AGA KHAN UNIVERSITY EXAMINATION BOARD

HIGHER SECONDARY SCHOOL CERTIFICATE

CLASS XII

ALTERNATE TO PRACTICAL (ATP)

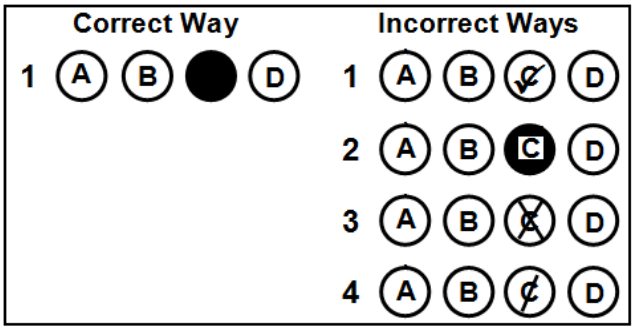
MODEL EXAMINATION PAPER 2021

Computer Science Paper III

Time: 25 minutes Marks: 15

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 15 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.



Candidate's Signature

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 circles.
7. You may use a scientific calculator if you wish.

1. Based on the variable naming rules, determine which of the following is a valid variable name?

   A. 1stNumber
   B. 1st Number
   C. _1stNumber
   D. 1st_Number

2. Consider the given expression.

   H = (W % X = = 3) && (!(Y <= Z));

   The value 1 will be stored in the variable **H** when the values of **W**, **X**, **Y** and **Z** variables are

	W	**X**	**Y**	**Z**
A	15	6	10	8
B	20	5	9	12
C	36	11	100	100
D	90	30	58	49

Use the given program to answer Q.3 and Q.4.

```
#include <iostream>
using namespace std;
int main( )
{
   int j, k=0;
   for(int i =1; i <= 4; i++)
   {
      cin >> j;
      if(j > 0)
      k = k + j;
   }
   cout << k - j;
   return 0;
}
```

3. Four sequences of values that are given as input to this program are shown in the options below.

   Which of the following options will give the output 15?

   A. 5, -7, 9 and 8
   B. 8, 2, 1 and -4
   C. 10, -6, 9 and 2
   D. -9, 21, -5 and 8

4. If the **For loop** code in this program is rewritten using **While loop**, then the CORRECT code is

int C = 0;
while (C < 9)
{
cin >> j;
if(j > 0)
k = k + j;
C = C + 2;
}
	int C = 1;
	while (C < 9)
	{
	cin >> j;
	if(j > 0)
	k = k + j;
	C = C + 3;
	}

A	B

int C = 0;
while (C < 9)
{
cin >> j;
if(j > 0)
k = k + j;
C = C + 3;
}
	int C = 1;
	while (C < 9)
	{
	cin >> j;
	if(j > 0)
	k = k + j;
	C = C + 2;
	}

C	D

5. While initialising the arrays, the following values are assigned.

   int j[2][2] ={ {3, 4, 2} , {9, 6, 11} , {7, 5, 8} };

   The value which will be stored in the element j[2][1] of this array is

   A. 4
   B. 5
   C. 6
   D. 9

6. Consider the given output.

   BlueMoon

   The program that will give this output is

#include <iostream>
#include <string.h>
using namespace std;
int main()
{
  char s2 [] = "Blue";
  char s1 [] = "Moon";
  strcat(s1,s2);
  cout << s1 << endl;
  return 0;
}
	#include <iostream>
	#include <string.h>
	using namespace std;
	int main()
	{
	  char s1 [] = "Blue";
	  char s2 [] = "Moon";
	  strcat(s1,s2);
	  cout << s2 << endl;
	  return 0;
	}

A	B

#include <iostream>
#include <string.h>
using namespace std;
int main()
{
  char s2 [] = "Blue";
  char s1 [] = "Moon";
  strcat(s2,s1);
  cout << s2 << endl;
  return 0;
}
	#include <iostream>
	#include <conio.h>
	using namespace std;
	int main()
	{
	  char s1 [] = "Blue";
	  char s2 [] = "Moon";
	  strcat(s1,s2);
	  cout << s2 << endl;
	  return 0;
	}

C	D

7. The statement **char sample[5] = "Chair";** can also be written as

   A. char sample[5] = [C h a i r]
   B. char sample[5] = ["C h a i r"]
   C. char sample[5] = {C, h, a, i, r};
   D. char sample[5] = {'C', 'h', 'a', 'i', 'r'};

8. The CORRECT syntax of Switch statement is

switch(expression)
{
default:
// code block
case A:
// code block
break;
case B:
// code block
break;
}
	switch(expression)
	{
	case A:
	// code block
	case B:
	// code block
	default:
	// code block
	}

A	B

switch(expression)
{
case A:
// code block
break;
case B:
// code block
break;
default:
// code block
}
	switch(expression)
	{
	case (A)
	// code block
	break;
	case (B)
	// code block
	break;
	default:
	// code block
	}

C	D

Using the given program to answer Q.9 and Q.10.

```
#include <iostream>
using namespace std;
int W(int d);
int main( )
{
   int a = W(5);
   cout << a % 4;
   return 0;
}
int W(int d)
{
   int W = 1; W += d * d;
   return(W);
}
```

9. Which of the following statements from this program invokes the user-defined function W( )?

   A. int W(int d)
   B. int W(int d);
   C. int p = W(5);
   D. int W = 1; W += d * d;

10. The output of the given program is

   A. 1
   B. 2
   C. 5
   D. 25

Use the given program to answer Q.11 and Q.12.

```
#include <iostream>
#include <conio.h>
using namespace std;
int main ()
{
  float  L = 34.9;
  float  *M;
  M = &L;
  cout << "L variable: " << L << endl;
  cout << "M variable: " << M << endl;
  cout << "*M variable: " << *M << endl;
  getch();
  return 0;
}
```

11. Which of the following statements is TRUE about this program?

A. Variable **L** is a pointer variable.
B. Variable **M** occupies 2 bytes on memory.
C. Variable **L** stores the value of variable **M**.
D. Variable **M** stores the memory address of variable **L**.

12. Which of the following statements is TRUE about this program?

L variable: 34.9 M variable: 0x70fe04 *M variable: 34.9	L variable: 34.9 M variable: 34.9 *M variable: 0x70fe04
A	B
L variable: 35.0 M variable: 0x70fe04 *M variable: 35.0	L variable: 0x70fe04 M variable: 34.9 *M variable: 34.9
C	D

Use the given C++ program to answer Q.13, Q.14 and Q.15.

```
#include <iostream>
using namespace std;
class Calculate
{
   private:
      int g = 5, w = 0;
      float h = 9;
   public:
     void p(int a)
     {
       g = a;
       cout << "Number: " << g * w + h;
      }
     float q()
     {
        cout << "\nEnter data: ";
        cin >> h;
        h = h * 11;
        return h;
      }
};
 int main()
 {
     Calculate s, v;
     float r;
     s.p(8);
     r = v.q();
     cout << "Result is: " << r;
     return 0;
 }
```


13. The names of objects in this program are

    A. a and r
    B. g and h
    C. p and q
    D. s and v

14. The number of member functions in the class is

    A. 2
    B. 3
    C. 4
    D. 7

15. If the input of this program is 6, then the output is

Number: 9 Result is: 66	Number: 0 Result is: 99
A	B
Number: 6 Result is: 66	Number: 8 Result is: 99
C	D

END OF PAPER

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