K24FY1313

# First Semester FYUGP Computer Science Examination
## NOVEMBER 2024 (2024 Admission onwards)
### KU1DSCCAP101 (FOUNDATIONS OF COMPUTERS AND PROGRAMMING)
(DATE OF EXAM: 2-12-2024 )

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Time : 90 min                                               Maximum Marks : 50

### Part A (Answer any 6 questions. Each carries 2 marks)

1. What is register? Why it is known as working memory of CPU?        2

2. What is the difference between ASCII and EBCDIC codes?             2

3. Convert the binary number 10101101 to Gray code and explain the steps involved.
                                                                     2

4. Write any 6 boolean laws.                                          2

5. What are the different header files used in C language             2

6. What is the difference between assignment and equality operators?  2

7. Write the rules of making identifiers.                             2

8. Differentiate between 'break' and 'continue' statements.           2

### Part B (Answer any 4 questions. Each carries 6 marks)

9. OS is a resource manager. Justify the statement.                   6

10. Explain the concept of 2's complement representation and its role in signed arithmetic
                                                                     6

11. Draw the logic circuit for the Boolean expression $AB+ \overline{A} B$ using basic gates.  6

12. Explain precedence and associativity.                            6

13. Define an operator in C. What are increment and decrement operators? Predict the output of the following code. Justify your answer.

```c
int x = 4, y, z;
y = --x;
z = x--;
printf("%d\t%d\t%d", x, y, z);
```
                                                                     6

14. Explain the working principle of switch statement with example? 6

**Part C** (Answer any 1 question(s). Each carries **14 marks**)

15. (a) Write a C program that accepts a positive integer and prints out the sum of the digits of this number. 7

    (b) Write a C program to find average marks obtained by a class of 50 students in a test. 7

16. (a) Explain the Types of computer network? 7

    (b) Explain Von Neumann Model with a neat diagram? 7