CLASS -10 (2025-26)

**Elementary Concept of Objects and Class**

**CHAPTER 2**

**Assignments:-**

**A. Tick (✓) the correct answer**

**Question 1.** If Animal is a class, then which of the following can be the object of the Animal class?  
**a.** Tiger  
**b.** Deer  
**c.** Lion  
**d.** All of these  
**Ans-** d. All of these

**Question 2.** Which of the following can be defined as a user-defined data type?  
**a.** Class  
**b.** Object  
**c.** Primitive  
**d.** None of these  
**Ans-** a. Class

**Question 3.** Which of the following keywords are used to define a class?  
**a.** class  
**b.** public  
**c.** Both a and b  
**d.** None of these  
**Ans-** c. Both a and b

**Question 4.** Which of the following is the correct way to create an object of the class "Smartphone"?  
**a.** Smartphone obj = new Smartphone;  
**b.** Smartphone obj = new Smartp  
**c.** Smartphone object = Smartphone();  
**d.** None of these  
**Ans-** d. None of these  
**Correct syntax:** Smartphone obj = new Smartphone();

**Question 5.** Which of the following represents the constructor of the ABC class?  
**a.** ABC()  
**b.** ABC  
**c.** ABCConstructor  
**d.** None of these  
**Ans-** a. ABC()

**B. Short Answer Type Questions**

**Question 1.** What is a class?  
**Ans-** A class is a blueprint or template for creating objects. It defines properties (variables) and behaviors (methods) of an object.  
**Example:**

class Animal {

String name;

void sound() {

System.out.println("Animal makes a sound");

}

}

**Question 2.** What is an object?  
**Ans-** An object is an instance of a class. It represents a real-world entity that has state and behavior.  
**Example:**

Animal tiger = new Animal();

**Question 3.** What is the process of creating instances of a class called?  
**Ans-** The process of creating instances of a class is called **Instantiation**. It is done using the **new** keyword.  
**Example:**

Smartphone myPhone = new Smartphone();

### ****Extra Questions – Chapter 2: Classes and Objects****

#### **1. Multiple Choice Questions**

**Q1.** What keyword is used to create an object in Java?  
a) object  
b) create  
c) new  
d) instance  
**Ans:** c) new

**Q2.** Which of the following is a special method used to initialize objects?  
a) Setter  
b) Constructor  
c) Getter  
d) Objectifier  
**Ans:** b) Constructor

#### **2. Fill in the Blanks**

**Q3.** A \_\_\_\_\_\_ is a blueprint for creating objects.  
**Ans:** class

**Q4.** The process of creating an object from a class is called \_\_\_\_\_\_.  
**Ans:** instantiation

**Q5.** A constructor must have the same \_\_\_\_\_\_ as the class.  
**Ans:** name

#### **3. True or False**

**Q6.** Every Java program must contain at least one class.  
**Ans:** True

**Q7.** The main() method is required to run a Java program.  
**Ans:** True

#### **4. Short Answer Questions**

**Q8.** What is a constructor?  
**Ans:** A constructor is a special method that is automatically called when an object is created. It is used to initialize objects.

**Q9.** Write the syntax to define a class named Book.  
**Ans:**

class Book {

// fields and methods

}

**Q10.** Create an object of a class named Laptop.  
**Ans:**

Laptop myLaptop = new Laptop();

**Assertion and Reasoning Questions – Chapter 2: Classes and Objects**

**Q1.**  
**Assertion (A):** A class is a user-defined data type.  
**Reason (R):** It defines variables and methods under a single unit.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** a

**Q2.**  
**Assertion (A):** Objects are created using the new keyword.  
**Reason (R):** The new keyword allocates memory for the object.   
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** a

**Q3.**  
**Assertion (A):** Constructors can have a different name than the class.  
**Reason (R):** Constructors are used to destroy objects.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** d

**Q4.**  
**Assertion (A):** An object is an instance of a class.  
**Reason (R):** Objects cannot access class methods.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** c

**Q5.**  
**Assertion (A):** A constructor can be overloaded.  
**Reason (R):** Java allows multiple constructors with different parameter lists.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** a

**Q6.**  
**Assertion (A):** The keyword class is used to define a class in Java.  
**Reason (R):** Java does not support user-defined data types.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** c

**Q7.**  
**Assertion (A):** Smartphone phone = new Smartphone(); creates a new object.  
**Reason (R):** This syntax calls the class’s constructor.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** a

**Q8.**  
**Assertion (A):** An object must be declared before it is used.  
**Reason (R):** Declaration tells the compiler about the object type and name.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** a

**Q9.**  
**Assertion (A):** A class cannot contain methods.  
**Reason (R):** Only variables are allowed in a class.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** d

**Q10.**  
**Assertion (A):** A constructor is automatically called when an object is created.  
**Reason (R):** It initializes the state of the object.  
**Options:**  
a) Both A and R are true and R is the correct explanation of A  
b) Both A and R are true but R is not the correct explanation of A  
c) A is true but R is false  
d) A is false but R is true  
**Answer:** a

**One-Word Questions and Answers**

1. **Q:** What keyword is used to define a class in Java?  
   **A:** class
2. **Q:** What keyword is used to create an object in Java?  
   **A:** new
3. **Q:** What is the process of creating an object called?  
   **A:** Instantiation
4. **Q:** Which method initializes objects in Java?  
   **A:** Constructor
5. **Q:** What is an instance of a class called?  
   **A:** Object
6. **Q:** Which user-defined data type is used to create objects?  
   **A:** Class
7. **Q:** What is the blueprint of an object in Java?  
   **A:** Class
8. **Q:** What keyword is used to make class members accessible outside the class?  
   **A:** public
9. **Q:** What is the name of the default method that runs a Java program?  
   **A:** main
10. **Q:** What is automatically called when an object is created?  
    **A:** Constructor

**Fill in the Blanks with Answers**

1. A \_\_\_\_\_\_ is a blueprint for creating objects.  
   **Answer:** class
2. An \_\_\_\_\_\_ is an instance of a class.  
   **Answer:** object
3. The keyword used to create an object is \_\_\_\_\_\_.  
   **Answer:** new
4. A \_\_\_\_\_\_ method is used to initialize an object.  
   **Answer:** constructor
5. The process of creating an object is called \_\_\_\_\_\_.  
   **Answer:** instantiation
6. A constructor must have the same \_\_\_\_\_\_ as the class.  
   **Answer:** name
7. The keyword \_\_\_\_\_\_ is used to define a class in Java.  
   **Answer:** class
8. Java allows multiple constructors in a class. This feature is called constructor \_\_\_\_\_\_.  
   **Answer:** overloading
9. The \_\_\_\_\_\_ method is the entry point of a Java program.  
   **Answer:** main
10. A class can contain both \_\_\_\_\_\_ and \_\_\_\_\_\_.  
    **Answer:** variables, methods

**Short Answer Questions with Answers**

1. **Q1. What is a class in Java?**  
   **Ans:** A class is a user-defined blueprint or prototype from which objects are created. It contains fields (variables) and methods to define behaviors.
2. **Q2. What is an object in Java?**  
   **Ans:** An object is an instance of a class. It has its own identity, state, and behavior defined by the class.
3. **Q3. How is an object created in Java?**  
   **Ans:** An object is created using the new keyword followed by the class constructor.  
   **Example:** Student s = new Student();
4. **Q4. What is a constructor?**  
   **Ans:** A constructor is a special method that is automatically called when an object is created. It is used to initialize the object.
5. **Q5. Can a constructor be overloaded?**  
   **Ans:** Yes, constructors can be overloaded by defining multiple constructors with different parameter lists in the same class.
6. **Q6. What is instantiation?**  
   **Ans:** Instantiation is the process of creating an object from a class using the new keyword.
7. **Q7. What is the syntax to define a class in Java?**  
   **Ans:**

class ClassName {

// fields and methods

}

1. **Q8. What is the role of the main() method in Java?**  
   **Ans:** The main() method is the entry point of any Java program. It tells the JVM where to start execution.
2. **Q9. Can a class have more than one object?**  
   **Ans:** Yes, a class can have multiple objects, each with its own data and state.
3. **Q10. What is the difference between a class and an object?**  
   **Ans:** A class is a template or blueprint, whereas an object is an instance of the class created during runtime.

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