt *all* questions.

       (*ii*) Assume suitable data, if necessary.

1. Attempt any *five* of the following :   15

 (*a*)   Discuss in Historical Roots of HTML.

 (*b*)   Explain the structure of HTML program.

 (*c*)   Explain with example the use of PRE tag.

 (*d*)   Explain the components of a URL.

 (*e*)   What is Frame ? Explain with example.

 (*f*)   What is CSS ? Explain its structure.

 (*g*)   Explain in brief FTP.

P.T.O.

2. Attempt any *three* of the following : 15

   (*a*) Explain heading tags in HTML with example.

   (*b*) Explain the concept of Client and Server with example.

   (*c*) Explain with example, how to create form in HTML.

   (*d*) What is DHTML ? Discuss the Ramifications of DHTML.

   (*e*) Write a HTML program to display the names of five countries on separate lines and in italic format with right alignment.

3. Attempt any *three* of the following : 15

   (*a*) Explain Font tag with example.

   (*b*) How to give the hyperlink to an image in HTML ? Explain with example.

   (*c*) Explain FRAMESET and FRAME tags with an example.

   (*d*) Explain with example External CSS style.

   (*e*) Write a program that will display the display our country name in the Marquee form at the Top of Screen and state name at the bottom of the screen.

4. Attempt any *three* of the following : 15

   (*a*) Explain with example the use list tag in HTML.

   (*b*) Explain TABLE tag with its attributes with an example.

(*c*) What is JavaScript ? Explain structure of JavaScript.

(*d*) Explain any two form controls with example.

(*e*) Write a HTML program to display the numbered list of Five District Names. The district names should in bold format.

5. Write short notes on any *three* of the following : 15

(*a*) HTTP

(*b*) Web Browser

(*c*) GET and POST

(*d*) Anchor tag

(*e*) Alignments in Table.