



**INTERNATIONAL CENTRE FOR APPLIED SCIENCES
MAHE, MANIPAL**

**B.Sc. (Applied Sciences) in Engg.
End – Semester Theory Examinations – May- 2021
II SEMESTER JAVA PROGRAMMING (ICS 121)
(BRANCH: COMPUTER SCIENCE & ENGINEERING)**

Time: 3 Hours

Date: 20 May 2021

Max. Marks: 50

- ✓ Answer ALL Questions.
- ✓ Missing data, if any, may be suitably assumed.

- 1A.** Write short notes on: Multithreading, Polymorphism. (5)
- 1B.** What are the logical and syntactical differences of for and for-each? (5 points, inclusion of example code) (5)
- 2A.** What is a instance variable hiding problem? How to solve it? Explain with example code with comments for the instructions. (5)
- 2B.** “ public static void main(Strings a[])” . Define each of the qualifiers appearing in the signature of main() function. (5)
- 3A.** What is a variable length argument method? What is the constraint to be followed if you would like to mix ordinary arguments with the variable length argument? Write a complete Java program to overload variable length argument method to find sum of integer elements and to find sum of real (decimal) elements. (7)
- 3B.** Which qualifier makes a variable, having different scope and lifetime? Give an example with comments to support the answer. (3)
- 4.** Create a package P in ICAS:\your-section\your-name . This package contains two classes: class MAX and class MIN. MAX has a method max() which returns 2nd maximum element of 1D array and MIN has a method min() which returns 2nd least element of the same 1D array. Call max() and min() in main class which is in the other package. Demonstrate the functionality through main(). { Hint: 1D array should be in main() } (10)
- 5A.** What are the different types of the exceptions? Create a user defined exception “WrongPassword” which is thrown from a method checkPass(), when the string from user does not match with predefined password string. Call checkPass() in main() and handle the exception. (5)
- 5B.** Create a thread class to find sum of even elements in the 1D array. 1D array is a static array and its defined in main(). Create object of thread class in main() and pass the 1D array to the constructor. Result of sum should be displayed in main(). (5)
