MCQ as Knowledge Checker without Keys

Instructions:
1.Download a copy of the Knowledge checker from the given link on your machine.
2.Share your complete screen and record your screen while answering the Knowledge Checker
3.Highlight the answers in yellow.
4.Correct your responses against the given Keys.
5.Convert your response document into pdf and upload in your respective drive.

Points:10

Time:20 mins

Question 1: What is the main purpose of an abstract class in Java?
A) To prevent multiple inheritance
B) To define a base class for other classes
C) To make a class inaccessible
D) To restrict method access

Question 2: Which keyword is used to define an abstract class in Java?

A) abstract
B) class
C) final
D) extends

Question 3: Which of the following is true regarding abstract methods?

A) They must be marked as private
B) They cannot be overridden in a subclass
C) They must be defined in abstract classes
D) They must have method bodies

Question 4: What happens when you try to create an instance of an abstract class in Java?

A) It compiles and runs without errors
B) It compiles but generates a runtime exception
C) It doesn't compile
D) It compiles, but you cannot call abstract methods

Question 5: Given the following code snippet, what is the output?

java
Copy code

```
abstract class Shape {
    abstract void draw();
}

class Circle extends Shape {
    void draw() {
        System.out.println("Drawing a circle");
    }
}

public class Main {
    public static void main(String[] args) {
        Shape shape = new Circle();
        shape.draw();
    }
}
```

A) Compilation error
B) "Drawing a circle"
C) "Drawing a shape"
D) "Drawing a circle" followed by "Drawing a shape"

Question 6: In Java, can an abstract class have a constructor?

A) Yes, but it can only be a no-argument constructor
B) Yes, it can have constructors with parameters
C) No, abstract classes cannot have constructors
D) Yes, it can have a private constructor

Question 7: Which keyword is used to declare a method as abstract within an abstract class?

A) abstract
B) void
C) final
D) static

Question 8: Given the following code snippet, what is the output?

java
Copy code

```
abstract class Animal {
```

```
    abstract void makeSound();
}

class Dog extends Animal {
    void makeSound() {
        System.out.println("Bark");
    }
}

public class Main {
    public static void main(String[] args) {
        Animal animal = new Dog();
        animal.makeSound();
    }
}
```

A) Compilation error
B) "Bark"
C) "Make a sound"
D) "Bark" followed by "Make a sound"

Question 9: In Java, an abstract class can:

A) Have all its methods marked as abstract
B) Be instantiated and used to create objects
C) Implement multiple interfaces simultaneously
D) Be marked as `final` and `static` at the same time

Question 10: Given the following code snippet, what is the output?

```
abstract class Shape {
    abstract void draw();
}

class Square extends Shape {
    void draw() {
        System.out.println("Drawing a square");
    }
}

class Triangle extends Shape {
```

```
    void draw() {
        System.out.println("Drawing a triangle");
    }
}

public class Main {
    public static void main(String[] args) {
        Shape square = new Square();
        Shape triangle = new Triangle();
        square.draw();
        triangle.draw();
    }
}
```

A) Compilation error
B) "Drawing a square" followed by "Drawing a triangle"
C) "Drawing a square"
D) "Drawing a triangle"