Reg No:..... K24FY1318 (A)
Name :.....

# First Semester FYUGP Computer Science Examination NOVEMBER 2024 (2024 Admission onwards) KU1DSCCSC103 (FUNDAMENTALS 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 are the key components of a computer system, and what role does each play? 2

2. Define a computer. What are its primary characteristics? 2

3. Define a sound card and explain its function in a computer system. 2

4. Perform binary division of 1110 by 10. 2

5. What is LAN 2

6. what is the use of variables in programming and differentiate between integers, floats, and strings in the usage of memory. 2

7. What is conditional execution? Provide an example using an "if" statement to check if a number is positive or negative. 2

8. Compare assembly language and high level language 2

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

9. Discuss how a computer processes data, its ability to store information, and its versatility in performing multiple tasks. 6

10. Describe the internal components of a motherboard and their importance in a computer system. 6

11. Discuss 1's complement and 2's complement of binary numbers, and explain how they are used in binary arithmetic. Include examples of complement operations and their significance in representing negative numbers. 6

12. Describe shareware, freeware, and open-source software. How do they differ in terms of distribution and usage rights? 6

13. Discuss modular programming and structured programming 6

14. Provide examples of how each control structure is used to manage the flow of a program. 6

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

15. (a) Perform binary addition, subtraction, illustrating each operation with examples. Show the steps involved in each operation. 7

    (b) Convert a decimal number to its binary, hexadecimal, and octal equivalents. Explain the process with an example. Include step-by-step instructions for the conversion. 7

16. What are the key functions of an operating system? Explain with examples of popular operating systems used today. 14