ZIAUDDIN UNIVERSITY EXAMINATION BOARD

Total Time 3.5 hours
Total Marks: 75

Class: X
Time Allowed: 35 minutes

MODEL PAPER EXAMINATION 2025
SUBJECT: COMPUTER

Q1: **(SECTION "A")** **Marks: 12**

Note: Attempt **ALL** questions from section 'A'. Each question carries **ONE** mark.

1. The Look of a Sprite can be changed by using the _____ tab.

   A. Control   B. Shift   C. Backdrop   D. Costume

2. _____ is a step by step solution of a problem in simple language.

   A. Flowchart   B. Problem solving   C. Algorithm   D. Date structure

3. In a flowchart, the _____ symbol is used to represent input and output operations.

   A. Triangle   B. Parallelogram   C. Circle   D. Square

4. What are the two possible values of a bool data type?

   A. True & False   B. 0 & 1   C. Yes & No   D. On & Off

5. cout << 15 + 8 * 2;
   What will the result be on the screen?
   A. 46   B. 31   C. 23   D. 38.

6. A computer program is a collection of _____.

   A. Tasks   B. Instructions   C. Applications   D. Computers

7. Every C++ program must have _____ function.

   A. cin ( )   B. cout ( )   C. main   D. All of these

8. The statement _____ terminates any loop immediately.

   A. Continue   B. Switch   C. Break   D. Off

9. In Boolean Algebra, $A + \bar{A}$ is _____.

   A. 1   B. A   C. 0   D. $\bar{A}$

10. C++ statement ends at _____.

    A. *.   B. *,   C. *;   D. *:

11. Which of these are parts of switch statement?

    A. Case & default   B. Have & case   C. If & have   D. If & case

12. In Scratch, the characters that move on the stage are called _____.

    A. command   B. animes   C. script   D. sprite

(Practical Based Assessment) **Marks: 15**

Q2: Attempt **ALL** questions.

1. Ali is building a simple calculator that works only with 4-bit binary numbers. His calculator can add two binary numbers and show results, but it must also handle negative numbers using 2's complement. Ali enters `0110` and `1011` into the calculator.
   A. Explain what these numbers represent in decimal. (1 mark)
   B. Show the result of the addition in binary using 2's complement method. (2 marks)
   C. State whether overflow occurred or not, and justify your answer. (2 marks)

2. Fatima is working on a Python project. She uses an IDE where she writes her code, tests it for errors, and saves different versions as she improves it. She also works with her friend using GitHub to collaborate. Explain the purpose of the following tools that Fatima is using in her project. (5 marks)
   A. IDE
   B. Compiler or interpreter
   C. Debugger
   D. Source code repository (e.g., GitHub)
   E. Version control

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3. Ahmed wrote a program to calculate the average of 3 numbers in Python, but it doesn't work correctly. Here is his code:

```
num1 = input("Enter first number: ")
num2 = input("Enter second number: ")
num3 = input("Enter third number: ")
avg = num1 + num2 + num3 / 3
print("Average is: ", avg)
```

Identify and explain:

A. 1. One syntax error   2. One logical error   3. One run-time error (if any)   (3 marks)
B. Rewrite the corrected version of the code.   (2 marks)

END OF SECTION A

Class: X   **MODEL PAPER EXAMINATION 2025**
Time: 2 hours 55 minutes   SUBJECT: COMPUTER (SECTION "B" AND SECTION "C")   **Total Marks 48**
                              SECTION "B" (SHORT ANSWER QUESTIONS)   **24 Marks**

Note: Answer any **EIGHT** questions from this section. **All** questions carry equal marks.

Q3. State the differences between Function Declaration and Function Definition.

Q4. What are the advantages of an algorithm?

Q5. Define Iteration/Loop.

Q6. Write down the purpose of any 2 statements

   i) if-else   ii) return   iii) exit

Q7. Why is an index required in an array?

Q8. Explain the purpose of "default" in C++.

Q9. Write an algorithm to calculate the multiplication and division of any two numbers.

Q10. Define Logical Operators with examples.

Q11. Remove the error(s) from the following statements, if any:

i) cout <I study in Class X>   ii) if [c<10];   iii) cin<abc

Q12. Describe the use of a Scratch Editor.

Q13. How is NAND gate different from NOR gate?

SECTION "C" (DETAILED ANSWER QUESTIONS)   **24 Marks**

Note: Attempt any **FOUR** questions. Each question carries equal marks.

Q14. Define the components of Integrated Development Environment (IDE) in detail.

Q15. What are jump statements? Explain any three jump statements that are used in C++.

Q16. Define a flowchart and explain its significance in the process of problem-solving.

Q17. Simplify the following expression with the help of Boolean rules

$$AB + A\bar{B} = A$$

Q18. Draw the truth table for the following:

   i) $Y = A \cdot B$ ii) $Y = A \cdot (B + C)$ iii) $Y = \bar{A} \cdot \bar{B}$

END OF PAPER