AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS X EXAMINATION

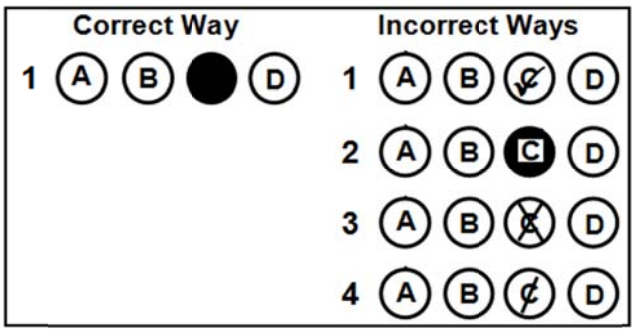
APRIL/ MAY 2019

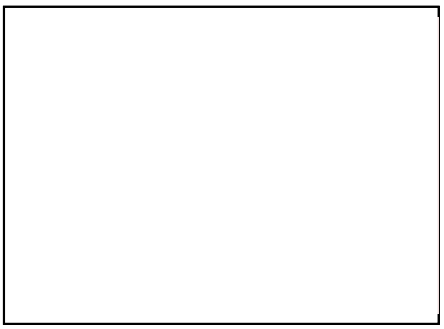
Computer Science Paper I

Time: 40 minutes Marks: 25

INSTRUCTIONS

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 25 only.
4. In each question, there are four choices A, B, C, D. Choose ONE. On the answer grid, black out the circle for your choice with a pencil as shown below.





5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the boxes.

1. The device between a computer and a telephone line which performs both analog to digital and digital to analog conversions of data is called

   A. hub.
   B. modem.
   C. modulator.
   D. demodulator.

2. Trojan horse is often used for unauthorised access to data by a/ an

   A. hacker.
   B. operator.
   C. programmer.
   D. administrator.

3. Which of the following is FALSE about robots?

   A. They must be able to move.
   B. They consist of only software.
   C. They can perform repetitive tasks.
   D. They can work for long periods of time.

4. 'Omar submitted a report to his professor. While going through Omar's report, his professor noticed that few parts of the report were taken from a book and no reference was mentioned in the report.'

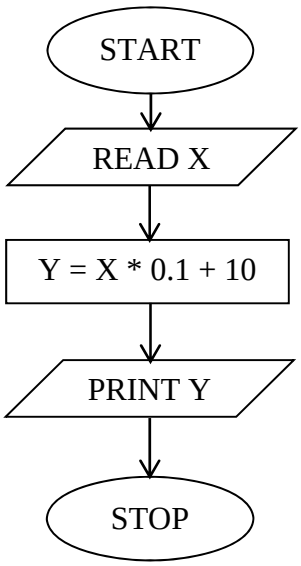
   This given situation is an example of

   A. plagiarism.
   B. debugging.
   C. automata.
   D. hacking.

5. The hardware or software which monitors the incoming and outgoing network traffic (data) based on some predefined criteria is known as

   A. modem.
   B. firewall.
   C. anti-virus.
   D. user login.

6. Study the given flowchart.



If the input value is 10 for this flowchart, then the output value is

A. 10
B. 11
C. 20
D. 21

7. The CORRECT sequence of steps of an algorithm to calculate the average of three numbers is

1. Input the values of three numbers 2. Divide the sum of three numbers by 3 to get average value 3. Add the values of three numbers 4. Output the average value	1. Input the values of three numbers 2. Add the values of three numbers 3. Divide the sum of three numbers by 3 to get average value 4. Output the average value
A	B
1. Input the values of three numbers 2. Divide the sum of three numbers by 3 to get average value 3. Output the average value 4. Add the values of three numbers	1. Input the values of three numbers 2. Add the values of three numbers 3. Output the average value 4. Divide the sum of three numbers by 3 to get average value
C	D

8. The detailed description of a program's algorithm, design, coding method, testing and proper usage are provided by the

   A. debugger.
   B. pseudocode.
   C. documentation.
   D. implementation.

9. A logical error in a program is detected by

   A. a compiler.
   B. an assembler.
   C. running test data.
   D. rewriting the program.

10. The GW-BASIC statement that outputs 1 upon its execution is

    A. PRINT ((0 OR 0) OR 1)
    B. PRINT ((1 OR 1) AND 0)
    C. PRINT ((0 OR 0) AND 1)
    D. PRINT ((1 AND 1) AND 0)

11. The CORRECT syntax of LET statement in GW-BASIC is

    A. Line# LET expression = variable
    B. Line# LET variable = expression
    C. Line# expression LET = variable
    D. Line# variable LET = expression

12. The given GW-BASIC program adds values of **A** and **B** and outputs their sum on screen. However, there is/ are some error(s) in it. The number of error(s) in the given GW-BASIC program is/ are

```
10      LET A = 10 B = 20
20      ? A B
30      END
```

    A. 1
    B. 2
    C. 3
    D. 4

13. The GW-BASIC program that outputs **PASSWORD** ten times on screen is

10 FOR X = 0 TO 10 20 PRINT "PASSWORD" 30 X = X + 1 40 NEXT 50 END	10 FOR X = 0 TO 10 20 PRINT "PASSWORD" 30 NEXT 40 END
A	B
10 FOR X = 1 TO 10 20 PRINT "PASSWORD" 30 X = X + 1 40 NEXT 50 END	10 FOR X = 1 TO 10 20 PRINT "PASSWORD" 30 NEXT 40 END
C	D

14. Read the THREE given scenarios.

I. A GW-BASIC program that inputs weight values until a negative value is entered.
II. A GW-BASIC program that inputs temperature once in a day for a week.
III. A GW-BASIC program that inputs number and stops only when 0 is given as input.

The CORRECT categorisation of these scenarios according to the FOR…NEXT and WHILE…WEND loops is

	FOR…NEXT	**WHILE…WEND**
A	I, II and III	None
B	None	I, II and III
C	I and III	II
D	II	I and III

15. Read the given GW-BASIC program.

```
10    J = 10
20    IF J < 20 THEN PRINT "YES"
30    PRINT "NO"
40    END
```

The output of this GW-BASIC program is

YES	NO
A	B
YES NO	Error: Else is Missing
C	D

16. Read the given GW-BASIC program.

```
10    INPUT A, B, N
20    ON N GOTO 30, 40
30    PRINT A + B: END
40    PRINT A * B: END
```

The value of **N** due to which this program performs the multiplication of **A** and **B** is

A. 1
B. 2
C. 30
D. 40

17. Consider the GW-BASIC code given below.

```
10    X = 0
20    WHILE X <= 20
30    PRINT X
40    X = X + 3
50    WEND
60    END
```

The output of this code will be

0	3	3 6 9 12 15 18	0 3 6 9 12 15 18
A	B	C	D

18. Which of the following is FALSE about arrays in GW-BASIC?

A. An array is defined by using the DIM statement.
B. The index number of arrays always starts with 1.
C. One dimensional array is also called linear array.
D. Two dimensional arrays consist of rows and columns.

19. The CORRECT GW-BASIC code line that would print '2' on output screen is

A. PRINT INT(2.99)
B. PRINT SQR(2.99)
C. PRINT LEN(2.99)
D. PRINT SPC(2.99)

20. The CORRECT GW-BASIC command to draw a circle on screen is

A. (CIRCLE) 150, 150, 50
B. (CIRCLE 150, 150, 50)
C. CIRCLE(150, 150, 50)
D. CIRCLE(150, 150), 50

21. Read the given GW-BASIC code.

```
10      A = 10
20      B = 20
50      PRINT A + B
30      PRINT A - B
40      PRINT A * B
60      END
```

The output of this GW-BASIC code in CORRECT sequence is

-10 200 30	200 30 -10
A	B
30 -10 200	-10 30 200
C	D

22. If X = 35 and Y = 2, then the given GW-BASIC statement outputs

PRINT 6 + X / 7 * Y

A. 16
B. 11.71
C. 6 + X / 7 * Y
D. 6 + 35 / 7 * 2

23. Read the GW-BASIC code given below.

```
10      A = 10
20      B = 20
30      C = 30
40
50      PRINT "The Average is:", AVG
```

This code is required to calculate the average of three values. Which of the following statements should be placed in Line 40 to CORRECTLY complete the program?

A. AVG = A + B + C / 3
B. AVG = (A + B + C) / 3
C. AVERAGE = A + B + C / 3
D. AVERAGE = (A + B + C) / 3

24. The truth tables of 1, 2, 3 and 4 Boolean variables give two, four, eight and sixteen output values respectively.

If n is the number of Boolean variables, then the expression to get the number of output values is

A. 2^n
B. n^2
C. $2n$
D. n^{2n}

25. The output of the given Boolean expression $\overline{X} \cdot (Y + \overline{Z})$ is 1 if the values of X, Y and Z respectively are

A. X = 1, Y = 1 and Z = 1
B. X = 1, Y = 0 and Z = 1
C. X = 0, Y = 0 and Z = 1
D. X = 0, Y = 0 and Z = 0

END OF PAPER

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