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| **DIT UNIVERSITY DEHRADUN**   |  |  | | --- | --- | | **MCA** | **: MID TERM EXAMINATION, EVEN SEM 2021-22 (SEM II)** | | | | | | | | | | | | | |
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| **Time: 2 Hours** | **Total Marks: 50** |
| **Note: All questions are compulsory. No student is allowed to leave the examination hall before the completion of the exam.**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Q.1)** | **Attempt all Parts :** | | **BTL** | **CO** | |  | **(a)** | What is difference between AWT and Swing? | **L1** | **CO1** | |  | **(b)** | Show how static binding is achieved in polymorphism in Java? | **L2** | **CO1** | |  | **(c)** | Write a program to swap 2 numbers without using 3rd variable in java. | **L6** | **CO3** | |  | **(d)** | Define object in java? Explain with real world examples. | **L1** | **CO4** | |  |  | **[4 x 2.5= 10]** |  |  | |  | | |  |  | | **Q.2)** | **Attempt all Parts :** | | **BTL** | **CO** | |  | **(a)** | Differentiate between Collection and Collections. | **L4** | **CO4** | |  | **(b)** | “Final and abstract can not be used at a time.” Comment your views on the statement. | **L6** | **CO2** | |  | **(c)** | How Encapsulation is helpful in Java? | **L1** | **CO1** | |  | **(d)** | What is an event handler in Swing? | **L1** | **CO3** | |  |  | **[4 x 2.5= 10]** |  |  | |  | | |  |  | | **Q.3)** | **Attempt any Two Parts :** | | **BTL** | **CO** | |  | **(a)** | Describe layout manager in Java? Explain various layouts in Java that can be used. | **L6** | **CO2** | |  | **(b)** | Explain the hierarchy of the Collection framework in Java. | **L5** | **CO1** | |  | **(c)** | Write a simple Java Swing program to create a JButton With ActionListener? | **L6** | **CO2** | |  |  | **[2 x 5= 10]** |  |  | |  | | |  |  | | **Q.4)** | **Attempt any Two Parts :** | | **BTL** | **CO** | |  | (a) | How many ways to create a frame in Java Swing?Write a simple Java Swing program to create a JButton and adding it on the JFrame object inside the main() method? | **L4s** | **CO1** | |  | (b) | What will be the output of the following program?Explain your output.  **A)** class ClassInheritance {     public static void main(String s[])     {         A a = new A();         a.i = 4;         B b = new B();         b.i = 10;          b.j = 20;          System.out.println("i = " + a.i);     } }  class A {     int i; }  class B {     int j; }  **B)** class ClassInheritance  { public static void main(String s[])  {  A a = new A();  a.i = 4;  B b = new B();  b.i = 10;  b.j = 20;  a = b;  System.out.println("i = " + a.i);  }  }  class A  {  int i;  }  class B extends A  {  int j;  } | **L5** | **CO1** | |  | (c) | Differentiate between constructor and method in Java. Explain with program. | **L5** | **CO1** | |  |  | **[2 x 5= 10]** |  |  | |  | | |  |  | | **Q.5)** | **Attempt any Two Parts :** | | **BTL** | **CO** | |  | **(a)** | Define Inheritance and its types in java? Write a program to implement Multiple Inheritance. | **L5** | **CO2** | |  | **(b)** | Explain the various interfaces used in the Collection framework. | **L5** | **CO3** | |  | **(c)** | Write a Java program to accept a number of digit and remove all the zero from the number and display the remaining numbers. e.g. Input : 6708091 output: 67891 (Note: Number should not contain zero at first position.) | **L6** | **CO4** | |  |  | **[2 x 5= 10]** |  |  | | **-----END OF PAPER ----** | | |  |  | | |