**COMSATS** **University Islamabad, Lahore Campus**

**Block–C, Department of Computer Science**

**COMSATS University Islamabad, Lahore Campus, 1.5KM Defence Road, Off Raiwind Road, Lahore**

**🗹 Sessional-1 □ Sessional-II □ Terminal Examination – SPRING 2021**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course Title: | Programming Fundamentals | | | | Course Code: | | CSC103 | Credit Hours: | 4(3,1) |
| Course Instructor/s: | Tahir Muhammad | | | | Programme Name: | | BSE | | |
| Semester: | **1st** | Batch: | **Sp21-BSE** | Section: | **C** | | Date: | **30/3/3021** | |
| **Time Allowed:** | **1 Hour** | | | | **Maximum Marks:** | | | **35** | |
| Student’s Name: | **Muhammad Talha Shafiq Choudhary** | | | | Reg. No. | **Sp21-BSE-008** | | | |
| **Important Instructions / Guidelines:**   * Answer all questions. * Use proper C Language syntax for coding questions. * Solve all questions on question sheet. * Cutting and Overwriting is not allowed.  |  |  |  |  | | --- | --- | --- | --- | | **Question No.** | **CLO/PLO** | **Max. Marks** | **Obtained Marks** | | **1** | CLO1 (PLO2) C2 | 5 |  | | **2** | CLO4 (PLO3) C1 | 5 |  | | **3** | CLO1 (PLO2) C1 | 10 |  | | **4** | CLO6 (PLO3) C1 | 5 |  | | **5** | CLO1 (PLO2) C1 | 10 |  | | **Total** |  | 35 |  | | | | | | | | | | |

**Q1: Predict the following empty blocks with respect to size in bytes, value range and format specifier against various datatypes mentioned in each row. [5\*1 = 5 Marks]**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type** | **Size (bytes)** | **Value Range** | **Format Specifier** |
| int | 2or 4 | -215 to 215  -32768 to +32767 | %i / %d |
| char | 1 | -128 to 127 | %c |
| float | 4 | -3.4e38 to +3.4e38 | %f |
| short int | 2 | -128 to 127 | %hi / %hd |
| unsigned int | 2 or 4 | 0 to 216 | %u |

**Q2: State descriptions against each Escape Sequence. [5\*1 = 5 Marks]**

|  |  |
| --- | --- |
| **Escape Sequence** | **Description** |
| \n | Line feed-new line |
| \t | Horizontal tab |
| \a | Audible bell |
| \\ | backslash |
| \” | Double quote |

**Q3: Recall the concepts of input/output, selection statement and repetition structures then read following program segments and write output for each segment. [Marks 10]**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No** | **Program Segment** | **Output** | **Marks** |
| 1 |  | Sessional Exams\nCUI | 01 |
| 2 | Text, whiteboard  Description automatically generated | i=5 | 02 |
| 3 | Text  Description automatically generated | 14  13  12  11  10  9 | 02 |
| 4 | Text  Description automatically generated | Fox  Default | 01 |
| 5 | Text  Description automatically generated with medium confidence | Bad | 01 |
| 6 | Text  Description automatically generated | 4  9  14 | 01 |
| 7 | Text, letter  Description automatically generated | The value of X=2  The value of Y=5  The value of Z=7  The value of flag=11 | 02 |

**Q4: Reproduce following program using switch statements [5 Marks]**

#include <stdio.h>

int main()

{

int no;

printf("Enter any number : ");

scanf("%d", &no);

if(no==1)

{

printf("\n I am feeling lucky");

}

else if(no==2)

{

printf("\n I am not so lucky");

}

else

{

printf("\n Try again");

}

return 0;

}

**Answer:**

|  |
| --- |
| **#include<stdio.h>**  **int main()**  **{**  **int no;**  **printf("Enter a number:\n");**  **scanf("%d",&no);**  **switch(no)**  **{**  **case 1:**  **printf("I am feeling lucky\n");**  **break;**  **case 2:**  **printf("I am not so lucky\n");**  **break;**  **default:**  **printf("Try agian");**  **break;**  **}**  **return 0;**  **}** |

**Q5: Recall the repetition statements that we learned then write a program using these concepts that calculates and displays the sum of the series . If the sum is positive than display a message “Positive Sum” otherwise display “Negative Sum”. Take the value of n from user. [Marks 10]**

**Answer:**

|  |
| --- |
| **#include<stdio.h>**  **int main()**  **{**  **int i,no,j=3;**  **float total=0;**  **printf("enter n number of series\n");**  **scanf("%d",&no);**  **for(i=1;i<=no;i++)**  **{**  **total=total+((i/3)-(2/j+3));**  **}**  **printf("%f",total);**  **if(total>=0)**  **{**  **printf("\npositive sum\n");**  **}**  **else**  **{**  **printf("Negative sum");**  **}**  **return 0;**  **}** |