

Started on Wednesday, 29 September 2021, 8:56 AM

State Finished

Completed on Wednesday, 29 September 2021, 9:01 AM

Time taken 5 mins 1 sec

Marks 4.00/6.00

Grade 3.33 out of 5.00 (67%)

Question **1**

Correct

Mark 1.00 out of 1.00

How many objects can be declared of a specific class in a single program?

- ☐ a. 127
- ☐ b. 1
- ☐ c. 32768
- ☒ d. As many as you want



Your answer is correct.

The correct answer is: As many as you want

Question **2**

Correct

Mark 1.00 out of 1.00

The feature in object-oriented programming that allows the same operation to be carried out differently, depending on the object, is:

- ☐ a. Overriding
- ☐ b. Overfunctioning
- ☒ c. Polymorphism
- ☐ d. Inheritance



Your answer is correct.

The correct answer is:

Polymorphism



Question **3**

Incorrect

Mark 0.00 out of 1.00

Which of the following best defines a class?

- ☒ a. **Instance of an object**
- ☐ b. **Scope of an object**
- ☐ c. **Parent of an object**
- ☐ d. **Blueprint of an object**



Your answer is incorrect.

The correct answer is:

Blueprint of an object

Question **4**

Correct

Mark 1.00 out of 1.00

In a class, member variables are often called its _____, and its member functions are sometimes referred to as its behaviour, or _____.

- ☒ a. **attributes, methods**
- ☐ b. **values, morals**
- ☐ c. **data, activities**
- ☐ d. **attributes, activities**



Your answer is correct.

The correct answer is:

attributes, methods



Question **5**

Correct

Mark 1.00 out of 1.00

What is the correct way of creating instances of a class "student"?

- ☐ a. **Student shivam = new student;**
- ☐ b. **shivam = create student();**
- ☒ c. **student shivam = new student();**
- ☐ d. **student shivam = new student()**



Your answer is correct.

The correct answer is:

student shivam = new student();

Question **6**

Incorrect

Mark 0.00 out of 1.00

Which of the following concepts of OOPS means exposing only necessary information to clients?

- ☒ a. Data Hiding
- ☐ b. Data Binding
- ☐ c. Encapsulation
- ☐ d. Abstraction



Your answer is incorrect.

The correct answer is:

Abstraction

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[Weekly Quiz 2 ▶](#)



Started on Wednesday, 13 October 2021, 8:55 AM

State Finished

Completed on Wednesday, 13 October 2021, 9:00 AM

Time taken 4 mins 4 secs

Marks 5.00/6.00

Grade **4.17** out of 5.00 (**83%**)

Question **1**

Correct

Mark 1.00 out of 1.00

Which of the following applies to a class rather than an object?

- ☐ a. Query
- ☐ b. Update
- ☐ c. Constructor
- ☒ d. Scope



The correct answer is:

Scope

Question **2**

Incorrect

Mark 0.00 out of 1.00

How many Overloaded methods are available in the following code;

```
class test
{
    void display(int x)
    {
        System.out.println("CSE");
    }
    int display(int x)
    {
        return 5;
    }
}
```

- ☐ a. 1
- ☐ b. 3
- ☒ c. 2
- ☐ d. 0



The correct answer is:

0

Question **3**

Correct

Mark 1.00 out of 1.00

Choose the correct output of the following program;

```
public class test_int_double {  
    void display(int x)  
    {  
        System.out.println("Integer");  
    }  
    void display(double x)  
    {  
        System.out.println("Double");  
    }  
    public static void main(String args[])  
    {  
        test_int_double t = new test_int_double();  
        t.display(5.0);  
    }  
}
```

- ☐ a. None of the above
- ☒ b. Double
- ☐ c. Error in compilation
- ☐ d. Integer



The correct answer is:

Double

Question **4**

Correct

Mark 1.00 out of 1.00

How many parameters does a Default constructor have?

- ☐ a. Multiple
- ☐ b. Depends upon other overloaded Constructors
- ☐ c. 1
- ☒ d. None



The correct answer is:

None

Question **5**

Correct

Mark 1.00 out of 1.00

The fact that the same operation may apply to two or more classes is called what?

- ☐ a. Multiple Classification
- ☐ b. Encapsulation
- ☐ c. All of the above
- ☒ d. Polymorphism



The correct answer is:

Polymorphism

Question **6**

Correct

Mark 1.00 out of 1.00

Aggregation is which of the following?

- ☐ a. Expresses an is-a relationship and is a stronger form of an association relationship.
- ☒ b. Expresses a part-of relationship and is a stronger form of an association relationship.
- ☐ c. Expresses a part-of relationship and is a weaker form of an association relationship.
- ☐ d. Expresses an is-a relationship and is a weaker form of an association relationship.



The correct answer is: Expresses a part-of relationship and is a stronger form of an association relationship.

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[Pre-mid Semester Quiz Test ▶](#)

Started on Thursday, 21 October 2021, 11:22 AM

State Finished

Completed on Thursday, 21 October 2021, 12:01 PM

Time taken 39 mins 26 secs

Marks 24.00/35.00

Grade **6.86** out of 10.00 (69%)

Question **1**

Correct

Mark 1.00 out of 1.00

A programmer wants to make a member of a class visible only to all subclasses regardless of what package they are in. Which of the following access specifiers can be used.

- ☐ a. Default
- ☐ b. Public
- ☒ c. Protected
- ☐ d. Private



The correct answer is:
Protected

Question **2**

Correct

Mark 1.00 out of 1.00

In multilevel inheritance, the last subclass inherits all methods and variables of

- ☐ a. **The immediate Superclass**
- ☐ b. **Few classes selected based on the Java compiler version**
- ☒ c. **All classes above it**
- ☐ d. None of the above



The correct answers are:
The immediate Superclass,
All classes above it

Question **3**

Incorrect

Mark 0.00 out of 1.00

A protected member of a superclass, when inherited into a subclass becomes which of the following types

- ☒ a. Protected
- ☐ b. Private
- ☐ c. Default
- ☐ d. Public



The correct answer is:

Private

Question **4**

Correct

Mark 1.00 out of 1.00

Consider the following two statements:

(a) A publicly derived class is a subtype of its base class.

(b) Inheritance provides for code reuse.

- ☐ a. **Statement (a) is incorrect and (b) is correct**
- ☒ b. **Both the statements (a) and (b) are correct.**
- ☐ c. **Statement (a) is correct and (b) is incorrect**
- ☐ d. **Neither of the statements (a) and (b) are correct**



The correct answer is:

Both the statements (a) and (b) are correct.

Question **5**

Incorrect

Mark 0.00 out of 1.00

How many arguments are required in the definition of an overloaded unary operator?

- ☐ a. 2
- ☐ b. None
- ☒ c. 1
- ☐ d. 3



The correct answer is:
None

Question **6**

Correct

Mark 1.00 out of 1.00

The benefits of object-oriented modeling are which of the following?

- ☐ a. **Reusability of analysis, design, and programming results**
- ☒ b. **All of the above**
- ☐ c. **The ability to tackle more challenging problems**
- ☐ d. **Improved communication between users, analysts, etc.**



The correct answer is: **All of the above**

Question **7**

Incorrect

Mark 0.00 out of 1.00

Any class may be inherited by another class in the same package

- ☐ a. True
- ☒ b. False
- ☐ c. Depends upon the Java version
- ☐ d. Depends upon the specific Access specifier



The correct answers are:

True,

Depends upon the specific Access specifier

Question **8**

Correct

Mark 1.00 out of 1.00

Which of the following statements is true concerning objects and/or classes?

- ☐ a. **A class encapsulates only data.**
- ☐ b. **An object encapsulates only data.**
- ☒ c. **An object is an instance of a class.**
- ☐ d. **A class is an instance of an object.**



The correct answer is:

An object is an instance of a class.

Question **9**

Correct

Mark 1.00 out of 1.00

It is an error to have a method with the same signature in both the super class and its subclass

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.

Question **10**

Correct

Mark 1.00 out of 1.00

Two methods cannot have the same name in Java.

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.

Question **11**

Incorrect

Mark 0.00 out of 1.00

Operator overloading is

- ☐ a. Making C++ operators work with objects
- ☐ b. Giving new meanings to existing C++ operators
- ☒ c. Giving C++ operators more operands than usual
- ☐ d. Making new C++ operators

✗

The correct answers are:

Making C++ operators work with objects,

Giving new meanings to existing C++ operators

Question **12**

Correct

Mark 1.00 out of 1.00

Predict the output of the following Java program?

class Test

```
{  
    int i;  
}
```

class Main

```
{  
    public static void main(String args[]) {  
        Test t;  
        System.out.println(t.i);  
    }
```

- ☐ a. Run time error
- ☐ b. Garbage Value
- ☐ c. 0
- ☒ d. Compiler Error



The correct answer is:
Compiler Error

Question **13**

Correct

Mark 1.00 out of 1.00

When would you use a private constructor?

- ☐ a. **When you get bored with public**
- ☒ b. **If you want to disallow instantiation of that class from outside that class**
- ☐ c. Never, it's not allowed
- ☐ d. **If you want to protect your class's members from outside modification**



The correct answer is:

If you want to disallow instantiation of that class from outside that class

Question **14**

Correct

Mark 1.00 out of 1.00

How many different types of access specifiers are possible in Java?

Answer:

4



The correct answer is: 4

Question **15**

Correct

Mark 1.00 out of 1.00

What would be the output of the following code;

public class check

```
{  
  
public static void main(String args[])  
{  
    boolean b = true;  
    System.out.println("CSE");  
    if (!b)  
        return;  
    System.out.println("ESC");  
}  
}
```

- ☐ a. Compiler Error
- ☒ b. CSE followed by ESC
- ☐ c. ESC
- ☐ d. CSE



The correct answer is:
CSE followed by ESC

Question **16**

Correct

Mark 1.00 out of 1.00

Protected members of a super class are accessible to the subclass members, where both the classes are in the same package.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.

Question **17**

Correct

Mark 1.00 out of 1.00

A bookstore is working on an on-line ordering system. For each type of published material (books, movies, audio tapes) they need to track the id, title, author(s), date published, and price. Which of the following would be the best design?

- ☐ a. **Create classes for each**
- ☒ b. **Create the class PublishedMaterial with children classes of Book, Movie, and AudioTape.**
- ☐ c. **Create one class BookStore with the requested fields plus type.**
- ☐ d. **Create one class PublishedMaterial with the requested fields plus type.**
- ☐ e. **Create classes Book, Movie, and AudioTape with the requested fields.**



The correct answer is:

Create the class PublishedMaterial with children classes of Book, Movie, and AudioTape.

Question **18**

Incorrect

Mark 0.00 out of 1.00

Abstraction and encapsulation are fundamental principles that underlie the object-oriented approach to software development. What can you say about the following two statements;

I. Abstraction allows us to focus on what something does without considering the complexities of how it works.

II. Encapsulation allows us to consider complex ideas while ignoring irrelevant details that would confuse us.

- ☐ a. **Both I and II are correct.**
- ☒ b. **Only I is correct.**
- ☐ c. **Only II is correct.**
- ☐ d. **Neither I nor II is correct.**



The correct answer is:

Neither I nor II is correct.

Question **19**

Correct

Mark 1.00 out of 1.00

Which of the following characteristics of an object-oriented programming language restricts behaviour so that an object can only perform actions that are defined for its class?

- ☒ a. Encapsulation
- ☐ b. Polymorphism
- ☐ c. Inheritance
- ☐ d. Dynamic binding



The correct answer is:

Encapsulation

Question **20**

Correct

Mark 1.00 out of 1.00

We can overload methods with differences only in their return type

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.

Question **21**

Incorrect

Mark 0.00 out of 1.00

The object-oriented development life cycle is which of the following?

- ☐ a. Analysis, design, and implementation steps in the given order and going through the steps no more than one time.
- ☐ b. Analysis, design, and implementation steps in any order and going through the steps no more than one time.
- ☒ c. Analysis, design, and implementation steps in any order and using multiple iterations
- ☐ d. Analysis, design, and implementation steps in the given order and using multiple iterations.



The correct answer is:

Analysis, design, and implementation steps in the given order and using multiple iterations.

Question **22**

Correct

Mark 1.00 out of 1.00

Predict the output of the following Java program?

```
class demo
{
    int a, b;

    demo()
    {
        a = 10;
        b = 20;
    }

    public void print()
    {
        System.out.println ("a = " + a + " b = " + b + "n");
    }
}

class Test
{

    public static void main(String[] args)
    {
        demo obj1 = new demo();
        demo obj2 = obj1;

        obj1.a += 1;
        obj1.b += 1;

        System.out.println ("values of obj1 : ");
        obj1.print();
        System.out.println ("values of obj2 : ");
        obj2.print();

    }
}
```

- ☐ a. Compiler Error
- ☐ b. **values of obj1: a = 11 b = 20**
values of obj2: a = 10 b = 21

☒ c. **values of obj1: a = 11 b = 21**
values of obj2: a = 11 b = 21



☐ d. **values of obj1: a = 11 b = 21**
values of obj2: a = 10 b = 20

The correct answer is:

values of obj1: a = 11 b = 21
values of obj2: a = 11 b = 21

Question **23**

Correct

Mark 1.00 out of 1.00

What best describes the purpose of a class's constructor?

- ☐ a. Names the new object
- ☐ b. None of the above
- ☒ c. **Initialize the fields in the object.**
- ☐ d. **Determines the amount of space needed for an object and creates the object.**



The correct answer is:


Initialize the fields in the object.

Question **24**

Correct

Mark 1.00 out of 1.00

Aggregation is which of the following?

- ☐ a. Expresses a part-of relationship and is a weaker form of an association relationship.
- ☒ b. Expresses a part-of relationship and is a stronger form of an association relationship. 
- ☐ c. Expresses an is-a relationship and is a weaker form of an association relationship.
- ☐ d. Expresses an is-a relationship and is a stronger form of an association relationship.

The correct answer is:

Expresses a part-of relationship and is a stronger form of an association relationship.

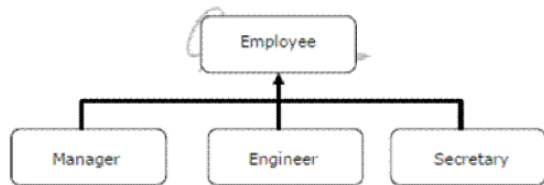
Question **25**

Correct

Mark 1.00 out of 1.00

It is desired to design an object-oriented employee record system for a company. Each employee has a name, unique id and salary. Employees belong to different categories and their salary is determined by their category. The functions to get Name, getId and compute salary are required. Given the class hierarchy below, possible locations for these functions are;

- i. getId is implemented in the superclass
- ii. getId is implemented in the subclass
- iii. getName is an abstract function in the superclass
- iv. getName is implemented in the superclass
- v. getName is implemented in the subclass
- vi. getSalary is an abstract function in the superclass
- vii. getSalary is implemented in the superclass
- viii. getSalary is implemented in the subclass



CHOOSE THE BEST DESIGN AMONG THE FOLLOWING OPTIONS;

- ☐ a. (ii), (v), (viii)
- ☐ b. (i), (iii), (v), (vi), (viii)
- ☐ c. (i), (iv), (vii)
- ☒ d. (i), (iv), (vi), (viii)



The correct answer is:

(i), (iv), (vi), (viii)

Question **26**

Incorrect

Mark 0.00 out of 1.00

The concept of multiple inheritance is implemented in C++ by

- ☐ a. **Implementing two or more interfaces**
- ☐ b. **Extending two or more classes**
- ☐ c. **Extending one class and implementing one or more interfaces**
- ☒ d. All of the above

✗

The correct answer is:

Extending two or more classes

Question **27**

Incorrect

Mark 0.00 out of 1.00

Packages are a collection of

- ☐ a. Attributes
- ☒ b. All of the above
- ☐ c. Classes
- ☐ d. Classes and Interfaces

✗

The correct answers are:

Classes,

Classes and Interfaces

Question **28**

Correct

Mark 1.00 out of 1.00

Default (friendly) members of a super class are accessible to the subclass members, where both the classes are in different packages

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.

Question **29**

Correct

Mark 1.00 out of 1.00

Private member of a class is visible to

- ☒ a. Same class
- ☐ b. Everyone
- ☐ c. Same Package
- ☐ d. Subclass



The correct answer is:
Same class

Question **30**

Incorrect

Mark 0.00 out of 1.00

What would be the output of the following code?

```
public class check
{
    public static void main(String args[])
    {
        boolean b = true;
        System.out.println("CSE");
        return;
        System.out.println("ESC");
    }
}
```

- ☐ a. CSE
- ☐ b. Compiler Error
- ☒ c. CSE followed by ESC
- ☐ d. ESC



The correct answer is:

Compiler Error

Question **31**

Correct

Mark 1.00 out of 1.00

Does Constructors create an Object?

- ☒ a. No
- ☐ b. Yes



The correct answer is:

No

Question **32**

Correct

Mark 1.00 out of 1.00

Composition is a stronger form of which of the following?

- ☐ a. All of the above
- ☐ b. Encapsulation
- ☒ c. **Aggregation**
- ☐ d. Inheritance



The correct answer is:

Aggregation

Question **33**

Incorrect

Mark 0.00 out of 1.00

A normal method in a subclass must always invoke its super class constructor in its first statement

- ☐ a. False
- ☐ b. Depends upon the Java compiler
- ☒ c. True
- ☐ d. Methodology not possible



The correct answer is:

Methodology not possible

Question **34**

Incorrect

Mark 0.00 out of 1.00

What would be the output of the following Java program:

```
class one1
{
    one1()
    {
        System.out.println("Hello");
    }
}

class two2 extends one1
{
}

public class check {
    public static void main(String[] args)
    {
        two2 t = new two2();
    }
}
```

- ☒ a. Blank. No output.
- ☐ b. Hello
- ☐ c. Compiler Error.
- ☐ d. Hello Hello



The correct answer is:
Hello

Question **35**

Correct

Mark 1.00 out of 1.00

When does method overloading is determined?

- ☐ a. Coding time
- ☒ b. Compile time
- ☐ c. Execution time
- ☐ d. Run time



The correct answer is:
Compile time

[◀ Weekly Quiz 2](#)

Jump to...

[Mid Semester Online Examination ▶](#)

Started on Wednesday, 10 November 2021, 9:04 AM

State Finished

Completed on Wednesday, 10 November 2021, 9:44 AM

Time taken 39 mins 35 secs

Marks 24.00/35.00

Grade 6.86 out of 10.00 (69%)

Question **1**

Correct

Mark 1.00 out of 1.00

Static methods can be overloaded.

Select one:

- ☒ True ✓
- ☐ False

The correct answer is 'True'.

Question **2**

Correct

Mark 1.00 out of 1.00

Class A is extending Class B. Which of the following keyword is used inside Class A to call the constructor of Class B

- ☐ a. static
- ☐ b. this
- ☒ c. super
- ☐ d. final



The correct answer is:
super

Question **3**

Incorrect

Mark 0.00 out of 1.00

The concept of multiple inheritance is implemented in C++ by

- ☐ a. Extending two or more classes
- ☒ b. Implementing two or more interfaces
- ☐ c. Extending one class and implementing one or more interfaces
- ☐ d. All of the above

✗

The correct answer is:

Extending two or more classes

Question **4**

Correct

Mark 1.00 out of 1.00

Which of the following statements are True?

- ☐ a. Instance methods may access local variables of static methods.
- ☐ b. A static method can call other non-static methods in the same class by using the 'this' keyword.
- ☒ c. All methods in a class are implicitly passed a 'this' parameter when called.
- ☒ d. Each object of a class has its own copy of each non-static member variable.
- ☒ e. A class may contain both static and non-static variables and both static and nonstatic methods.

✗

✓

✓

The correct answers are:

A class may contain both static and non-static variables and both static and nonstatic methods.,

Each object of a class has its own copy of each non-static member variable.

Question **5**

Correct

Mark 1.00 out of 1.00

Which of the following statements is true concerning objects and/or classes?

- ☐ a. **An object encapsulates only data.**
- ☐ b. **A class is an instance of an object.**
- ☒ c. **An object is an instance of a class.**
- ☐ d. **A class encapsulates only data.**



The correct answer is:

An object is an instance of a class.

Question **6**

Incorrect

Mark 0.00 out of 1.00

What will be the output of the following Java code?

```
class A
{
    public int i;
    private int j;
}
class B extends A
{
    void display()
    {
        super.j = super.i + 1;
        System.out.println(super.i + " " + super.j);
    }
}
class inheritance
{
    public static void main(String args[])
    {
        B obj = new B();
        obj.i=1;
        obj.j=2;
        obj.display();
    }
}
```

- ☐ a. 2 2
- ☐ b. Compilation Error
- ☒ c. Runtime Error
- ☐ d. 3 3



The correct answer is:
Compilation Error

Question **7**

Correct

Mark 1.00 out of 1.00

Class A is extending Class B. Which of the following keywords is used inside Class A to call the constructor of Class A.

- ☐ a. final
- ☐ b. super
- ☐ c. static
- ☒ d. this



The correct answer is:
this

Question **8**

Correct

Mark 1.00 out of 1.00

Abstract class can have constructors and static methods?

- ☐ a. Abstract class can have constructors but can not have static methods
- ☐ b. False
- ☒ c. True
- ☐ d. Abstract class cannot have constructors but can not have static methods



The correct answer is:
True

Question **9**

Incorrect

Mark 0.00 out of 1.00

What is the output of the following Java program,

```
class Main {  
    public static void main(String args[]){  
        final int i;  
        i = 20;  
        System.out.println(i);  
    }  
}
```

- ☐ a. 20
- ☐ b. 0
- ☒ c. Compilation Error
- ☐ d. Garbage value



The correct answer is:

20

Question **10**

Incorrect

Mark 0.00 out of 1.00

What will be the output of the following class?

class B

```
{  
    int b;  
    public B(int b)  
    {  
        b = b;  
    }  
    public static void main (String[] args)  
    {  
        B x = new B(10);  
        System.out.println("x.b :"+x.b);  
    }  
}
```

- ☐ a. 20
- ☐ b. 0, 10
- ☒ c. 10
- ☐ d. 0



The correct answer is:

0

Question **11**

Correct

Mark 1.00 out of 1.00

What would be the output of the following program?

```
abstract class demo
```

```
{
```

```
public int a;
```

```
demo()
```

```
{
```

```
a = 10;
```

```
}
```

```
abstract public void set();
```

```
abstract final public void get();
```

```
}
```

```
class Test extends demo
```

```
{
```

```
public void set(int a)
```

```
{
```

```
this.a = a;
```

```
}
```

```
final public void get()
```

```
{
```

```
System.out.println("a = " + a);
```

```
}
```

```
public static void main(String[] args)
```

```
{
```

```
Test obj = new Test();
```

```
obj.set(20);
```

```
obj.get();
```

```
}
```

```
}
```

- ☐ a. NULL
- ☐ b. a = 20
- ☐ c. a = 10
- ☒ d. Compilation Error



The correct answer is:
Compilation Error

Question **12**

Correct

Mark 1.00 out of 1.00

Which of the following cannot have 'this' keyword inside it

- ☐ a. Non static methods
- ☐ b. Constructors
- ☒ c. Static methods and blocks



The correct answer is:
Static methods and blocks

Question **13**

Incorrect

Mark 0.00 out of 1.00

Predict the output of the following Java program?

class Test

```
{  
    int i;  
}
```

class Main

```
{  
    public static void main(String args[]) {  
        Test t;  
        System.out.println(t.i);  
    }  
}
```

- ☐ a. Run time error
- ☐ b. Compiler Error
- ☒ c. 0
- ☐ d. Garbage Value

✗

The correct answer is:
Compiler Error

Question **14**

Incorrect

Mark 0.00 out of 1.00

An object of multi-level inherited abstract class can not be created in memory.

Select one:

- ☐ True
- ☒ False ✗

The correct answer is 'True'.

Question **15**

Incorrect

Mark 0.00 out of 1.00

How many instance initializers are in this code?

```
public class Bowling {  
    {  
        System.out.println();  
    }  
    public Bowling () {  
        System.out.println();  
    }  
    static {  
        System.out.println();  
    }  
    {  
        System.out.println();  
    }  
}
```

- ☐ a. Two
- ☐ b. One
- ☐ c. None
- ☒ d. Three



The correct answer is:

Two

Question **16**

Correct

Mark 1.00 out of 1.00

Abstract class support _____ inheritance in Java.

- ☒ a. Multilevel Inheritance
- ☐ b. Multiple Inheritance



The correct answer is:
Multilevel Inheritance

Question **17**

Correct

Mark 1.00 out of 1.00

How many arguments are required in the definition of an overloaded unary operator?

- ☒ a. None
- ☐ b. 3
- ☐ c. 2
- ☐ d. 1



The correct answer is:
None

Question **18**

Correct

Mark 1.00 out of 1.00

Can we return 'this' keyword from a method?

- ☐ a. No
- ☒ b. Yes



The correct answer is:
Yes

Question **19**

Incorrect

Mark 0.00 out of 1.00

Which of the following is FALSE about abstract classes in Java

- ☐ a. **A class can be made abstract without any abstract method**
- ☐ b. **A class can inherit from multiple abstract classes.**
- ☐ c. **If we derive an abstract class and do not implement all the abstract methods, then the derived class should also be marked as abstract using 'abstract' keyword**
- ☒ d. **Abstract classes can have constructors**



The correct answer is:

A class can inherit from multiple abstract classes.

Question **20**

Incorrect

Mark 0.00 out of 1.00

A protected member of a superclass, when inherited into a subclass becomes which of the following types

- ☐ a. Public
- ☐ b. Default
- ☒ c. Protected
- ☐ d. Private



The correct answer is:

Private

Question **21**

Correct

Mark 1.00 out of 1.00

It is an error to have a method with the same signature in both the super class and its subclass

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.

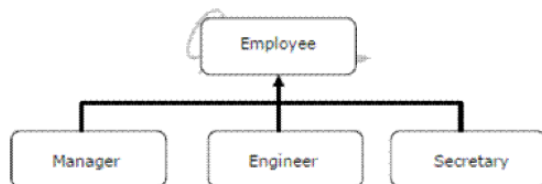
Question **22**

Correct

Mark 1.00 out of 1.00

It is desired to design an object-oriented employee record system for a company. Each employee has a name, unique id and salary. Employees belong to different categories and their salary is determined by their category. The functions to get Name, getId and compute salary are required. Given the class hierarchy below, possible locations for these functions are;

- i. getId is implemented in the superclass
- ii. getId is implemented in the subclass
- iii. getName is an abstract function in the superclass
- iv. getName is implemented in the superclass
- v. getName is implemented in the subclass
- vi. getSalary is an abstract function in the superclass
- vii. getSalary is implemented in the superclass
- viii. getSalary is implemented in the subclass



CHOOSE THE BEST DESIGN AMONG THE FOLLOWING OPTIONS;

- ☐ a. (i), (iii), (v), (vi), (viii)
- ☒ b. (i), (iv), (vi), (viii)
- ☐ c. (i), (iv), (vii)
- ☐ d. (ii), (v), (viii)



The correct answer is:

(i), (iv), (vi), (viii)

Question **23**

Incorrect

Mark 0.00 out of 1.00

Given that Student is a class, how many reference variables and objects are created by the following code?

Student studentName, studentId;

studentName = new **Student**();

Student stud_class = new **Student**();

- ☐ a. **Three reference variables and two objects are created.**
- ☒ b. **Two reference variables and two objects are created.**
- ☐ c. **Three reference variables and three objects are created.**
- ☐ d. **One reference variable and two objects are created.**

✗

The correct answer is:

Three reference variables and two objects are created.

Question **24**

Correct

Mark 1.00 out of 1.00

Which keyword is used for accessing the features of a package?

- ☒ a. Import
- ☐ b. Package
- ☐ c. Export
- ☐ d. Extends

✓

The correct answer is:

Import

Question **25**

Correct

Mark 1.00 out of 1.00

Operator overloading is

- ☒ a. **Making C++ operators work with objects**
- ☐ b. **Giving new meanings to existing C++ operators**
- ☐ c. **Making new C++ operators**
- ☐ d. **Giving C++ operators more operands than usual**



The correct answers are:

Making C++ operators work with objects,

Giving new meanings to existing C++ operators


Question **26**

Correct

Mark 1.00 out of 1.00

Default (friendly) members of a super class are accessible to the subclass members, where both the classes are in different packages

Select one:

- ☐ True
- ☒ False 

The correct answer is 'False'.

Question **27**

Correct

Mark 1.00 out of 1.00

Any class may be inherited by another class in the same package

- ☐ a. Depends upon the Java version
- ☒ b. True
- ☐ c. False
- ☐ d. Depends upon the specific Access specifier



The correct answers are:

True,

Depends upon the specific Access specifier

Question **28**

Incorrect

Mark 0.00 out of 1.00

Which of the following is correct related to the below program,

```
class Base {  
    public final void show() {  
        System.out.println("Base::show() called");  
    }  
}  
  
class Derived extends Base {  
    public void show() {  
        System.out.println("Derived::show() called");  
    }  
}  
  
public class Main {  
    public static void main(String[] args) {  
        Base b = new Derived();  
        b.show();  
    }  
}
```

- ☐ a. Exception
- ☐ b. Compiler Error
- ☐ c. Base::show() called
- ☒ d. Derived::show() called



The correct answer is:


Compiler Error

Question **29**

Correct

Mark 1.00 out of 1.00

Aggregation is which of the following?

- ☐ a. Expresses an is-a relationship and is a stronger form of an association relationship.
- ☒ b. Expresses a part-of relationship and is a stronger form of an association relationship. 
- ☐ c. Expresses a part-of relationship and is a weaker form of an association relationship.
- ☐ d. Expresses an is-a relationship and is a weaker form of an association relationship.

The correct answer is:

Expresses a part-of relationship and is a stronger form of an association relationship.

Question **30**

Correct

Mark 1.00 out of 1.00

In the following code, how many times 'this' would be created,

```
class A
{
    public static void main (String[] args)
    {
        A x = new A();
        A y = new A();
    }
}
```

- ☐ a. 3
- ☒ b. 2 
- ☐ c. 1
- ☐ d. 0

The correct answer is:

2

Question **31**

Correct

Mark 1.00 out of 1.00

What is the output of the following code,

```
class TestRunner {  
    static public int succeeded;  
    static public int failed;  
  
    public TestRunner() {  
    }  
  
    public TestRunner(int s, int f) {  
        succeeded=s; failed=f;  
    }  
  
    public void display() {  
        System.out.println(succeeded + " " + failed);  
    }  
}  
  
class check {  
    public static void main(String[] args) {  
        TestRunner tr = new TestRunner(1, 99);  
        TestRunner.succeeded = 99;  
        tr.display();  
    }  
}
```

- ☐ a. 99 0
- ☐ b. 0 0
- ☐ c. 1 99
- ☒ d. 99 99



The correct answer is:
99 99

Question **32**

Correct

Mark 1.00 out of 1.00

What should be the execution order, if a class has a method, static block, instance block, and constructor, as shown below?

```
public class First_C {  
    public void myMethod()  
    {  
        System.out.println("Method");  
    }  
  
    {  
        System.out.println(" Instance Block");  
    }  
  
    public void First_C()  
    {  
        System.out.println("Constructor ");  
    }  
    static {  
        System.out.println("static block");  
    }  
    public static void main(String[] args) {  
        First_C c = new First_C();  
        c.First_C();  
        c.myMethod();  
    }  
}
```

- ☒ a. Static block, instance block, constructor, and method
- ☐ b. Static block, method, instance block, and constructor
- ☐ c. Method, constructor, instance block, and static block
- ☐ d. Instance block, method, static block, and constructor



The correct answer is:

Static block, instance block, constructor, and method

Question **33**

Correct

Mark 1.00 out of 1.00

What is the output of this program,

```
class check {  
    public static void main(String[] args)  
    {  
        int x = 20;  
        System.out.println(x);  
    }  
    static  
    {  
        int x = 10;  
        System.out.print(x + " ");  
    }  
}
```

- ☐ a. 20 20
- ☒ b. 10 20
- ☐ c. 10 10
- ☐ d. 20 10



The correct answer is:

10 20

Question **34**

Correct

Mark 1.00 out of 1.00

Which of the following is TRUE about Interfaces in Java,

1) An interface can contain the following type of members.

....**public, static, final fields (i.e., constants)**

....**default and static methods with bodies**

2) An instance of the interface can be created.

3) A class can implement multiple interfaces.

4) Many classes can implement the same interface.

- ☐ a. 1, 2, and 4
- ☒ b. 1, 3, and 4
- ☐ c. 2, 3, and 4
- ☐ d. 1, 2, 3, and 4



The correct answer is:

1, 3, and 4

Question **35**

Correct

Mark 1.00 out of 1.00

Does Constructors create an Object?

- ☐ a. Yes
- ☒ b. No



The correct answer is:

No

[◀ Pre-mid Semester Quiz Test](#)

Jump to...

Started on Wednesday, 20 October 2021, 9:10 AM

State Finished

Completed on Wednesday, 20 October 2021, 9:50 AM

Time taken 39 mins 43 secs

Marks 24.00/35.00

Grade 6.86 out of 10.00 (69%)

Question **1**

Correct

Mark 1.00 out of 1.00

The decimal equivalent of (1010)BCD is?

- ☐ a. 12
- ☒ b. Not assigned
- ☐ c. 11
- ☐ d. 10



Your answer is correct.

The correct answer is:

Not assigned

Question **2**

Correct

Mark 1.00 out of 1.00

The sum of product form of the function $F(X, Y, Z) = \prod(1, 2, 4, 6, 7)$ is given by ____?

- ☐ a. $F(X, Y, Z) = \sum(0, 3, 4, 5)$
- ☐ b. $F(X, Y, Z) = \sum(0, 3, 5, 8)$
- ☐ c. $F(X, Y, Z) = \sum(1, 2, 4, 6, 7)$
- ☒ d. $F(X, Y, Z) = \sum(0, 3, 5)$



Your answer is correct.

The correct answer is:

$F(X, Y, Z) = \sum(0, 3, 5)$

Question **3**

Incorrect

Mark 0.00 out of 1.00

The Boolean function is given by $A'B + ACB + AC'B$. The reduced expression shall be ?

- ☐ a. A
- ☐ b. B
- ☐ c. AB
- ☒ d. $A(B+D)$



Your answer is incorrect.

The correct answer is:

B

Question **4**

Correct

Mark 1.00 out of 1.00

The given hexadecimal number $(23AE)_{16}$ is equivalent to _____ ?

- ☐ a. **$(9643)_{10}$**
- ☐ b. **$(9143)_{10}$**
- ☒ c. **$(9134)_{10}$**
- ☐ d. **$(9223)_{10}$**



Your answer is correct.

The correct answer is:

$(9134)_{10}$

Question **5**

Incorrect

Mark 0.00 out of 1.00

Which properties execute "+" gate function?

- ☐ a. Commutative properties
- ☐ b. Associative properties
- ☒ c. All of the Mentioned
- ☐ d. Distributive properties



Your answer is incorrect.

The correct answer is:
Distributive properties

Question **6**

Correct

Mark 1.00 out of 1.00

The product of max terms form of the function $F=XY+X'Z$ shall be_____?

- ☐ a. $F=\prod(0, 2, 3, 5)$
- ☒ b. $F=\prod(0, 2, 4, 5)$
- ☐ c. $F=\prod(0, 2, 4, 6)$
- ☐ d. $F=\prod(0, 2, 4, 7)$



Your answer is correct.

The correct answer is:
 $F=\prod(0, 2, 4, 5)$

Question **7**

Correct

Mark 1.00 out of 1.00

Realize the equation $(A+B)C + (A+B)C'$?

- ☐ a. $A+B'$
- ☐ b. $A'+B$
- ☒ c. $A+B$
- ☐ d. AB



Your answer is correct.

The correct answer is:

$A+B$

Question **8**

Correct

Mark 1.00 out of 1.00

Realize the equation $X(X+Y)$?

- ☒ a. X
- ☐ b. Y
- ☐ c. $X.Y$
- ☐ d. $X+Y$



Your answer is correct.

The correct answer is:

X

Question **9**

Correct

Mark 1.00 out of 1.00

The complement of the function $F(X, Y, Z) = \Sigma(1, 3, 4, 6)$ is given by ____ ?

- ☐ a. $F(X, Y, Z) = \Pi(0, 3, 4, 6)$
- ☐ b. $F(X, Y, Z) = \Pi(1, 2, 4, 6)$
- ☐ c. $F(X, Y, Z) = \Pi(1, 3, 5, 6)$
- ☒ d. $F(X, Y, Z) = \Pi(1, 3, 4, 6)$



Your answer is correct.

The correct answer is:

$F(X, Y, Z) = \Pi(1, 3, 4, 6)$

Question **10**

Correct

Mark 1.00 out of 1.00

The hexadecimal equivalent of number $(4096)_{10}$ is?

- ☐ a. 1111
- ☐ b. FFFF
- ☒ c. 1000
- ☐ d. FFF



Your answer is correct.

The correct answer is:

1000

Question **11**

Correct

Mark 1.00 out of 1.00

The function $Z(P,Q,R,S) = (Q+P)(R+S)(P+Q)$ represents the _____ operation?

- ☐ a. SOP
- ☐ b. NAND
- ☐ c. AND
- ☒ d. POS



Your answer is correct.

The correct answer is:
POS

Question **12**

Incorrect

Mark 0.00 out of 1.00

What are the basic gates required to construct the XOR gate?

- ☐ a. OR gates only
- ☐ b. AND gates, OR gates, and NOT gates
- ☒ c. AND gates and NOT gates
- ☐ d. OR gates and NOT gates



Your answer is incorrect.

The correct answer is:
AND gates, OR gates, and NOT gates

Question **13**

Correct

Mark 1.00 out of 1.00

Which of the following function is a simplification of $(X' + Y)(X' + Z)$?

- ☐ a. $XY + Z$
- ☐ b. None of the mentioned
- ☐ c. $X + YZ$
- ☒ d. $X' + YZ$



Your answer is correct.

The correct answer is:

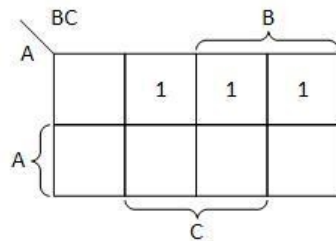
$X' + YZ$

Question **14**

Correct

Mark 1.00 out of 1.00

The K map of a Boolean Function is given below. What shall be a simplified function?



- ☐ a. AC
- ☒ b. $F = A'C + A'B$
- ☐ c. B
- ☐ d. $F = A + C$



Your answer is correct.

The correct answer is:

$F = A'C + A'B$

Question **15**

Correct

Mark 1.00 out of 1.00

The Absorption Law expression is defined by?

- ☒ a. $P + PQ = P$
- ☐ b. $P + Q = Q + P$
- ☐ c. $PQ + PP' = P$
- ☐ d. $P + PQ = Q$



Your answer is correct.

The correct answer is:

$P + PQ = P$

Question **16**

Correct

Mark 1.00 out of 1.00

$(75)_8$ is equivalent to?

- ☐ a. $(DC)_{16}$
- ☐ b. $(3C)_{16}$
- ☐ c. $(3A)_{16}$
- ☒ d. $(3D)_{16}$



Your answer is correct.

The correct answer is:

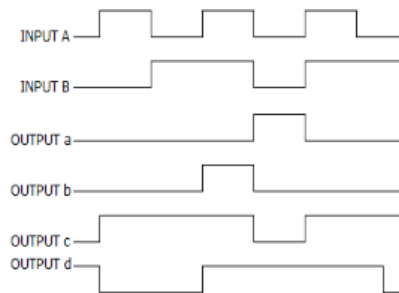
$(3D)_{16}$

Question **17**

Correct

Mark 1.00 out of 1.00

For a two-input XNOR gate, with the input waveforms as shown below, which output waveform is correct?



- ☒ a. d
- ☐ b. c
- ☐ c. b
- ☐ d. a



Your answer is correct.

The correct answer is:

d

Question 18

Correct

Mark 1.00 out of 1.00

Which of the following options is correct for these three statements?

1. The Boolean functions expressed as a sum of minterms or product of max terms are said to be in canonical form.
2. The Boolean functions expressed as a product of max terms is said to be in canonical form.
3. The maxterm with subscript j is a complement of the minterm with the same subscript j and vice versa

- ☐ a. All are false
- ☐ b. I & II is true and III is false
- ☒ c. All are true
- ☐ d. I & II are false and III is true



Your answer is correct.

The correct answer is:

All are true

Question 19

Incorrect

Mark 0.00 out of 1.00

The product of the sum form of the function $F(X, Y, Z) = \Sigma(1, 3, 5, 6, 7)$ is given by ____?

- ☐ a. $(X' + Y' + Z)(X + Y' + Z)(X' + Y + Z)$
- ☒ b. $(X + Y + Z)(X + Y' + Z)(X' + Y' + Z')$
- ☐ c. $(X + Y + Z)(X' + Y' + Z)(X' + Y + Z)$
- ☐ d. $(X + Y + Z)(X + Y' + Z)(X' + Y + Z)$



Your answer is incorrect.

The correct answer is:

$(X + Y + Z)(X + Y' + Z)(X' + Y + Z)$

Question **20**

Correct

Mark 1.00 out of 1.00

The decimal equivalent of $(FF.F)_{16}$ is ____ ?

- ☐ a. 259.3975
- ☐ b. 255.3975
- ☒ c. 255.9375
- ☐ d. 253.9375



Your answer is correct.

The correct answer is:

255.9375

Question **21**

Correct

Mark 1.00 out of 1.00

Which of the following statement is true?

- ☐ a. In choosing adjacent squares to simplify the function in a map, the don't-care minterms is assumed to be 0 always
- ☒ b. A don't-care minterm is a combination of variables whose logical value is not specified
- ☐ c. In choosing adjacent squares to simplify the function in a map, the don't-care minterms is assumed to be 1 always
- ☐ d. None of the mentioned



Your answer is correct.

The correct answer is:

A don't-care minterm is a combination of variables whose logical value is not specified

Question **22**

Incorrect

Mark 0.00 out of 1.00

For $n=4$ what is the total number of logical expressions?

- ☒ a. None of the mentioned
- ☐ b. 35536
- ☐ c. 36636
- ☐ d. 36536



Your answer is incorrect.

The correct answer is:
35536

Question **23**

Correct

Mark 1.00 out of 1.00

Convert decimal number $(12.5)_{10}$ to binary number?

- ☐ a. 1001.1
- ☐ b. 1011.1
- ☐ c. 1110.1
- ☒ d. 1100.1



Your answer is correct.

The correct answer is:
1100.1

Question **24**

Correct

Mark 1.00 out of 1.00

Reduce the Boolean expressions $ABC'D + A'BD + ABCD$ to an expression having two literals?

- ☒ a. BD
- ☐ b. $A+D$
- ☐ c. $B+D$
- ☐ d. AB



Your answer is correct.

The correct answer is:

BD

Question **25**

Incorrect

Mark 0.00 out of 1.00

A locker has been rented in the bank. Express the process of opening the locker in terms of digital operation?

- ☐ a. $C = A' + B'$
- ☐ b. $C = A + B$
- ☐ c. $C = A.B$
- ☒ d. $C = A \text{ XOR } B$



Your answer is incorrect.

The correct answer is:

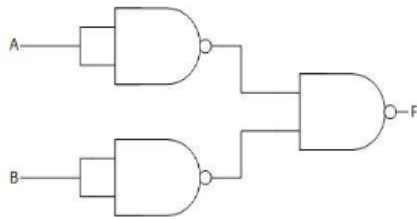
$C = A.B$

Question **26**

Correct

Mark 1.00 out of 1.00

What shall be the truth table of this logic circuit?



☐ a.

A	B	F
0	0	0
0	1	0
1	0	0
1	1	0

☐ b.

A	B	F
0	0	1
0	1	1
1	0	1
1	1	1

☒ c.

A	B	F
0	0	0
0	1	1
1	0	1
1	1	1

☐ d.



A	B	F
0	0	0
0	1	0
1	0	0
1	1	1

Your answer is correct.

The correct answer is:

A	B	F
0	0	0
0	1	1
1	0	1
1	1	1

Question **27**

Incorrect

Mark 0.00 out of 1.00

What is the minimum number of NAND gates required to implement the function: $AB' + ABC + ABC'$?

- ☐ a. 0
- ☐ b. 2
- ☐ c. 1
- ☒ d. 3

✗

Your answer is incorrect.

The correct answer is:

0

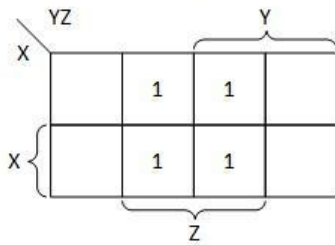
Question **28**

Correct

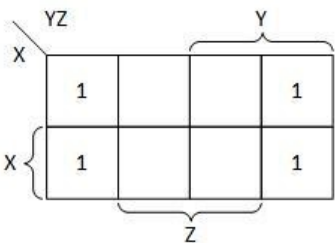
Mark 1.00 out of 1.00

Select the correct K map of the function $F(X,Y,Z) = \Sigma(2, 3, 6, 7)$?

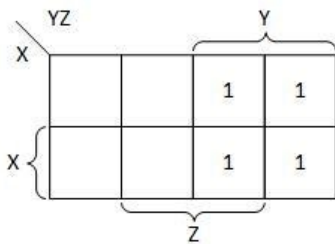
☐ a.



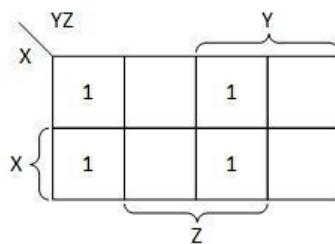
☐ b.



☒ c.

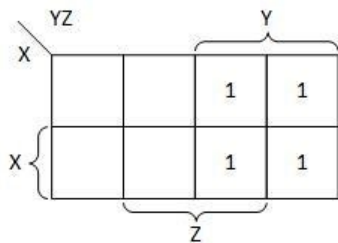


☐ d.



Your answer is correct.

The correct answer is:



Question **29**

Correct

Mark 1.00 out of 1.00

Realize the equation $X \text{ xor } Y \text{ xor } XY$?

- ☐ a. X
- ☐ b. $X.Y$
- ☒ c. $X + Y$
- ☐ d. Y



Your answer is correct.

The correct answer is:

$X + Y$

Question **30**

Correct

Mark 1.00 out of 1.00

The logic gate circuit of simplified Boolean function $(X+Y)'(X'+Y')$ shall be?

- ☐ a. One OR gate with inverted X and inverted Y as input
- ☐ b. One AND gate with X and Y as input
- ☐ c. One OR gate with X and Y as input
- ☒ d. One AND gate with inverted X and inverted Y as input



Your answer is correct.

The correct answer is:

One AND gate with inverted X and inverted Y as input

Question **31**

Incorrect

Mark 0.00 out of 1.00

How many AND gates can be utilized for the function $Z = AB + C + BC$?

- ☒ a. 3
- ☐ b. 2
- ☐ c. 5
- ☐ d. 4



Your answer is incorrect.

The correct answer is:

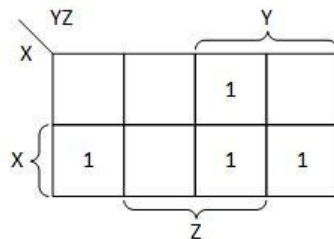
2

Question **32**

Correct

Mark 1.00 out of 1.00

The K map of a Boolean Function is given below. What shall be a simplified function?



- ☒ a. $F = YZ + XZ'$
- ☐ b. $F = YZ$
- ☐ c. $F = X + Y$
- ☐ d. $F = XY$



Your answer is correct.

The correct answer is:

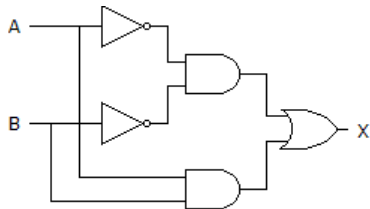
$F = YZ + XZ'$

Question **33**

Incorrect

Mark 0.00 out of 1.00

What is the output x of the following diagram?



- ☐ a. $X = (AB)' + AB$
- ☐ b. $X = A'B' + AB$
- ☒ c. $X = AB' + A'B$
- ☐ d. $X = (AB)' + A'B'$

✗

Your answer is incorrect.

The correct answer is:

$X = A'B' + AB$

Question **34**

Incorrect

Mark 0.00 out of 1.00

How many inputs are required for a truth table of 16 entries?

- ☒ a. 8
- ☐ b. 3
- ☐ c. 4
- ☐ d. 12

✗

Your answer is incorrect.

The correct answer is:

4

Question **35**

Not answered

Marked out of 1.00

A binary operator $*$ on a set S is said to be commutative whenever?

- ☐ a. $x * y = y * x$ for all $x, y \in S$
- ☐ b. $(x * y) * z = x * (y * z)$ for all $x, y, z \in S$
- ☐ c. Both A and B
- ☐ d. None of the above

Your answer is incorrect.

The correct answer is:

$x * y = y * x$ for all $x, y \in S$

Jump to...

[EC_201-Test-1](#) ►

Started on Wednesday, 27 October 2021, 9:10 AM

State Finished

Completed on Wednesday, 27 October 2021, 9:17 AM

Time taken 6 mins 43 secs

Marks 2.00/5.00

Grade 4.00 out of 10.00 (40%)

Question **1**

Complete

Mark 1.00 out of 1.00

3 bits full adder contains _____

- ☐ a. 2 combinational inputs
- ☐ b. 4 combinational inputs
- ☒ c. 8 combinational inputs
- ☐ d. 6 combinational inputs

Question **2**

Complete

Mark 0.00 out of 1.00

The four inputs to a circuit (A, B, C, D) represent an 8-4-2-1 binary-coded-decimal Digit. Design the circuit so that the output (Z) is 1 if the decimal number represented by the inputs is exactly divisible by 3. Assume that only valid BCD digits occur as inputs.

- ☒ a. $\sum m(3,6,9) + \sum d(10,11,12,13,14,15)$
- ☐ b. $\sum m(0,3,6,9) + \sum d(10,11,12,13,14,15)$
- ☐ c. $\sum m(0,6,9) + \sum d(10,11,12,13,14,15)$
- ☐ d. $\sum m(0,3,6) + \sum d(10,11,12,13,14,15)$

Question **3**

Complete

Mark 1.00 out of 1.00

For the 4-bit full adder circuit, binary streams are A= 1101 and B= 1011 select the correct option.

- ☒ a. Carry = 1 and Sum = 1000
- ☐ b. Carry = 0 and Sum = 1100
- ☐ c. Carry = 1 and Sum = 1001
- ☐ d. Carry = 0 and Sum = 1000

Question **4**

Complete

Mark 0.00 out of 1.00

In a subtraction circuit, P1, P2 are the inputs, if $P1=P2$, then what will be the output?

- ☐ a. P2
- ☐ b. P1
- ☒ c. 1
- ☐ d. 0

Question 5

Complete

Mark 0.00 out of 1.00

Simplify the following

AB CD		00	01	11	10
00	1 0	1 1	0 3	1 2	
01	1 4	0 5	0 7	0 6	
11	0 12	0 13	1 15	1 14	
10	1 8	1 9	0 11	0 10	

- ☐ a. $Y = (A + C) \cdot (A' + B')$
- ☒ b. $Y = (A + C') \cdot (A + B')$
- ☐ c. $Y = (A + C') \cdot (A' + B')$
- ☐ d. $Y = (A + C') \cdot (A + B)$

◀ EC_201-Pre-Mid Term Online Exam-20-10-2021

Jump to...

EC_201-Test-II_3-11-21 ▶

Started on Wednesday, 3 November 2021, 9:10 AM

State Finished

Completed on Wednesday, 3 November 2021, 9:18 AM

Time taken 7 mins 56 secs

Marks 2.00/5.00

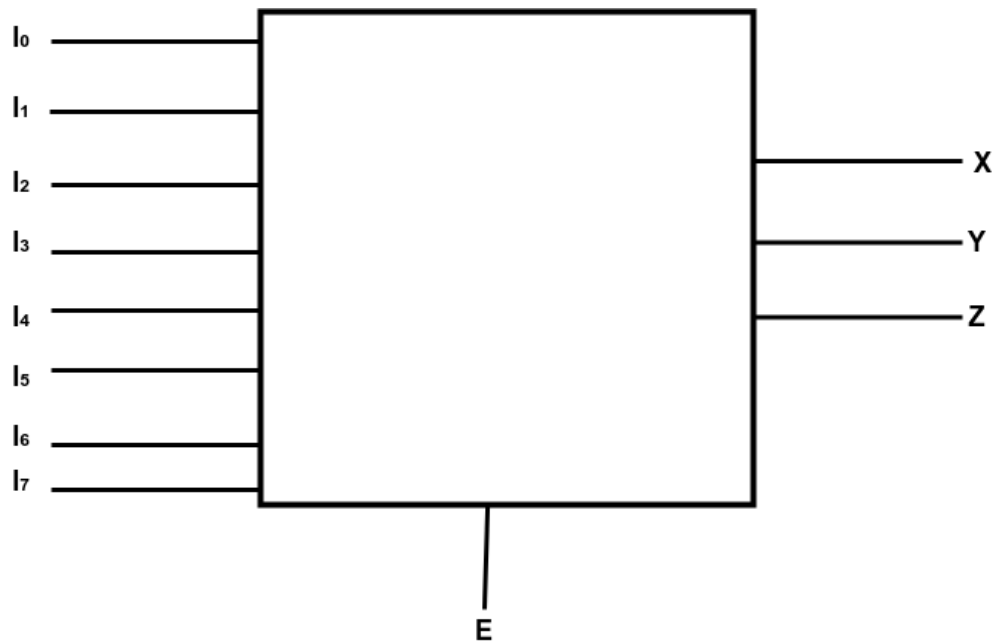
Grade 4.00 out of 10.00 (40%)

Question 1

Complete

Mark 1.00 out of 1.00

Choose the right option for the circuit given below?



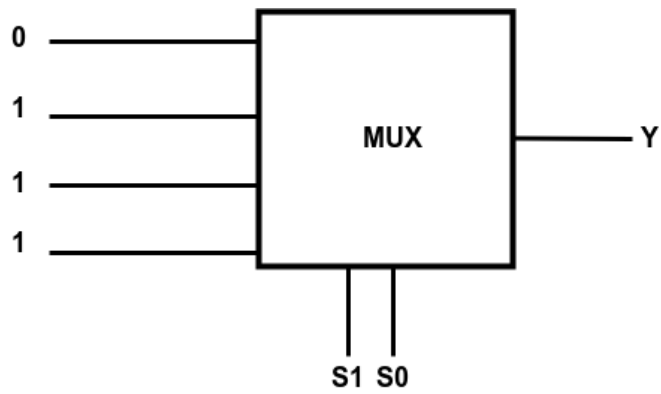
- ☒ a. Octal to Binary Decoder
- ☐ b. Octal to Hexadecimal Decoder
- ☐ c. Decimal to BCD Decoder
- ☐ d. Decimal to Binary Decoder

Question **2**

Complete

Mark 0.00 out of 1.00

The out Y of the circuit given below will perform the function of ?



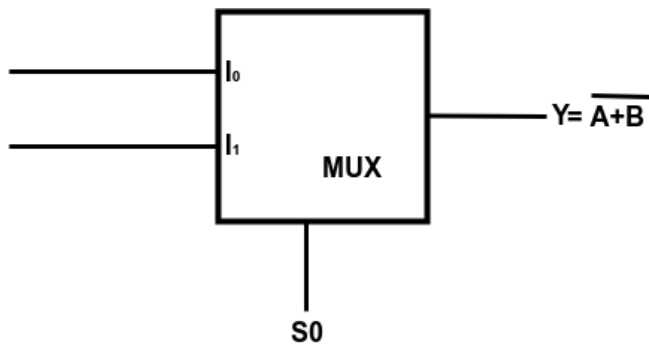
- ☐ a. X-NOR Gate
- ☐ b. OR Gate
- ☒ c. X-OR Gate
- ☐ d. AND Gate

Question **3**

Complete

Mark 0.00 out of 1.00

For the circuit given below choose the correct option?



- ☐ a. $S_0 = A$, $I_0 = B'$ and $I_1 = 0$
- ☐ b. $S_0 = A$, $I_0 = B$ and $I_1 = 1$
- ☒ c. $S_0 = A$, $I_0 = 0$ and $I_1 = 1$
- ☐ d. $S_0 = A$ and $I_0 = I_1 = B'$

Question **4**

Complete

Mark 1.00 out of 1.00

Choose the correct option for the decoder type?

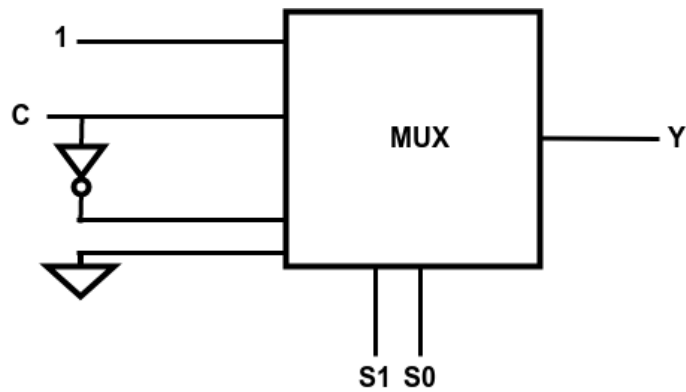
- ☐ a. 3x8
- ☐ b. 4x10
- ☐ c. 2x4
- ☒ d. All of the mentioned

Question 5

Not answered

Marked out of 1.00

What is the output of the circuit given below? If $S1 = A$ and $S0 = B$



- ☐ a. $A'B + ABC + AB'C'$
- ☐ b. $AB + A'BC + AB'C'$
- ☐ c. $A'B' + A'BC + AB'C'$
- ☐ d. $A'B + A'BC + A'B'C'$

◀ [EC_201-Test-1](#)

Jump to...

[EC-201-MID Sem Online Test-12-11-2021](#) ▶

Started on Friday, 12 November 2021, 9:00 AM

State Finished

Completed on Friday, 12 November 2021, 9:40 AM

Time taken 39 mins 49 secs

Marks 21.00/30.00

Grade 7.00 out of 10.00 (70%)

Question 1

Complete

Mark 1.00 out of 1.00

The Boolean function of a full adder is given by _____

- ☐ a. $S(x, y, z) = \Sigma(1, 3, 4, 7)$; $C(x, y, z) = \Sigma(2, 5, 6, 7)$
- ☒ b. $S(x, y, z) = \Sigma(1, 2, 4, 7)$; $C(x, y, z) = \Sigma(3, 5, 6, 7)$
- ☐ c. $S(x, y, z) = \Sigma(1, 2, 5, 7)$; $C(x, y, z) = \Sigma(3, 4, 6, 7)$
- ☐ d. $S(x, y, z) = \Sigma(1, 3, 4, 7)$; $C(x, y, z) = \Sigma(2, 5, 6, 7)$

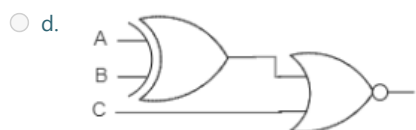
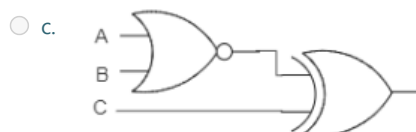
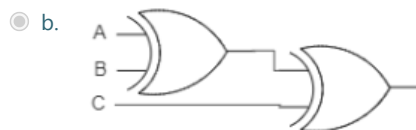
Question 2

Complete

Mark 1.00 out of 1.00

Which one of the following represents an odd function?

- ☐ a. None of the Mentioned



Question **3**

Complete

Mark 1.00 out of 1.00

The set of two Boolean function $F1=x\oplus y$; $F2=x'y$ represents ____.

- ☐ a. Full Adder
- ☒ b. Half Subtractor
- ☐ c. Full Subtractor
- ☐ d. Half Adder

Question **4**

Complete

Mark 0.00 out of 1.00

The characteristics equation of a JK flip flop is given by ____.

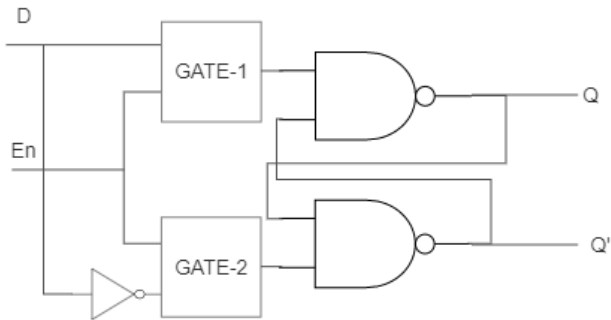
- ☒ a. $Q(t+1)=JQ'(t)+K'Q(t)$
- ☐ b. $Q(t+1)=J'Q(t)+K'Q(t)$
- ☐ c. $Q(t+1)=JQ(t)+KQ'(t)$
- ☐ d. $Q(t+1)=J'Q(t)+KQ'(t)$

Question **5**

Complete

Mark 1.00 out of 1.00

The logic circuit of D flip flop is given below. Which gate shall be connected as Gate-1 and Gate-2 respectively?



- ☒ a. **NAND and NAND**
- ☐ b. **NOR AND NAND**
- ☐ c. **NAND and NOR**
- ☐ d. **NOR and NOR**

Question **6**

Complete

Mark 1.00 out of 1.00

How many inputs are required for a truth table of 32 entries?

- ☐ a. 3
- ☒ b. 5
- ☐ c. 4
- ☐ d. 6

Question **7**

Complete

Mark 0.00 out of 1.00

For a 3-input and 1-output digital circuit, the output is true, only when the minimum of two inputs are set to 1. The Boolean function for the output is given by _____.

- ☐ a. $F = A'BC + AB'C' + ABC'$
- ☐ b. $F = A'B'C + AB'C + ABC'$
- ☐ c. $F = A'BC + AB'C + ABC'$
- ☒ d. $F = A'B'C + A'BC' + AB'C'$

Question **8**

Complete

Mark 1.00 out of 1.00

The SOP form of the Boolean function $F = A + B'C$ shall be _____.

- ☐ a. $F = \Sigma(0, 2, 3)$
- ☐ b. $F = \Pi(1, 3, 5, 6, 7)$
- ☒ c. $F = \Sigma(1, 4, 5, 6, 7)$
- ☐ d. $F = \Pi(0, 2, 3)$

Question **9**

Complete

Mark 1.00 out of 1.00

The Boolean function of the half adder is _____.

- ☒ a. $S = x'y + xy'$; $C = xy$
- ☐ b. $S = x'y'$; $C = x' + y'$
- ☐ c. $S = x'y + xy'$; $C = x + y$
- ☐ d. $S = x'y + xy'$; $C = x'y'$

Question **10**

Complete

Mark 1.00 out of 1.00

Complete

Mark 1.00 out of 1.00

Mark 1.00 out of 1.00

The carry lookahead logic is used to ____.

- ☐ a. Reduce the error in calculation
- ☒ b. Reduce the carry propagation time
- ☐ c. Avoid the overflow
- ☐ d. Reduce the complexity of the digital circuit

Question **11**

Complete

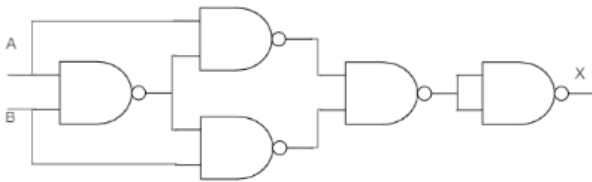
Mark 0.00 out of 1.00

Complete

Mark 0.00 out of 1.00

Mark 0.00 out of 1.00

The following circuit represents a ____ gate.



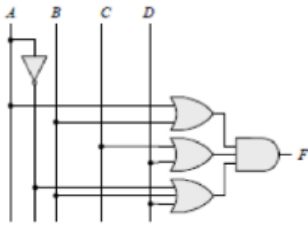
- ☒ a. **EX-OR**
- ☐ b. **NOR**
- ☐ c. **OR**
- ☐ d. **Ex-NOR**

Question 12

Complete

Mark 1.00 out of 1.00

The Boolean function of the following digital logic circuit can be determined to be _____.



- ☐ a. $(A' + B)(C + D)(A' + B + D)$
- ☒ b. $(A + B)(C + D)(A' + B + D)$
- ☐ c. $(A' + B)(C' + D)(A' + B + D)$
- ☐ d. $(A + B)(C + D)(A' + B + D')$

Question 13

Complete

Mark 0.00 out of 1.00

The complement of the function $F(A, B, C, D) = \Pi(2, 5, 7, 8, 9, 11, 12, 14)$ is _____.

- ☐ a. $F'(A, B, C, D) = \Sigma(2, 5, 7, 8, 9, 11, 12, 14)$
- ☐ b. $F'(A, B, C, D) = \Pi(2, 5, 7, 8, 9, 11, 12, 14)$
- ☐ c. $F'(A, B, C, D) = \Pi(1, 3, 6, 7, 8, 11, 12, 14)$
- ☒ d. $F'(A, B, C, D) = \Sigma(1, 3, 6, 7, 8, 11, 12, 14)$

Question **14**

Complete

Mark 1.00 out of 1.00

Which of the following is correct for these three statements?

I. A decoder has multiple inputs and multiple outputs.

II. A multiplexer has one input and one output always.

III. A multiplexer is a combinational circuit.

- ☐ a. II & III are false.
- ☐ b. I & II are true.
- ☒ c. I & III are true.
- ☐ d. I & II are false.

Question **15**

Complete

Mark 1.00 out of 1.00

Choose the correct option for the binary Addition A+B.

A= 110110

B=101101

- ☒ a. 100011
- ☐ b. 110011
- ☐ c. 000000
- ☐ d. 100111

Question **16**

Complete

Mark 0.00 out of 1.00

The other canonical form of the function $F(A, B, C, D) = \Sigma(1, 3, 5, 6, 8, 10, 12, 14)$ is _____.

- ☐ a. $F(A, B, C, D) = \Pi(1, 3, 5, 6, 8, 11, 13, 15, 16)$
- ☐ b. $F(A, B, C, D) = \Pi(0, 2, 4, 7, 9, 11, 13, 15, 16)$
- ☐ c. $F(A, B, C, D) = \Pi(1, 3, 5, 6, 8, 10, 12, 14)$
- ☒ d. $F(A, B, C, D) = \Pi(0, 2, 4, 7, 9, 10, 12, 14)$

Question **17**

Complete

Mark 0.00 out of 1.00

1. A 4:1 multiplexer has the following inputs and select lines. What shall be the output Boolean function "F"? $I_0=A$; $I_1=A'$; $I_2=1$; $I_3=0$; $S_0=C$; $S_1=B$

- ☐ a. $F(A, B, C) = \Sigma(1, 2, 4, 6)$
- ☒ b. $F(A, B, C) = \Sigma(1, 2, 4, 5)$
- ☐ c. $F(A, B, C) = \Sigma(0, 2, 4, 6)$
- ☐ d. $F(A, B, C) = \Sigma(1, 2, 4, 7)$

Question **18**

Complete

Mark 0.00 out of 1.00

A binary adder is a digital circuit that produces the arithmetic sum of _____.

- ☒ a. Two binary bits only
- ☐ b. None of the Mentioned
- ☐ c. Any two numbers
- ☐ d. Two binary numbers

Question **19**

Complete

Mark 1.00 out of 1.00

The given hexadecimal number (BAD)₁₆ is equivalent to _____

- ☐ a. (3989)₁₀
- ☐ b. (2009)₁₀
- ☒ c. (2989)₁₀
- ☐ d. (2489)₁₀

Question **20**

Complete

Mark 0.00 out of 1.00

Simplify the function for the given truth table.

A	B	X
0	0	1
0	1	0
1	0	1
1	1	0

- ☐ a. $X=A+B$
- ☒ b. $X=A'$
- ☐ c. $X=A\oplus B$
- ☐ d. $X=B'$

Question **21**

Complete

Mark 1.00 out of 1.00

For Full Adder and Half Subtractor, the number of NAND Gates are?

- ☐ a. 9 and 9
- ☐ b. 10 and 8
- ☐ c. 8 and 5
- ☒ d. 9 and 5

Question **22**

Complete

Mark 1.00 out of 1.00

A 2:1 multiplexer is used to realize the NOR gate. What shall be a combination of different inputs?

- ☐ a. $I_0=B; I_1=0; S=A$
- ☒ b. $I_0=B'; I_1=0; S=A$
- ☐ c. $I_0=B; I_1=1; S=A$
- ☐ d. $I_0=B'; I_1=1; S=A$

Question **23**

Complete

Mark 1.00 out of 1.00

What is the redundant term for the following logical expression?

$$F(A,B,C) = AB + A'C + BC$$

- ☐ a. AB
- ☐ b. None of the Mentioned
- ☐ c. $A'C$
- ☒ d. BC

Question **24**

Complete

Mark 1.00 out of 1.00

How many AND gates can be utilized for the function $Z = AB + C + BC$?

- ☐ a. 3
- ☐ b. 4
- ☐ c. None of the Mentioend
- ☒ d. 2

Question **25**

Complete

Mark 1.00 out of 1.00

Choose the correct option for Binary Subtraction for A-B.

A= 11011

B= 10110

- ☐ a. 10111
- ☐ b. 11111
- ☐ c. 10101
- ☒ d. 00101

Question **26**

Complete

Mark 1.00 out of 1.00

The SOP form of the Boolean function $F=A+B'C$ shall be _____.

- ☐ a. $F=\Sigma(0, 2, 3)$
- ☐ b. $F=\Pi(1, 3, 5, 6, 7)$
- ☐ c. $F=\Pi(0, 2, 3)$
- ☒ d. $F=\Sigma(1, 4, 5, 6, 7)$

Question **27**

Complete

Mark 1.00 out of 1.00

The characteristics equation of a T flip flop is _____.

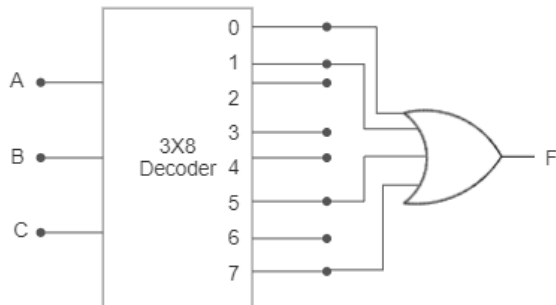
- ☒ a. $Q(n+1)=T\oplus Qn$
- ☐ b. $Q(n+1)=T'Qn+TQn$
- ☐ c. None of the Mentioned
- ☐ d. $Q(n+1)= TQn+TQ'n$

Question **28**

Complete

Mark 1.00 out of 1.00

The following digital circuit is comprised of a 3X8 decoder and an OR gate. The simplified Boolean function shall be _____.



- ☒ a. $A'B' + AC$
- ☐ b. $AB + AC$
- ☐ c. AC
- ☐ d. $A'B'$

Question **29**

Complete

Mark 1.00 out of 1.00

Choose the correct option for Hexadecimal Addition A+B

$$A = (5689)_{16}$$

$$B = (4574)_{16}$$

- ☒ a. $(9BFD)_{16}$
- ☐ b. $(9CFD)_{16}$
- ☐ c. $(9AFD)_{16}$
- ☐ d. $(9DFD)_{16}$

Question **30**

Not answered

Marked out of 1.00

The following set of K- Map represents _____.

yz \ x	00	01	11	10
0		1		1
1	1		1	

yz \ x	00	01	11	10
0		1	1	1
1			1	

- ☐ a. **Full adder**
- ☐ b. **Binary Adder Subtractor**
- ☐ c. **Full Subtractors**
- ☐ d. **Binary Multiplier**

◀ [EC_201-Test-II_3-11-21](#)

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/ [EC-261-Mid Sem Online Test-19-11-2021](#)

Started on Sunday, 19 December 2021, 10:30 AM

State Finished

Completed on Sunday, 19 December 2021, 11:00 AM

Time taken 29 mins 55 secs

Marks 20.00/30.00

Grade **6.67** out of 10.00 (**67%**)

Question **1**

Complete

Mark 1.00 out of 1.00

Logic functions are used in _____ design

- ☐ a. Sampling
- ☒ b. Digital
- ☐ c. All of the mentioned
- ☐ d. Analog

Question **2**

Complete

Mark 1.00 out of 1.00

Adders can be used in

- ☒ a. All of the mentioned
- ☐ b. Addresses
- ☐ c. Increment and decrement operators
- ☐ d. Table indices

Question 3

Complete

Mark 1.00 out of 1.00

How many inputs are required for the truth table of 16 entries?

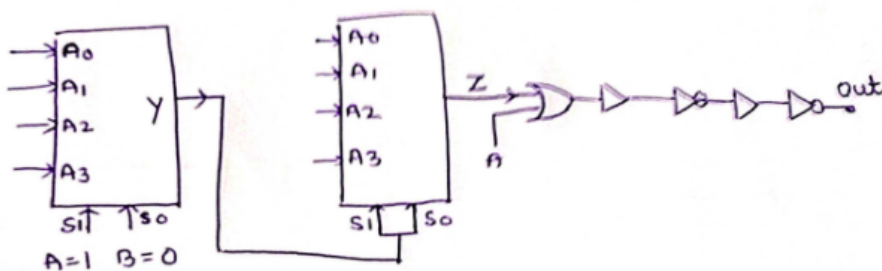
- ☒ a. 4
- ☐ b. 5
- ☐ c. 8
- ☐ d. 12

Question 4

Complete

Mark 1.00 out of 1.00

What is the output of the circuit given below?



- ☐ a. None of the mentioned
- ☐ b. AZ'
- ☒ c. $A+Z$
- ☐ d. $A'+Z'$

Question **5**

Complete

Mark 1.00 out of 1.00

A locker has been rented in the bank. Express the process of opening the locker in terms of digital operation?

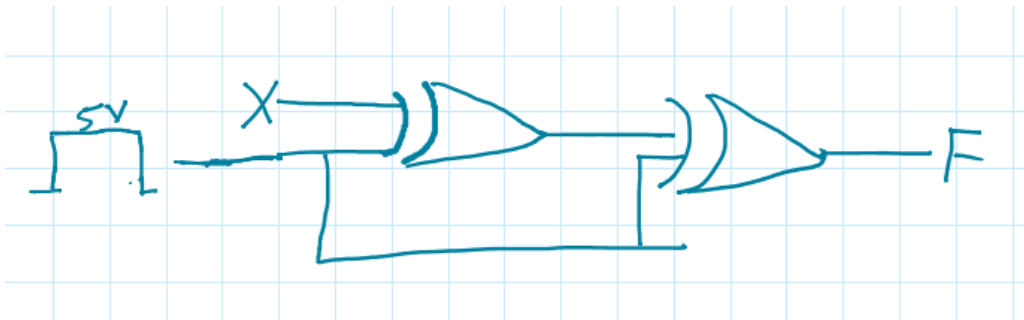
- ☐ a. $C = A + B$
- ☐ b. $C = A' + B'$
- ☒ c. $C = A \cdot B$
- ☐ d. $C = A \oplus B$

Question **6**

Complete

Mark 0.00 out of 1.00

The output F of the circuit given below is?



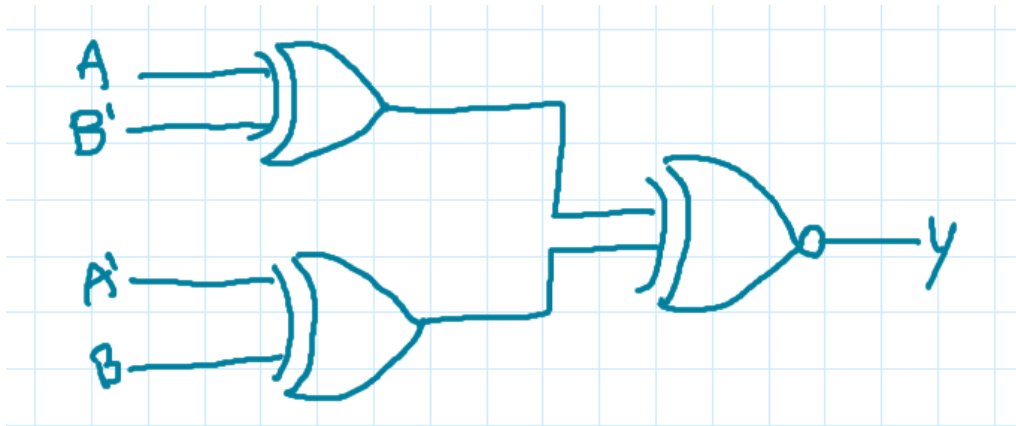
- ☐ a. logic 0
- ☐ b. None
- ☒ c. Logic 1
- ☐ d. X'

Question 7

Complete

Mark 1.00 out of 1.00

The out Y of the circuit is?



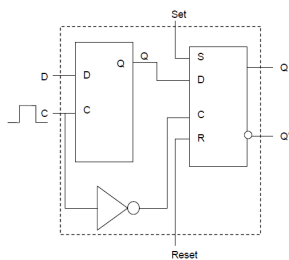
- ☒ a. Logic 1
- ☐ b. Logic 0
- ☐ c. $A'B + AB'$
- ☐ d. None

Question 8

Complete

Mark 0.00 out of 1.00

The circuit shown below is?



- ☐ a. D-flip flop
- ☐ b. T-Flip flop
- ☐ c. S-R flip flop
- ☐ d. None of the mentioned
- ☒ e. J-K flip flop

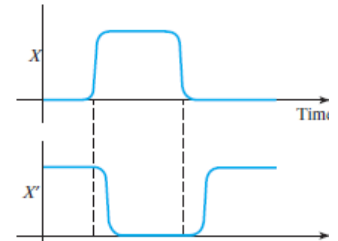
Question **9**

Complete

Mark 0.00 out of 1.00

The diagram given below is for?

- ☐ a. NAND
- ☐ b. NOR
- ☐ c. NONE of the mentioned
- ☐ d. X-OR
- ☒ e. X-NOR



Question **10**

Complete

Mark 1.00 out of 1.00

Circuit shown below is used for ?

- ☐ a. Lower the spark while switch is connecting to input in J-K FF
- ☐ b. Has no Application
- ☒ c. Lower the spark while switch is connecting to input in S-R FF

Question **11**

Complete

Mark 1.00 out of 1.00

The simplified form of the function $(A,B,C,D) = \text{minterms } (0,1,3,5,7,8,9,11,13,15)$ is?

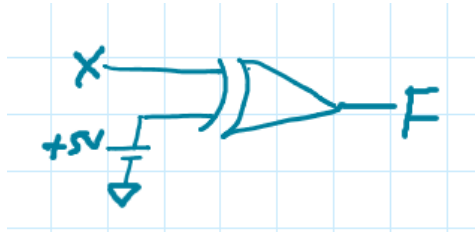
- ☒ a. $D+B'C'$
- ☐ b. $B+DC$
- ☐ c. $A+BC$
- ☐ d. $AC+BD$

Question **12**

Complete

Mark 0.00 out of 1.00

The output F of the circuit given below is?



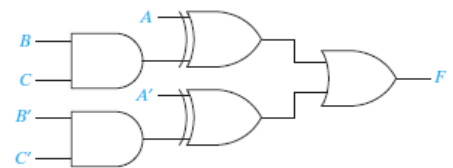
- ☒ a. X
- ☐ b. 0V
- ☐ c. X'
- ☐ d. 5V

Question **13**

Complete

Mark 1.00 out of 1.00

What is the out F of the circuit given below?



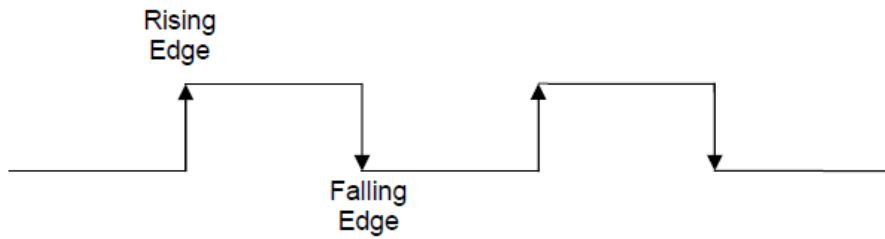
- ☐ a. $C'B + AD'$
- ☐ b. $AC' + BC$
- ☒ c. None of the mentioned
- ☐ d. $A'B + AB'$

Question **14**

Complete

Mark 0.00 out of 1.00

The clock pulse given below is used for?



- ☒ a. Latch and flip flop
- ☐ b. Flip flop
- ☐ c. None of the mentioned
- ☐ d. Latch

Question **15**

Complete

Mark 1.00 out of 1.00

The simplified form of the function $F(A,B,C) = (A+B+C) (A+B'+C) (A+B+C')$ is

- ☐ a. $A+AC$
- ☐ b. $A+C$
- ☐ c. $B+C$
- ☒ d. $A+BC$
- ☐ e. $A+AC$

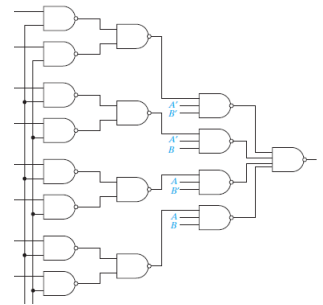
Question **16**

Complete

Mark 1.00 out of 1.00

The circuit shown below is?

- ☐ a. Encoder
- ☐ b. Comparator
- ☐ c. Decoder
- ☐ d. None of the mentioned
- ☒ e. Multiplexer

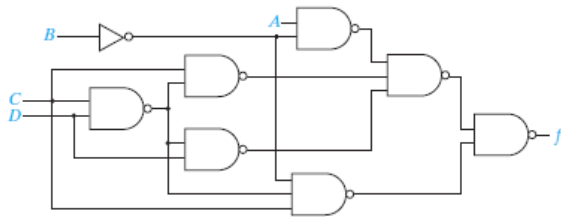


Question **17**

Complete

Mark 0.00 out of 1.00

Find the output f of the circuit given below.



- ☐ a. $BC+BD$
- ☐ b. $AC+AD$
- ☒ c. $A'B+CD'$
- ☐ d. None

Question **18**

Complete

Mark 1.00 out of 1.00

The Comparison between the half adder and full adder is -----

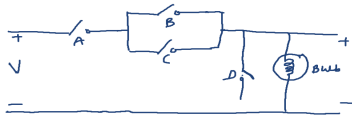
- ☐ a. Half adder has two inputs while full adder has four inputs
- ☐ b. All of the Mentioned
- ☐ c. Half adder has one output while full adder has two outputs
- ☒ d. Half adder has two inputs while full adder has three inputs

Question **19**

Complete

Mark 1.00 out of 1.00

The output of the switching circuit given below is?



- ☒ a. $A \cdot (B+C) \cdot D'$
- ☐ b. $A' \cdot (B+C) \cdot D'$
- ☐ c. $A \cdot (B+C') \cdot D$
- ☐ d. None

Question **20**

Complete

Mark 1.00 out of 1.00

If A, B and C are the inputs of a full adder then the carry is given by-----

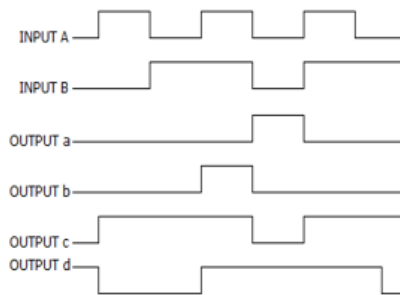
- ☐ a. $A \oplus B \oplus (A \oplus B) \text{ AND } C$
- ☐ b. $(A \text{ AND } B) \text{ OR } (A \text{ AND } B)C$
- ☐ c. $A \text{ OR } B \text{ OR } (A \text{ AND } B) C$
- ☒ d. $A \text{ AND } B \text{ OR } (A \oplus B) \text{ AND } C$

Question **21**

Complete

Mark 1.00 out of 1.00

For a two-input XNOR gate, with the input waveforms as shown below, which output the waveform is correct?



- ☐ a. OUTPUT c
- ☐ b. OUTPUT a
- ☐ c. OUTPUT b
- ☒ d. OUTPUT d

Question **22**

Complete

Mark 1.00 out of 1.00

What are the basic gates are required to construct the XOR gate ?

- ☐ a. Only OR gate
- ☐ b. Only AND & OR
- ☐ c. Only NOT Gate
- ☒ d. AND gates, OR gates, and NOT gates
- ☐ e. None

Question **23**

Complete

Mark 0.00 out of 1.00

The minimum number of NAND gates required to implement the function $F(A, B, C) = AB'C$ are?

- ☐ a. 7
- ☐ b. 0
- ☐ c. 5
- ☒ d. 3

Question **24**

Complete

Mark 1.00 out of 1.00

For the given function $F(X,Y,Z,W) = \text{minterms } (0,2,8,10,14) + d(5,15)$ the K-map output is?

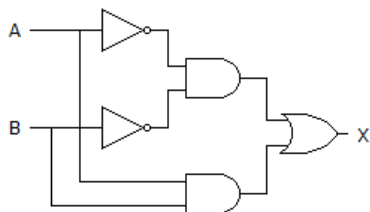
- ☐ a. $ZY+WX$
- ☒ b. NONE
- ☐ c. $XY+XZ$
- ☐ d. $XYZW$

Question **25**

Complete

Mark 1.00 out of 1.00

Realize the following diagram?



- ☐ a. $X = (AB)' + AB$
- ☒ b. $X = A'B' + AB$
- ☐ c. $X = (AB)' + A'B'$
- ☐ d. $X = AB' + A'B$

Question **26**

Complete

Mark 1.00 out of 1.00

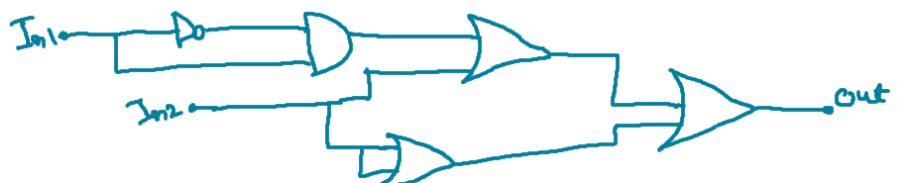
The basic gate, it's output is complementary to the input?

- ☐ a. NAND Gate
- ☐ b. AND Gate
- ☐ c. OR Gate
- ☒ d. None of the mentioned

Question **27**

Complete

Mark 0.00 out of 1.00



- ☐ a. $OUT = A + B$
- ☐ b. $OUT = A'$
- ☐ c. $OUT = B'$
- ☒ d. None of the mentioned
- ☐ e. $OUT = AB$

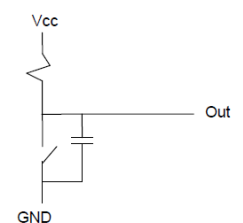
Question **28**

Complete

Mark 1.00 out of 1.00

The circuit shown below is acting as

- ☐ a. None of the mentioned
- ☐ b. Buffer
- ☐ c. Memory
- ☒ d. Inverter
- ☐ e. Counter

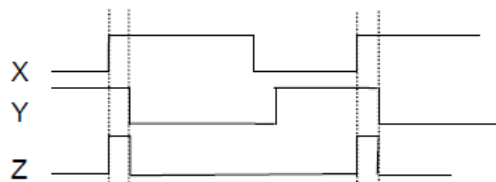


Question **29**

Complete

Mark 0.00 out of 1.00

In the diagram below to get the output Z, the number of gates required are?



- ☐ a. 2 AND and 1 NOT
- ☐ b. 2 NAND and 1 NOT
- ☐ c. 1 AND and 1 NOT
- ☐ d. **23 NAND and 0 NOT**
- ☒ e. 2 NAND and 2 NOT

Question **30**

Not answered

Marked out of 1.00

Divide the binary numbers: **11101.01** ÷ **1100** and find the **quotient is**

- ☐ a. 10.0011
- ☐ b. 10.0111
- ☐ c. 00.0111
- ☐ d. 10.1111

Jump to...

Started on Monday, 22 November 2021, 3:02 PM

State Finished

Completed on Monday, 22 November 2021, 3:19 PM

Time taken 16 mins 55 secs

Marks 17.00/20.00

Grade 12.75 out of 15.00 (85%)

Question **1**

Correct

Mark 2.00 out of 2.00

Let us assume the Zomato site wants to give the rank to the list of 6 restaurants. He has ranked the list based on his priority and asked you to put the rank on it based on your taste. (Rank 1 represents best, and Rank 6 represents worst). Two restaurants will not get the same rank. The list of restaurants is given in the below order.

Restaurant Name Rank (Given by you)
(Given by Zomato)

X-(1)	2
Y-(2)	1
Z-(3)	3
A-(4)	5
B- (5)	4
C-(6)	6

Zomato ranked the list of restaurants in best to worst order. Based on your ranking you disagree with their choice of ranking. Can you find the total number of such disagreements? Which one is correct for the problem,.

- ☐ a. No of Disagreement-2, Efficient Approach:- $\mathcal{O}(n^2)$
- ☐ b. No of Disagreement-12, Efficient Approach:- $\mathcal{O}(n^2)$
- ☐ c. No of Disagreement-12, Efficient Approach:- $\mathcal{O}(n \log n)$
- ☒ d. No of Disagreement-2, Efficient Approach:- $\mathcal{O}(n \log n)$



The correct answer is:

No of Disagreement-2, Efficient Approach:- $\mathcal{O}(n \log n)$

Question **2**

Incorrect

Mark 0.00 out of 1.00

Given a value V , if we want to make a change for V Rs, and we have an infinite supply of each of the denominations in Indian currency, i.e., we have an infinite supply of valued coins/notes. We can apply

(a) dynamic programming

(b) greedy approach

Which approach will always give an optimal solution.

- ☐ 1. None
- ☐ 2. Greedy Only
- ☐ 3. Dynamic Programming Approach only
- ☒ 4. Both



The correct answer is:

Dynamic Programming Approach only

Question **3**

Correct

Mark 1.00 out of 1.00

Which one is true for sorting algorithms?

- ☐ a. **Worst Case:** Insertion sort = Merge sort = QuickSort
- ☐ b. **Best Case:** Insertion sort = Quick Sort = Selection Sort
- ☒ c. **Average Case:** Bucket sort < Merge Sort < Bubble Sort
- ☐ d. **Best Case:** Insertion sort < Merge Sort < Selection Sort



The correct answers are:

Average Case: Bucket sort < Merge Sort < Bubble Sort,

Best Case: Insertion sort < Merge Sort < Selection Sort

Question **4**

Correct

Mark 1.00 out of 1.00

Consider a sorted array of n numbers and a number x .

What would be the time complexity of the best known algorithm to find a triplet with sum equal to x .

For example, $\text{arr}[] = \{1, 5, 10, 15, 20, 30\}$, $x = 30$. Find the triplet 5, 10, 15 with sum 30.

- ☐ 1. $\mathcal{O}(\log n)$
- ☒ 2. $\mathcal{O}(n^2)$
- ☐ 3. $\mathcal{O}(n \log n)$
- ☐ 4. $\mathcal{O}(n)$



The correct answer is:

 [mathcal{O}\(n^2\)](#).

Question **5**

Correct

Mark 1.00 out of 1.00

Which of the following sorting methods would be most suitable for sorting a list which is almost sorted?

- ☒ 1. Insertion Sort
- ☐ 2. Bubble Sort
- ☐ 3. Quick Sort
- ☐ 4. Merge Sort



The correct answers are:

Insertion Sort,

Bubble Sort

Question **6**

Correct

Mark 1.00 out of 1.00

Time complexity for 0/1 knapsack problem using brute force is _____ and efficient algorithm approach is _____.

- ☐ a. $\mathcal{O}(nW)$ and $\mathcal{O}(n^2)$.
- ☐ b. $\mathcal{O}(n^2)$ and $\mathcal{O}(n^2)$.
- ☒ c. $\mathcal{O}(2^n)$ and $\mathcal{O}(nW)$.
- ☐ d. $\mathcal{O}(n^2)$ and $\mathcal{O}(nW)$.



The correct answer is:

$\mathcal{O}(2^n)$ and $\mathcal{O}(nW)$.

Question **7**

Correct

Mark 2.00 out of 2.00

Given a code for moving "n" disks from pillar P to R using Q.

fun(n, P, R, Q)

```
{  
  if (n == 1)  
  {  
    Move element from P to R  
    return;  
  }  
  L1= fun ( n - 1, __ __, __ __ )  
  L2=fun ( 1, P, R, Q )  
  L3=fun ( n-1, __ __, __ __ )  
}
```

- ☐ 1. L1= fun (n-1, P, R, Q)
L3=fun(n-1, P, R, Q)
- ☐ 2. L1= fun (n-1, P, R, Q)
L3=fun(n-1, Q, R, P)
- ☒ 3. L1= fun (n-1, P, Q, R)
L3=fun(n-1, Q, R, P)
- ☐ 4. L1= fun (n-1, P, R, Q)
L3=fun(n-1, Q, P, R)



The correct answer is: L1= fun (n-1, P, Q, R)
L3=fun(n-1, Q, R, P)

Question 8

Correct

Mark 1.00 out of 1.00

Given a set of n items of different weights and values. You need to pick an item from the list in a way, such that the maximum weight of your given knapsack should not exceed, and the total value of the knapsack is maximized.

You cannot break an item, either pick the complete item or don't pick it.

The auxiliary space using brute force approach is _____ and using efficient Dynamic Programming approach is_____.

- ☐ a. $\mathcal{O}(n)$ and $\mathcal{O}(nW)$.
- ☐ b. $\mathcal{O}(n)$ and $\mathcal{O}(n)$.
- ☐ c. $\mathcal{O}(nW)$ and $\mathcal{O}(n)$.
- ☒ d. $\mathcal{O}(1)$ and $\mathcal{O}(nW)$.



The correct answer is:

$\mathcal{O}(1)$ and $\mathcal{O}(nW)$.

Question 9

Correct

Mark 2.00 out of 2.00

```
KNAPSACK-DP( $w_1, \dots, w_n, v_1, \dots, v_n, W$ )
  for  $i \rightarrow 0, \dots, n$  do
    for  $j \rightarrow 0, \dots, W$  do
      if  $i = 0$  or  $j = 0$  then
         $V[i, j] = 0$ 
      else
        if  $j < w_i$  then
           $V[i, j] = \text{_____A_____}$ 
        else
           $V[i, j] = \text{_____B_____}$ 
        end if
      end if
    end for
  end for
end for
```

- ☒ a. A:- $V[i - 1, j]$; B:- $\max(V[i - 1, j], V[i - 1, j - w_i] + v_i)$
- ☐ b. A:- $V[i - 1, j]$; B:- $\max(V[i, j], V[i - 1, j - w_i] + v_i)$
- ☐ c. A:- $V[i, j - 1]$; B:- $\max(V[i - 1, j], V[i - 1, j - w_i] + v_i)$
- ☐ d. A:- $V[i, j]$; B:- $\max(V[i - 1, j], V[i - 1, j - w_i] + v_i)$



The correct answer is:

A:- $V[i - 1, j]$; B:- $\max(V[i - 1, j], V[i - 1, j - w_i] + v_i)$

Question **10**

Correct

Mark 2.00 out of 2.00

What would be the auxiliary space if we write the below algorithm for solving 0/1 knapsack problem

```
knapSack(int W, int wt[ ], int val[ ], int n)
{
    int dp [ W + 1 ];
    memset(dp, 0, sizeof(dp));

    for ( int i = 1; i < n + 1; i++ ) {
        for ( int w = W; w >= 0; w-- ) {

            if ( wt[ i - 1 ] <= w )
                dp[ w ] = max( dp[ w ], dp[ w - wt[ i - 1 ] ] + val[ i - 1 ] );
        }
    }
    return dp[W]; // returning the maximum value of knapsack
}
```

- ☐ a. $\mathcal{O}(n^2)$.
- ☐ b. $\mathcal{O}(n)$.
- ☐ c. $\mathcal{O}(1)$.
- ☒ d. $\mathcal{O}(W)$.



The correct answer is:

$\mathcal{O}(W)$.

Question **11**

Correct

Mark 1.00 out of 1.00

The auxiliary space of insertion sort is $O(1)$, what does $O(1)$ mean ?

- ☐ 1. The memory (space) required to process the data is not constant
- ☒ 2. It means the amount of extra memory Insertion Sort consumes doesn't depend on the input. The algorithm should use the same amount of memory for all inputs. ✓
- ☐ 3. None of the option
- ☐ 4. It takes only 1 kb of memory .

The correct answer is:

It means the amount of extra memory Insertion Sort consumes doesn't depend on the input. The algorithm should use the same amount of memory for all inputs.

Question **12**

Correct

Mark 1.00 out of 1.00

Time complexity of the Binary search algorithm is constant.

Select one:

- ☐ True
- ☒ False ✓

The correct answer is 'False'.

Question **13**

Incorrect

Mark 0.00 out of 1.00

Consider a sorted array of n numbers.

What would be the time complexity of the best known algorithm to find a pair 'a' and 'b' such that $|a-b| = k$, k being a positive integer.

- ☐ 1. $\mathcal{O}(n)$
- ☐ 2. $\mathcal{O}(\log n)$
- ☐ 3. $\mathcal{O}(n^2)$
- ☒ 4. $\mathcal{O}(n \log n)$

✗

The correct answer is:

$\mathcal{O}(n)$

Question **14**

Incorrect

Mark 0.00 out of 1.00

Which one of the following in place sorting algorithms needs the minimum number of swaps?

- ☐ 1. Selection sort
- ☒ 2. Quicksort
- ☐ 3. Heap Sort
- ☐ 4. Insertion Sort

✗

The correct answer is:

Selection sort

Question **15**

Correct

Mark 2.00 out of 2.00

Total no. of swaps required to sort {2, 5, 1, 3, 4} using bubble sort

Answer: 4

✓

The correct answer is: 4

Jump to...