**CYCLE TEST – I**

**Academic Year: 2023-2024 (ODD Semester)**

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| **INSTRUCTIONS (Please READ) :**   * **MOBILE PHONES ARE STRICTLY NOT PERMITTED** * **Please DO NOT WRITE anything in the Question Paper (Except Reg. No.)** * **Rough Work is NOT PERMITTED to do in Question Paper. You can use last page of your answer Booklet for doing Rough Work.** * **Marking like .(dot), Tick mark (√ ) etc. is NOT PERMITTED in Question Paper. This will lead to Malpractice.** * **Discussion with Neighbors leads to MALPRACTICE, which results in ‘0’ Mark.** * **DO NOT BORROW anything (Like Calculator, Pen, Pencil, Eraser etc.) from others.** * **Follow Dress Code** * **Question Paper should be submitted along with Answer Booklet.** |

**Class: I Yr/ I Sem/B.Tech (SoC - All Branches) Max. Marks: 25**

**Date: 05/10/2023 Duration: 50 minutes**

**Course Code and Title: 21CSS101J: Programming for Problem Solving**

**Course Learning Rationale (CLR):**

**CLR-1:** Think and evolve with a logic to construct an algorithm and pseudocode that can be converted into a program.

**CLR-2:** Utilize the appropriate operators and control statements to solve engineering problems

**Course Learning Outcomes (CLO/CO):**

**CLO-1:** To solve problems through computer programming. Express the basic data types and variables in C

**CLO-2:** Use appropriate data types in simple data processing applications.

**COURSE ARTICULATION MATRIX (CAM)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CLO1/CO1** | **2** | **3** |  |  |  |  |  |  |  |  |  |  |
| **CLO1/CO2** | **2** | **3** |  |  |  |  |  |  |  |  |  |  |

**Part A ( 3\*5=15 Marks) [Answer ANY 3 questions]**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Q.No** | **Question** | **Marks** | **CO** |  | **PO** | **BL** | **PI Code** |
| 1 | Write a program to illustrate the difference between arithmetic and relational operators in C. | 5 | 1 |  | 2 | 3 | 2.6.3 |
| 2 | Write the output of the program and justify the answer  *#include<stdio.h>*  *int main()*  *{ int n=7,p; p=n++;*  *printf("p=%d n=%d\n",p,n);*  *p=++n;*  *printf("p=%d n=%d\n",p,n);*  *printf("%d %d %d\n",n++,n++,n++);*  *printf("%d %d %d\n",++p,++p,++p);*  *return (0);}* | 5 | 1 |  | 2 | 3 | 2.6.3 |
| 3 | Define an identifier. Mention the rules to create an identifier in C with relevant examples. | 5 | 1 |  | 1 | 2 | 2.5.2 |
| 4 | A drawing competition is organized during Diwali festival by an NGO. There are THREE groups (A, B & C) of participants. Amrita is interested in joining B group but confused about her eligibility criteria. Her age is 12. Can you clarify her doubt using a C program?  Condition for eligibility  Eligible for C group - if age >18  Eligible for B group - if age >=12 and <=18  Eligible for A group - if age <12. | 5 | 2 |  | 2 | 3 | 2.6.3 |

**Part B (1\*10=10 Marks) [Either OR]**

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| --- | --- | --- | --- | --- | --- | --- |
| **Q.No** | **Question** | **Marks** | **CO** | **PO** | **BL** | **PI Code** |
| 5 | Outline the general structure of a ‘C’ program and explain with an example. | 10 | 1 | 2 | 2 | 2.5.2 |
|  | **(OR)** |  |  |  |  |  |
| 6 | In an interview a task is given to the candidates to compute addition, subtraction, multiplication, division and remainder. The two given integer values are 17 and 13.  Condition given:  int testnum1, testnum2;  float div;  Write a C program to solve this problem. | 10 | 2 | 2 | 3 | 2.6.3 |

**Quality Alignment Matrix (QAM)**

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| --- | --- | --- | --- | --- | --- |
| **Qn. No.** | **L1** | **L2** | **L3** | **L4** |  |
| **1** |  |  | **5** |  |  |
| **2** |  |  | **5** |  |  |
| **3** |  | **5** |  |  | **L1+L2 = 15 Marks, 15/40 = 37.5%** |
| **4** |  |  | **5** |  | **L3+L4 = 25 Marks, 25/40 = 62.5%** |
| **5** |  | **10** |  |  |  |
| **6** |  |  | **10** |  |  |
| **Total** | **0** | **15** | **25** | **0** |  |

**Course Outcome(CO) and Bloom’s level (BL) Coverage in Questions**

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