

K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)

End Semester Exam
Nov - Dec 2018

Max. Marks: 100

Class: SY B.Tech

Name of the Course: Object Oriented Programming Methodology

Course Code: UCEC 302

Duration: 3 hrs

Semester: III

Branch: Computer

Instructions:

- (1) All Questions are Compulsory
- (2) Draw neat diagrams
- (3) Assume suitable data if necessary

Question No.		Max. Marks
Q 1 (a)	Explain System.arraycopy() with example	05
Q 1 (b)	Explain the architecture of JVM with the help of diagram.	05
Q2 (a)	<p>Create a class of Course with course code, name, and number of students as a data fields. Class Department should have name and list of courses offered. Write a program to maintain a list of courses offered by department using vector. And perform following operations in class Department</p> <ol style="list-style-type: none"> 1. Add a course 2. Delete course 3. Display courses (Make use of enumeration for displaying the elements of vector.) 	10
Q2 (b)	Write a program to implement the Rock, Paper, Scissor game. Numbers of Players are two, In which one is computer. For Computer player make use of Random function. And for other user accepts Rock /paper/Scissor as input from user. Number of turns are 10. After completing the 10 turns, Display the winner of the game. At the beginning of the game accept name of user and at every turn update the score of each user.as soon as you create the instances of user it should initialize the score to 0 by using constructor.	10
Q.2 (c)	<p>Write a program to find different 'permutation and combinations of the given string. (Make use of String functions)</p> <p align="center">OR</p> <p>Write a program to count the number of words, capital letters and small case letters in the given string. (Make use of String functions)</p>	10
Q3 (a)	Draw the class diagram for Hospital management system. Assume suitable data. Show the relations between different classes and label the relations properly. Also show the multiplicity according to your assumption. (Specify the assumptions clearly)	10

Q3 (b)	How the aggregation and Composite relationship between classes are implemented explain with example.	10
Q4 (a)	Explain the ArrayList in java along with its any 5 functions. Give an example for creating an ArrayList and make use of Iterator for displaying the elements of ArrayList.	10
Q4 (b)	<p>What is Error and Exception in Exception hierarchy? Explain the use of throws in exception handling with example.</p> <p style="text-align: center;">OR</p> <p>Write a program to read and display the content of text file. Program should handle exceptions which may occur while performing this operation. Your program should close the file at the end irrespective of exception occur or not.</p>	<p>10 (4+6)</p> <p>10</p>
Q5 (a)	<p>Write short note on (any two)</p> <ol style="list-style-type: none"> 1. wrapper class 2. Packages 3. life cycle of threads 4. Static keyword 	10(5+5)
Q5 (b)	<p>Explain life cycle of an applet. Write a program to display house using applets.</p> <p style="text-align: center;">OR</p> <p>Write a program to display smiley face filled with color. After every 5 sec, program should change the color of face.</p>	<p>10</p> <p>10</p>