

MCA/MSc. (CS) Semester-I Examination 2024-25
CS204: Object Oriented Programming

Time: 1 hour

1. Write a Java program to convert minutes into years and days.

Test Data: Input the number of minutes: 75367943

2. Write a Java program that requires the user to enter a single character from the alphabet. Print Vowel or Consonant, depending on user input. If the user input is not a letter (between a and z or A and Z), or is a string of length > 1, print an error message.

Handwritten calculations for question 1:

$$\begin{array}{r} 22 \\ 365 \\ 4 \\ \hline 1460 \\ 11 \\ 365 \\ 3 \\ \hline 1095 \end{array}$$
$$\begin{array}{r} 24 \\ 60 \\ \hline 17240 \\ 1440 \\ 2880 \\ 4320 \\ 5760 \\ 7200 \end{array}$$

20 marks [5 marks]

Handwritten calculations for question 2:

$$\begin{array}{r} 8640 \\ 10080 \\ 11520 \end{array}$$

[5 marks]

[10 marks]

- 3
- (a) _____ is the Java feature that allows methods in different classes to be invoked dynamically at runtime.
 - (b) In a try-catch block, if an exception is not handled, it will propagate to the _____ method.
 - (c) String can be created in Java using _____ and treated as _____.
 - (d) `"String s=new String("FHHT");"`. How many objects are created for the given statement in Java?
 - (e) What will be the output of `"String S1 = 109 + 250+ "MSC" + 20 +20+"MCA"; "` statement when printed?
 - (f) In a subclass, if we want to call a method from the superclass that has been overridden, we use the _____ keyword.
 - (g) Is there any explicit use of pointers in Java that would be applicable to objects?
 - (h) In Java, a _____ class cannot be instantiated directly and must be subclassed.
 - (i) To prevent a class from being subclassed, the class should be marked with the _____ keyword.
 - (j) Can you access an instance variable from a static method?