



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 2 Examination, January 2019

Module No: EE2201      Module Name: Computer Programming II

Part-A  
[ One hour ]

**Instructions for candidates**

- Write your index number on top of every page.
- Question paper contains 50 multiple choice questions.
- Answer all questions. Each question has only one answer.
- Each question carries 0.4 mark.
- For each question, put an X mark on the letter: (a), (b), (c), or (d) which corresponds to the correct answer, by using a black or blue pen.

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|--|---|
| <p>1. Which of the following types is best suited to represent a value with decimals in C++?</p> <p>(a) integer<br/>(b) boolean<br/>(c) character<br/>(d) double</p> <p>2. Which of the following should be included to use cout?</p> <p>(a) &lt;stdio.h&gt;<br/>(b) &lt;iostream&gt;<br/>(c) &lt;inout&gt;<br/>(d) &lt;console&gt;</p> <p>3. The value 132 can be exactly represented by using data type</p> <p>(a) int<br/>(b) bool<br/>(c) double<br/>(d) int and double</p> <p>4. Which of the following is NOT an Arithmetic operator in C++?</p> | <p>(a) %<br/>(b) ++<br/>(c) /<br/>(d) +</p> <p>5. Destructor has the same name as the constructor and it is preceded by</p> <p>(a) !<br/>(b) ?<br/>(c) ~<br/>(d) \$</p> <p>6. Which of the following statements is incorrect about constructors in C++?</p> <p>(a) Constructors cannot be overloaded.<br/>(b) Constructors always have the name, same as the name of the class.<br/>(c) Constructors never return any value.<br/>(d) Constructors allocate space for the object in memory.</p> <p>7. When is a constructor executed?</p> <p>(a) when an object is created<br/>(b) when an object is used<br/>(c) when a class is declared</p> |
|--|---|

- (d) when an object goes out of scope.
8. Which of the following can be overloaded in C++?
- (a) only Objects.
  - (b) only Functions.
  - (c) only Operators.
  - (d) both functions and operators.
9. How many values does a function in C++ returns?
- (a) 0
  - (b) 2
  - (c) 1
  - (d) any number of values
10. What is meant by the return data type of void?
- (a) void area in memory is returned so that you can populate it.
  - (b) void is not a valid data type.
  - (c) No data type is returned.
  - (d) None of the above
11. Which of the following statements is correct about an inheritance used in C++?
- (a) One class can be inherited by only one class.
  - (b) One class can be inherited by one or more classes.
  - (c) Inherited class can use all member variables of the base class
  - (d) All of the above are wrong.
12. If a program compiles fine, but it produces an error during the execution of a program, then the program suffers a
- (a) compilation error.
  - (b) runtime error.
  - (c) logical error.
  - (d) syntax error.
13. Where is the derived class is derived from?
- (a) derived.
  - (b) base.
  - (c) both derived and base.
  - (d) none of the mentioned.
14. Which of the following can derived class inherit?
- (a) members.
  - (b) functions.
  - (c) both members and functions.
  - (d) none of the mentioned.
15. Which access specifier will you use to make base class members accessible in the derived class and not accessible for the rest of the program?
- (a) public
  - (b) private
  - (c) protected
  - (d) static
16. Which of the following statements is correct?
- (a) Data items in a class must be private.
  - (b) Both data and functions can be either private or public.
  - (c) Member functions of a class must be private.
  - (d) Constructor of a class cannot be private.
17. Which of the following two entities (reading from Left to Right) can be connected by the dot operator?
- (a) A class member and a class object.
  - (b) A class object and a class.
  - (c) A class and a member of that class.
  - (d) A class object and a member of that class.
18. Which of the following statements is correct when a class is inherited publicly?
- (a) Public members of the base class become protected members of derived class.
  - (b) Public members of the base class become private members of derived class.

- (c) Private members of the base class become protected members of derived class.
- (d) Public members of the base class become public members of derived class.
19. Which of the following can access private data members or member functions of a class?
- (a) Any function in the program.
- (b) All global functions in the program.
- (c) Any member function of that class.
- (d) Only public member functions of that class.
20. Which of the following type of data member can be shared by all instances of its class?
- (a) Public
- (b) Inherited
- (c) Static
- (d) Friend
21. The capability of an object in C++ to take number of different forms and hence display behavior accordingly is known as:
- (a) Inheritance
- (b) Encapsulation
- (c) Polymorphism
- (d) Abstraction
22. Which of the following is a properly defined structure?
- (a) `struct {int a;}`
- (b) `struct a_struct {int a;}`
- (c) `struct a_struct int a;`
- (d) `struct a_struct {int a;};`
23. Which of the following accesses variable var in structure \*b?
- (a) `b->var;`
- (b) `b.var;`
- (c) `b-var;`
- (d) `b>var;`
24. What term is used to describe the internal representation of an object that is hidden from view outside the object's definition?
- (a) Encapsulation
- (b) Expandable
- (c) Polymorphism
- (d) Inheritance
25. Which object oriented concept is related to the derivation of a class based on another class?
- (a) Inheritance
- (b) Data Hiding
- (c) Encapsulation
- (d) Polymorphism
26. Which of the following statements is correct after executing the following C# code snippet given below?
- ```
Student* std1, *std2;
std1 = new Student();
std2 = new Student();
```
- (a) Contents of std1 and std2 will be exactly same.
- (b) The two objects will get created on the stack memory.
- (c) Contents of the two objects will be exactly same.
- (d) The two objects will always be created in adjacent memory locations.
27. Which of the following correctly declares an array?
- (a) `int array[10];`
- (b) `int array;`
- (c) `array{10};`
- (d) `array array[10];`
28. What does a C++ class can hold?
- (a) data
- (b) functions
- (c) both data and functions
- (d) none of the mentioned
29. The fields in the class in C++ program are by default

- (a) protected
  - (b) private
  - (c) public
  - (d) none of the mentioned
30. What will happen in the C++ program when `struct` is used instead of the keyword `class`?
- (a) access is public by default
  - (b) access is private by default
  - (c) access is protected by default
  - (d) none of the mentioned
31. What is meant by pure virtual function?
- (a) Function which does not have definition of its own
  - (b) Function which does have definition of its own
  - (c) Function which does not have any return type
  - (d) None of the mentioned
32. Pick out the correct statement.
- (a) We cannot make an instance of an abstract base class
  - (b) We can make an instance of an abstract base class
  - (c) We can make an instance of an abstract super class
  - (d) None of the mentioned
33. How the constants are declared?
- (a) `const` keyword
  - (b) `#define` preprocessor
  - (c) both `const` keyword and `#define` preprocessor
  - (d) none of the mentioned
34. By default how the values are passed to a function in C++?
- (a) call by value
  - (b) call by reference
  - (c) call by pointer
  - (d) none of the mentioned
35. In which type does the enumerators are stored by the compiler?
- (a) string
  - (b) integer
  - (c) float
  - (d) none of the mentioned
36. Which value we cannot assign to reference?
- (a) integer
  - (b) floating
  - (c) unsigned
  - (d) null
37. Which reference modifier is used to define reference variable?
- (a) `&`
  - (b) `$`
  - (c) `#`
  - (d) none of the mentioned
38. What is correct about following code segment?
- ```
void swap(int & lhs, int & rhs)
{
    int temp;
    temp = lhs;
    lhs = rhs;
    rhs = temp;
}
```
- (a) It can be used to swap any two variables.
  - (b) It can be used to swap two integer variables.
  - (c) The numbers will not be swapped.
  - (d) A compilation error occurs.
39. Evaluate the following
- ```
(false && true) || false || true
```
- (a) 0
  - (b) 1
  - (c) false

(d) none of the mentioned

40. What is the output of the following code segment.

```
int sum = 0;
for (int i = 1, j = 0; i < 5 && j < 9;
i++, j = j + 2)
    sum += i + j;
cout <<"sum =" << sum<<endl;
```

- (a) 35  
(b) 16  
(c) 20  
(d) 22

41. What is the output of following code segment?

```
#include <iostream>
using namespace std;
int main()
{
    int numbers[] = {1,2,4,5,7,1,3 };

    cout << *(numbers + 3);
    return 0;
}
```

- (a) 2  
(b) 4  
(c) 5  
(d) none of the above.

42. What is the output of following code segment?

```
#include <iostream>
using namespace std;
int main()
{
    cout << sizeof(char) << " ";
    cout << sizeof(int) << " ";
    cout << sizeof(float);
    return 0;
}
```

- (a) 8 32 32  
(b) 1 4 4

(c) 8 23 64

(d) none of the above.

43. What is the output of the following code segment?

```
int i = 2, j = 4;
switch (i + j * 2)
{
    case 1:
    case 2:
        cout<<"1 and 2";
        break;
    case default:
        cout<<"3 to 10";
        break;
}
```

- (a) "1 and 2"  
(b) "3 to 10"  
(c) Compilation error.  
(d) none of the above.

44. What is the output of the following code?

```
int i = 1, j = 1;
while (++i <= 10)
{
    j++;
}
cout<<i << " " << j <<endl;
return 0;
```

- (a) 10, 10  
(b) 11, 11  
(c) 11, 10  
(d) 10, 9

45. What is the output of the following C# code?

```
int a = 5;
int b = 10;
int c = ++a + b++;
cout << c <<" " << b << endl;
```

- (a) 11 10  
(b) 16 10  
(c) 16 11  
(d) 15 11

46. What is the output of the following code?

```
int a, b, c, x;
a = 90;
b = 15;
c = 3;
x = a - b / 3 + c * 2 - 1;
cout << x;
```

- (a) 92
- (b) 89
- (c) 90
- (d) 88

47. What is the output of the following code segment?

```
void Func1(int& a)
{
    a = a * a;
}

int main()
{
    int k = 5;
    Func1(k);
    cout << k << endl;
}
```

- (a) 5
- (b) 25
- (c) 10
- (d) Compilation error.

48. What is the output of the following code segment?

```
#include <iostream>
using namespace std;
int func (int a, int b)
{
    cout << a << b;
    return 0;
}
int main(void)
{
    int(*ptr)(char, int);
```

```
ptr = func;
func(2, 3);
ptr(2, 3);
return 0;
}
```

- (a) 2323
- (b) 23
- (c) 232
- (d) Compilation error.

49. What is the output of the following code segment?

```
#include <iostream>
using namespace std;
void square (int *x)
{
    *x = (*x + 1) * (*x);
}
int main ( )
{
    int num = 10;
    square(&num);
    cout << num;
    return 0;
}
```

- (a) 10
- (b) 121
- (c) 110
- (d) Compilation error.

50. What is the output of the following code segment?

```
int arr[] = { 4, 5, 6, 7 };
int *p = (arr + 2);
cout << *arr + *p;
```

- (a) 9
- (b) 11
- (c) 10
- (d) Syntax error.