

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -I EXAMINATION- 2024

B.Tech-I Semester (CSE/IT/ECE/CE)

COURSE CODE(CREDITS): **Programming for Problem Solving-II (2)** MAX. MARKS: 15

COURSE NAME: **19B11CI111**

COURSE INSTRUCTORS: RBT, KLK, GVS, JTI, NSA, and FSL

MAX. TIME: **1 Hour**

*Note: (a) All questions are compulsory.*

*(b) Marks are indicated against each question in square brackets.*

*(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems (For all numeric assumptions take the context of C Programming)*

**Q1.** Draw the table below in your answer book and fill in the missing values. Show the calculations after the table. **[CO-3][4 Marks]**

| Binary     | Octal | Decimal | Hexadecimal |
|------------|-------|---------|-------------|
| 1101101.11 |       |         |             |
|            | 7270  |         |             |
|            |       | 3004    |             |
|            |       |         | AF16        |

**Q2.** Draw the table below in your answer book and fill in the missing values. Assume that A and B are two integer variables in C Programming Language. **[CO-3][2 Marks]**

| A   | B  | A && B | A    B | !A + B |
|-----|----|--------|--------|--------|
| 0   | 73 |        |        |        |
| 89  | 0  |        |        |        |
| -11 | 99 |        |        |        |
| 39  | -7 |        |        |        |

**Q3.** Write a program that prints x after squaring it if input x is even otherwise, it prints x cubed. The data type of x is integer and use of modulus (%) operator is not allowed. **[CO-2][2 Marks]**

Q4. Write a program to swap (exchange) the value of two integer variables without using assignment (=) operator. [CO-1][3 Marks]

Q5. Draw the table below in your answer book and fill evaluations of expressions. Assume that x and y variables are stored in 16-bits. [CO-3][2 Marks]

| x  | y  | x & y | x   y | x ^ y |
|----|----|-------|-------|-------|
| 5  | 7  |       |       |       |
| -5 | 9  |       |       |       |
| 0  | 15 |       |       |       |
| 10 | 0  |       |       |       |

Q6. Predict the output of code snippets below. [CO-4][2 Marks]

|  |  |
|--|--|
| <pre>#include&lt;stdio.h&gt; int main() {   int x=10, y=20;   int a, b;   a=++x; b=y++;   printf("%d %d\n", x,y);   printf("%d %d", a, b);   return 0; }</pre>                             | <pre>#include&lt;stdio.h&gt; int main() {   printf("He"), printf("ll"), printf("o");   return 0; }</pre>                       |
| <b>Code Snippet A</b>  | <b>Code Snippet B</b>  |
| <pre>#include&lt;stdio.h&gt; int main() {   int x=010, y=0xF, z=10;   printf("%d %d %d\n", x, y, z);   printf("%o %o %o\n", x, y, z);   printf("%x %X %x\n", x, y, z);   return 0; }</pre> | <pre>#include&lt;stdio.h&gt; int main() {   int x=10, y=20;   x=10==2;   y=20==10;   printf("%d %d", x,y);   return 0; }</pre> |
| <b>Code Snippet C</b>  | <b>Code Snippet D</b>  |