

DEPARTMENT

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| **QUESTION BANK** | | | | | | | | | | | | | | | | |
| **VI - SEMESTER B.TECH DEGREE EXAMINATION, JANUARY 2020** | | | | | | | | | | | | | | | | |
| *(Details of Faculty Member prepared the Questions)* | | | | | | *(Details of Course)* | | | | | | | | | | |
| Name of Faculty | | | | | Sumesh Raman | Course Code | | | CST 205 | | | | | | | |
| Department | | | | | CSE | Course Name | | | OOPS Using Java | | | | | | | |
| **N.B.**   * Please modify the given template/pattern corresponding to the question paper pattern given in the course plan and modules assigned. * Please read the guidelines for preparing questions for question papers.   1\* - Course Outcome: Please write the COs (CO1/CO2/CO3/CO4/CO5/CO6 etc) against each question. 2\* - Knowledge Level: Please write the K-Level (K1/K2/K3 etc) against each question.  3\* - Theory (T)/Problem(P)/Design(D) : Please specify the category of question Eg. Theory (**T**), Problem (**P**), Design (**D**) etc….  **4\*-** Difficulty Level: Please specify the relative difficulty level of the questions in terms of **Straight (S), Above Average (A), Difficult (D) and Tough(T)** | | | | | | | | | | | | | | | | |
| **PART A (MODULE I)** | | | | | | | | | | | 1\* | | 2\* | 3\* | | 4\* |
|  | |  | | ***15 Marks Questions***  *Each question can have maximum four sub division*  ***(Prepare maximum Questions possible, covering all areas of the modules assigned )*** | | | | Marks | | | Course Outcome | | Knowledge Level | Theory(**T**)/ Problem(**P**)/ Design(**D**) | | Difficulty Level **(S/A/D/T)** |
| 1 | | (a) | | Discuss the concept of classes and objects in Java language using an example of  a ‘student’ object in a Student management application. | | | | (3) | | | I | | L2 | L2 | | A |
|  | (b) | | What are the advantages of using UML? Sketch the UML class diagram for an entity ‘book’. | | | | (5 ) | | | I | | L2 | | L2 | S | |
|  | (c) | | List out any three literal types in Java .Give examples for each. | | | | (5 ) | | | I | | L2 | | L2 | S | |
|  |  | | How do you create and import a package in Java? | | | | ( ) | | |  | |  | | L2 |  | |
| 2 | (a) | | Bring out the difference between function oriented software design approach and object oriented software design approach using the example of an automated fire alarm system. | | | | (10 ) | | | I | | L3 | | L2 | S | |
|  | (b) | | Describe buzzwords of Java that defines the Java programming language. | | | | (5) | | | II | | L2 | | L2 | A | |
|  | (c) | | Draw the Use case diagram of a movie reservation system. | | | | (5) | | | II | |  | | L2 | D | |
|  |  | | Explain how access modifiers are used to control the visibility of identifiers. | | | | ( 5) | | | II | |  | | L2 | T | |
| 3 | (a) | | Comapre and contrast Java Applets and Java Application. | | | | ( 15) | | | II | | L2 | | L2 | A | |
|  | (b) | | Illustrate the Java Programming and Runtime Environment. Explain the roles  of each component of it while compiling and executing a java program. | | | | ( 5) | | | II | |  | | L2 | A | |
|  | (c) | | Write a note on Java Virtual Machine. | | | | ( 5) | | | II | |  | | L2 | S | |
|  |  | | Draw the Use case diagram of a movie reservation system. | | | | ( 5) | | | II | |  | | L2 | S | |

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| 4 | (a) | What is applet? Describe the structure of applet.  Develop an applet that allows to input velocity in Kilometers/Hour, convert and  display in Meters/Second. Use AWT controls and event handling techniques. | ( 5) | II | L2 | T | S |
|  | (b) | Distinguish between structural and behavioural UML diagrams. | ( 5) | II | L2 | T | S |
|  | (c) | Illustrate how information hiding is achieved in Java. | ( ) | II | L2 | T | S |
| 5 | (a) | With a simple example, explain the argument passing mechanism used in Java to pass an instance of a class as argument to a method. | ( 10) | II | L3 | P | D |
|  | (b) | Illustrate the major functionalities of the ‘Class Loader’ component within the JVM  architecture. | ( 5) | II | L2 | T | A |
|  | (c) | Define Applet. Draw the life cycle of Applet in Java showing the different methods  invoked. | (5) | II | L2 | D | A |
|  |  | Write a Java Applet based program which shows a label and a textbox on the html  page. The label and the textbox should display some values which is provided to it  from the html code representing the page. | (5) | II | L2 | D | S |
| 6 | (a) | Explain the terms: Polymorphism and Encapsulation | ( 5) | II | L2 | T | D |
|  | (b) | Why java programs are said to be robust? | ( 5) | II | L2 | T | D |
|  | (c) | Consider a Banking System. Identify three entities in the system which can be represented using classes and show the relationship between them using UML class diagrams | ( 5) | II | L2 | T | D |
|  |  | Draw Use case Diagram for online Pizza ordering system | (5) | II | L2 | T | A |
| 7 | (a) | Write a Java program that accepts two three digit numbers as command line arguments and find all palindrome numbers between them. | (5) | II | L2 | T | S |
|  | (b) | Discuss the different access specifiers used in java. | (5) | II | L2 | T | S |
|  | (c) | How can we pass parameters to an Applet? Explain with an example. | (5) | II | L2 | T |  |
|  |  | Explain the life cycle of an applet | (5) | II | L2 | T | S |
| 8 | (a) | What are the differences between a Java applet and a Java application? | (5) | II | L2 | T | A |
|  | (b) | Represent the entities ‘Student’ and ‘Course’ and their relationship using a3  Class diagram | (5) | II | L2 | T | D |
|  | (c) | Construct Use-case diagram for an Online Shopping Application | (5) | II | L2 | T | T |
|  |  | Discuss the security restrictions imposed on running Java applets | (5) | II | L2 | T | A |
| 9 | (a) | Write an applet program that accepts two input string as parameters,5  concatenate the strings and display it in status window. | (5) | II | L2 | P | A |
|  | (b) | Outline the lifecycle of an Applet. | (5) | II | L2 | P | S |
|  | (c) | Draw the Use Case diagram of online railway ticket reservation system | (5) | II | L2 | P | S |
|  |  | Why are java programs said to be platform independent? | (5) | II | L2 | T |  |
| 10 | (a) | Write briefly about any four features of Java. | (5) | II | L2 | T | S |

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|  | (b) | Represent the following class diagram as a java class. | (5) | II | L2 | D | A |
|  | (c) | What are advantages of using UML? | (5) | II | L2 | T | S |
|  |  | Illustrate the steps involved in Java compilation. | (5) | II | L2 | T | S |
|  |  | Differentiate between a class and an object. | (5) | II | L2 | T |  |
|  |  | Represent the following entities using UML class diagram  i) Book  ii) Employee  iii) Vehicle | (5) | II | L2 | T | S |
|  |  | Construct Use Case diagrams for the following  i) ATM  ii) Library  iii) Railway reservation | (5) | II | L2 | P | A |
|  |  | What are the features of an applet? | (5) | II | L2 | T | D |
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