

أسم المادة: C++
المرحلة: الأولى
الفرع: البرمجيات-الذكاء الاصطناعي
أمنية البيانات



وزارة التعليم العالي والبحث العلمي
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الامتحان النهائي للدور الاول
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Q1/ Draw the flowcharts and write complete algorithms for the following problems:(only two) (5 marks)

- a- Fibonacci series (0- 1- 1- 2- 3- 5- 8- 13- 21).
- b- Test prime number or not.
- c- Calculate area of circle.

Q2/ Answer (only two) (5 marks)

a- α-find the output

```
main()
{
    int x=0;
    x+=++x- --x+ ++x+x;
    cout<<x;
}
```

b-find the output

```
main()
{
    int x=2;
    cout<<x;
    x=2;
    x=x&x;
    cout<<x;
    x+=x&&x &x &x;
    cout<<x;
}
```

- c- Convert to C++ expression and find priority of the following equation and write complete program.

$$Z=(\text{power}(\sin(x),2)+\text{Ln}(x)) \text{ div } 2x \tan(x)$$

Q3/ Answer (only two) (10 marks)

- a- Draw electronic circle and convert to program in C++ to the following equation.

$$\text{Not}(a) \text{ and } (a) \text{ and } (a) \text{ and } (a) \text{ Xor}(a)$$

- b- Write complete program in C++ to convert number form decimal to binary number and print in order right.

- c- Find the output:

```
main()
{
    int a=2;
    a>>1;
    a<<1;
    cout<<a;
    a=a^2;
```

```

a=!a;
cout<<a;
}

```

Q4/ **Answer (only two)**

(10 marks)

a-Correct and find output

```

Main()
I=2 int
for(cin>>I,i<>10,i+)
    cout<<'*'
cin>>i
i=0
cout<<i
}

```

b-Find output

```

main()
{ int i=2;
for(cin>>i;i!=10;i++)
{
    cout<<"*";
    cin>>i;
    i=0;
}
}

```

- c- Write a C++ Program, using structure type, to read name and age for ten students, search for less age and print the name.

Q5/ **Write complete program in C++ for the following cases(only two) (10 marks)**

- a- Overloading functions.
- b- Inline function.
- c-. Prototype in function design.

Q6/ **Write complete program in C++ for the following cases (only two)(10 marks)**

- a- By using pointer, sort array 1-D (Ascending).
- b- Pass by reference to function from main program swap two values

c-

```

  *
 * *
*   *
*****

```

Lecture

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