**JAVA – Evaluation Questions**

**I. Question Time: 15 min (10Marks)**

1.Create a Class Employee with empId(int) & name(String).

2.Create a Class Address with houseno(int), street(String), city(String) & pincode(int).

3.Create an executable program which does the following.ss

 a) Create a Map<Employee, Address> which holds the Employee to Address data.

Add a minimum of 3 sample data to the map.

       b) Invoke the method getAddress #4 and print the address in this format

"houseno,street,city,pincode".

4.Create a method getAddress() which accepts 2 params.

                  - Map<Employee, Address>

                  - Employee object

  Use the map.get({Employee object}) to find the address for the new Employee object passed from the Map created in 3(a.

  Show the employee's address if employee exists in Map, else show employee does not exist.

Hint: Check for object equality.

5. Get the list of addresses from the map, find out distinct cities and store it in ascending order to a different collection.

**II Question Time: 10 min (5Marks)**

Create a method to do division of two numbers and return the result, it should handle the below exception scenarios

1. If any incorrect data is being passed by the user and an exception occurs (eg: if 0 is passed as divisor), catch the exception, print the entire error trace then throw it as a **custom exception with user defined message: Please pass a valid divisor**)

2. Catch the custom exception in main method and print **only the error message from the exception**

3. Method should print a message with divisor and dividend used after the method is completed

**III Question Time: 10 min (5Marks)**

1) Write a program to get date as input. Compare input date with current date and print the given input date is equal/before/after the current date. Use Java 8 Date API.

2) Write a program to convert the current date to following pattern "MM-dd-yyyy". Use any of the known formatter to format the date.

**MCQS – There could be multiple options as answers Time 10mins (10 Marks)**

**1**. Which component is used to compile, debug and execute the java programs?  
a) JRE  
b) JIT  
c) JDK  
d) JVM

**2**. What is the output of the following code snippet?

int x = 5;

int y = 10;

System.out.println(x + y + "Hello");

System.out.println("Hello"+x + y);

a) 510Hello Hello510  
b) 15Hello Hello15  
c) 15Hello Hello510  
d) 510Hello Hello15

**3**. What is the purpose of the Records feature introduced in Java 14?

a) Define immutable data classes with concise syntax

b) Provide access modifiers for class fields

c) Enhance exception handling mechanisms

d) Improve performance of String operations

**4**. Which statement is true about Sealed Classes introduced in Java 15?

a) Enforce complete inheritance hierarchies for abstract classes.

b) Provide a mechanism for multiple inheritance.

c) Simplify interface implementation with default methods.

d) Improve performance of object creation

**5**. What does the switch expression in Java 17 offer compared to the traditional switch statement?

a) Enhanced performance for switch statements

b) Ability to use expressions as case labels

c) Support for pattern matching

d) Introduction of a new break keyword

**6**. Which of the following is NOT a benefit of using Lambda Expressions?

a) Improved code readability

b) Easier implementation of functional programming concepts

c) Reduced boilerplate code

d) Automatic memory management

**7**. What is the difference between method overloading and method overriding in Java?

a) Overloading occurs within a class, overriding between classes.

b) Overloading uses different parameter types, overriding uses the same.

c) Overloading is static binding, overriding is dynamic binding.

d) Both are the same concept with different names.

**8**. Which access modifier restricts access to a class member within the same package?

a) Public

b) Private (Correct)

c) Protected

d) Default

**9**. How can you provide a default value if no value is present within an Optional object?

a) Use a conditional statement with isPresent()

b) Call the orElse() method with a default value as an argument.

c) Optional class doesn't offer functionality for default values.

d) Use null checks before accessing the value

**10**.Can a class inherit from multiple superclasses directly in Java?

a) Yes, this is called multiple inheritance.

b) Yes, but only if the superclasses are unrelated.

c) No, Java only allows single inheritance.

d) Inheritance is not allowed in Java.

Answers:

1. JDK ©
2. 15Hello Hello15 (b)
3. Define immutable data classes with concise syntax(a)
4. Enforce complete inheritance hierarchies for abstract classes (a)
5. Ability to use expressions as case labels (b)
6. Automatic memory management (d)
7. Overloading uses different parameter types, overriding uses the same (b)
8. Default (d)
9. Call the orElse() method with a default value as an argument (b)
10. No, Java only allows single inheritance ©