15CS561

Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Programming in Java

Time: 3 hrs. Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

1 a. Discuss three OOPs principles. **(06 Marks)**

b. Explain Java application Development step and JVM. **(06 Marks)**

c. Explain different Access Specifiers. **(04 Marks)**

OR

2 a. Explain the scope and life time of variables with an example **(05 Marks)**

b. What is narrowing and widening explain with an example. **(05 Marks)**

c. Explain how array in java work differently than C/C++. Write a java program to display

```
0  1  2  3  4
5  6  7  8  9
10 11 12 13 14
15 16 17 18 19
```

(06 Marks)

Module-2

3 a. Explain the following operator with an example

i) Logical operator

ii) Bitwise operator **(05 Marks)**

b. With example explain about Ternary operator. Write a Java program to find the largest of three numbers using Ternary operator. **(06 Marks)**

c. Explain for each version of for loop write a program to display 2D student data: Name and USN. **(05 Marks)**

OR

4 a. Demonstrate the use of

* Continue statement in while loop
* Break statement in do while loop **(06 Marks)**

b. Write a java program to find the prime numbers form 1 to 100. **(05 Marks)**

c. Write a java program to perform simple calculator operation. **(05 Marks)**

Module-3

5 a. What are the salient features of constructor? Write a java program to show these features. **(05 Marks)**

b. Explain the following :

i) Use of this keyword

ii) Garbage collection in java

iii) Finalize ( ) method. **(06 Marks)**

c. With a java program show how final keyword is used to prevent inheritance and overriding. **(05 Marks)**

OR

6 a. Create a java class called Student with the following details as variables (USN, Name, Branch, Phone number). Write a java program to create n student object and print USN, Name Branch and phone number with suitable message. (06 Marks)

b. Differentiate between C++ and Java with respect to inheritance. Mention the use of supper class and this parameter in java with example. (05 Marks)

c. What is Inner class? Demonstrate with an example. (05 Marks)

Module-4

7 a. Define Interface. Explain how to define implement and assign variable in interface to perform "one interface multiple method". (05 Marks)

b. What is the role of interface while implementing multiple inheritances in java? (05 Marks)

c. Write short note on :
   i) Importing package
   ii) Accesses protection. (06 Marks)

OR

8 a. Define Exception Demonstrate the working of nested try block with an example. (06 Marks)

b. Write a program which contains one method which will throw IllegalAccessException and use proper exception handles so that exception should be printed. (05 Marks)

c. Explain the following :
   i) Java's built in Exception
   ii) Uncaught Exception (05 Marks)

Module-5

9 a. What are Applets? Explain the different stages in the life cycle of Applet. (06 Marks)

b. Write a note :
   i) Type Wrapper
   ii) Transient and volatile modifier (05 Marks)

c. Enlist the Applet Tag. (05 Marks)

OR

10 Explain the following with example
a. String co
b. mparision
c. Searching strings
d. Modifying string
e. Overloading constructor. (16 Marks)

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Module-1

1 a. Discuss any two OOP principles. **(04 Marks)**

b. Differentiate the usage of access specifiers in Java and their scope. **(04 Marks)**

c. Explain the process of compiling and running the Java application with the help of "Hello World" program. **(08 Marks)**

OR

2 a. How arrays are defined and initialized in Java? Explain with an example. **(08 Marks)**

b. What is typecasting? Explain different types of typecasting in Java. **(08 Marks)**

Module-2

3 a. Explain the following bitwise operators with the examples.
i) >>> ii) >> = iii) & = iv) ∧ = . **(06 Marks)**

b. Explain any four Boolean logical operators with an example. **(06 Marks)**

c. Explain the following with an example program.
i) for – each ii) labelled break. **(04 Marks)**

OR

4 a. Write a Java program to print the following output using continue statement. **(04 Marks)**

```
0
0  1
0  2  4
0  3  6  9
0  4  8  12  16
0  5  10 15  20  25
```

b. Write a java program to implement bubble sort for 10 integers. **(08 Marks)**

c. Explain the nested switch statement in Java. **(04 Marks)**

Module-3

5 a. What is class? How to create objects for the class? **(04 Marks)**

b. What is instance variable hiding? How to overcome it? **(04 Marks)**

c. Write a Java program to implement stack of 5 integers. **(08 Marks)**

OR

6 a. Distinguish between method overriding and overloading in Java with suitable examples. **(06 Marks)**

b. What is super? Explain the use of super with suitable example. **(06 Marks)**

c. Explain the following :
i) final ii) finalize( ). **(04 Marks)**

Module-4

7 a. What is package? How to create and import package in Java. Explain with an example. **(08 Marks)**

b. What is an interface? Explain how to define and implement interface by taking suitable example. **(08 Marks)**

OR

8 a. What is an exception? Explain the following keywords with respect to exception handling in Java. i) try ii) catch iii) throw iv) throws v) finally. **(10 Marks)**

b. What is nested try? Explain with an example program. **(06 Marks)**

Module-5

9 a. What are Enumerations in Java? How Java enumerations are different from other languages like C, C++. **(04 Marks)**

b. What is an Applet? Explain the skeleton of an Applet. **(08 Marks)**

c. What are type Wrappers? Explain any three type Wrappers. **(04 Marks)**

OR

10 a. What is string in Java? Explain any 4 string class constructors with an example. **(08 Marks)**

b. Explain the following :
i) charAt( ) ii) getBytes( ) iii) compareTo( ) iv) toCharArray( ). **(08 Marks)**