

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|            |           |  |           |
|------------|-----------|--|-----------|
| <b>Q.1</b> | <b>A)</b> | <b>Write a program to count the number of objects created for a class using static member function.</b>  | <b>5</b>  |
|            | <b>B)</b> | <b>Write a Java program having a class TEACHER which contain two fields name and qualification. Extend this class to DEPARTMENT containing deptno and deptname. Create an interface COLLEGE containing one filled name_of_college. Use above classes and interfaces to get the appropriate information and display it.</b> | <b>10</b> |
|            | <b>C)</b> | <b>Write a JDBC program to delete all the records from employee table. EMPLOYEE (empid, ename, deptid, phoneno)</b>  | <b>10</b> |

**PART B (15 Marks)**

|            |           |  |           |
|------------|-----------|--|-----------|
| <b>Q.2</b> | <b>A)</b> | <b>Design loan calculator using JSP which accepts Period of Time (in years) and Principal Loan Amount. Display the payment amount for each loan and then list the loan balance and interest paid for each payment over the term of the loan for the following time period and interest rate:</b><br>1 to 7 year at 5.35%<br>8 to 15 year at 5.5%<br>16 to 30 year at 5.75% | <b>15</b> |
|            |           | <b>OR</b>  |           |
| <b>Q.2</b> | <b>B)</b> | <b>Create a stateless session Bean that will find the factorial of entered number. Create appropriate client in JSP.</b>   | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|             |           |   |           |
|-------------|-----------|---|-----------|
| <b>Q. 1</b> | <b>A)</b> | <b>Write a program on constructor overloading, Create a class student, with two constructor, one is parameterized and another is non-parameterized, initialize with following data member, rollno, name, percentage.</b>  | <b>5</b>  |
|             | <b>B)</b> | <b>Write a Java program to create an abstract base class ACCOUNT which has the data member balance, and two methods Deposit () and Withdraw (). Create two more classes SAVING and CURRENT which is inherited from base class ACCOUNT. Write the appropriate the overriding method of it.</b> | <b>10</b> |
|             | <b>C)</b> | <b>Write a program to create a package that access the member of external class as well as same package.</b>  | <b>10</b> |

**PART B (15 Marks)**

|             |           |  |           |
|-------------|-----------|--|-----------|
| <b>Q. 2</b> | <b>A)</b> | <b>Write a Servlet program to insert student records into database and display the same when roll number is entered.</b> | <b>15</b> |
| <b>OR</b>   |           |  |           |
|             | <b>B)</b> | <b>Create a stateless session Bean that will find the factorial of entered number. Create appropriate client in JSP.</b> | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|             |           |  |           |
|-------------|-----------|--|-----------|
| <b>Q. 1</b> | <b>A)</b> | <b>Write a Java program that can manage NumberFormatExceptions.</b>  | <b>5</b>  |
|             | <b>B)</b> | <b>Write a Java program to create simple calculator using applet and event handling.</b>   | <b>10</b> |
|             | <b>C)</b> | <b>Write a JDBC program to create a table EMPLOYEE with four fields name, surname, designation, salary. Insert records into the table and increase the salary twice where name is “Ram”.</b> | <b>10</b> |

**PART B (15 Marks)**

|             |           |   |           |
|-------------|-----------|---|-----------|
| <b>Q. 2</b> | <b>A)</b> | <b>Create a login page that will accept username and password from the user. when user click on submit button Servlet is check the valid user and password , if user is invalid then it will open error page and if user is valid then it will welcome user with his/her name along with welcome message (use requestDispatcher object)</b> | <b>15</b> |
| <b>OR</b>   |           |   |           |
| <b>Q. 2</b> | <b>B)</b> | <b>Create a Login application using Struts that will display appropriate error message.</b>   | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|             |           |  |           |
|-------------|-----------|--|-----------|
| <b>Q. 1</b> | <b>A)</b> | Write a Java program to draw the line, rectangle, oval with background color using applet.   | <b>5</b>  |
|             | <b>B)</b> | Write a Java program to create a file and perform the following operations on a file. <ul style="list-style-type: none"> <li>• <b>Rename the File</b></li> <li>• <b>Count number of bytes in file</b></li> <li>• <b>Delete the file</b></li> </ul> | <b>10</b> |
|             | <b>C)</b> | Write a Java program to design registration form with validation using appropriate Swing components (Make your own assumptions).   | <b>10</b> |

**PART B (15 Marks)**

|             |           |   |           |
|-------------|-----------|---|-----------|
| <b>Q. 2</b> | <b>A)</b> | Write a Servlet to take name as request parameter from the user and display Welcome Page to the user with his name (with Get and Post HTTP methods).                        | <b>15</b> |
|             |           | <b>OR</b>   |           |
|             | <b>B)</b> | Create a Telephone directory using JSP and store all the information within a database, so that later could be retrieved as per the requirement. Make your own assumptions. | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|                |   |           |
|----------------|---|-----------|
| <b>Q. 1 A)</b> | <b>Write a Java program to change the background of JApplet with JColorchooser component.</b>   | <b>5</b>  |
| <b>B)</b>      | <b>Write a Java program to copy the content of one file to another using Character Stream and Bytes Stream classes.</b>               | <b>10</b> |
| <b>C)</b>      | <b>Write a Java program to design registration form with validation using appropriate AWT components (Make your own assumptions).</b> | <b>10</b> |

**PART B (15 Marks)**

|                |   |           |
|----------------|---|-----------|
| <b>Q. 2 A)</b> | <b>Write a servlet application that displays the current time, date and the number of hits if a person opens a particular web site.</b> | <b>15</b> |
|                | <b>OR</b>   |           |
| <b>Q. 2 B)</b> | <b>Create a stateless session Bean that will find the factorial of entered number. Create appropriate client in JSP.</b>                | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|               |  |           |
|---------------|--|-----------|
| <b>Q.1 A)</b> | <b>Write a Java program to create your own exception (NotValidUniversityException) when username is not University of Mumbai.</b>                      | <b>5</b>  |
| <b>B)</b>     | <b>Write a Java program to write the contents into file and stop when user types word “quit”.</b>  | <b>10</b> |
| <b>C)</b>     | <b>Write a Java program to demonstrate dictionary application with database connectivity where database contains table DICTIONARY (word, meaning).</b> | <b>10</b> |

**PART B (15 Marks)**

|               |  |           |
|---------------|--|-----------|
| <b>Q.2 A)</b> | <b>Write a Servlet with doGet method and extract all the request information along with the inputs given by the user in text field, radio button, checkbox and drop down menu.</b> | <b>15</b> |
| <b>OR</b>     |  |           |
| <b>Q.2 B)</b> | <b>Create a Entity Bean EMPLOYEE with empid, empname, salary and show persistence with any database.</b>   | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|               |   |           |
|---------------|---|-----------|
| <b>Q.1 A)</b> | <b>Write a Java program to demonstrate multiple catch blocks with their order according to specific exception.</b>                    | <b>5</b>  |
| <b>B)</b>     | <b>Write a Java program to demonstrate methods present in MouseListener Interface.</b>  | <b>10</b> |
| <b>C)</b>     | <b>Write a Java program to design registration form with validation using appropriate AWT components (Make your own assumptions).</b> | <b>10</b> |

**PART B (15 Marks)**

|               |   |           |
|---------------|---|-----------|
| <b>Q.2 A)</b> | <b>Write a Servlet for bank transaction including withdraw() and deposit() methods checked that withdraw transaction should not take place if amount is greater than balance.</b> | <b>15</b> |
| <b>OR</b>     |   |           |
| <b>Q.2 B)</b> | <b>Create a simple calculator Bean that will accept two numbers and find the appropriate operations on it.</b>  | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|               |   |           |
|---------------|---|-----------|
| <b>Q.1 A)</b> | <b>Write a Java program to demonstrate methods present in MouseMotionListener Interface.</b>  | <b>5</b>  |
| <b>B)</b>     | <b>Write a program that calculates how much a person would earn over a period of time if his or her yearly salary begins at RS. 100000.00 the first year, Rs. 200000.00 the second year, and continues to double each year. Take input from the user for the term he or she worked and display the result yearwise.</b> | <b>10</b> |
| <b>C)</b>     | <b>Write a program using JDBC that displays the metadata information of the table.</b>  | <b>10</b> |

**PART B (15 Marks)**

|               |  |           |
|---------------|--|-----------|
| <b>Q.2 A)</b> | <b>Write a Servlet program to redirect the request to some other page using sendRedirect method.</b> | <b>15</b> |
| <b>OR</b>     |  |           |
| <b>Q.2 B)</b> | <b>Create a Login application using Struts that will display appropriate error message.</b>          | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|               |   |           |
|---------------|---|-----------|
| <b>Q.1 A)</b> | <b>Write a Java program to demonstrate methods present in KeyListener Interface.</b>  | <b>5</b>  |
| <b>B)</b>     | <b>Write a Java program to demonstrate Thread Synchronization.</b>  | <b>10</b> |
| <b>C)</b>     | <b>Write a program to create registration form that will navigate records and insert, update and delete it from respective database use JDBC component.</b> | <b>10</b> |

**PART B (15 Marks)**

|               |  |           |
|---------------|--|-----------|
| <b>Q.2 A)</b> | <b>Write a JSP page to display the Registration form (Make your own assumptions)</b> | <b>15</b> |
| <b>OR</b>     |  |           |
| <b>Q.2 B)</b> | <b>A program on Entity Beans to display the basic information of Organization.</b>   | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|                |  |           |
|----------------|--|-----------|
| <b>Q. 1 A)</b> | <b>Write a Java programs to demonstrate throw and throws keyword.</b>  | <b>5</b>  |
| <b>B)</b>      | <b>Write a Java program to copy the contents of one file to other file (Note: Take the name of source file and destination file from the user).</b>                      | <b>10</b> |
| <b>C)</b>      | <b>Write a program to accept the empid from the user and delete the corresponding record from the table EMPLOYEE (empid, empname, deptname) using JDBC connectivity.</b> | <b>10</b> |

**PART B (15 Marks)**

|                |  |           |
|----------------|--|-----------|
| <b>Q. 2 A)</b> | <b>Write a JSP program to add, delete and display the records from StudentMaster (RollNo, Name, Semester, Course) table.</b> | <b>15</b> |
| <b>OR</b>      |  |           |
| <b>Q. 2 B)</b> | <b>Write a program to add items to the cart and list the cart contents (Use Stateful Session Bean).</b>                      | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|             |           |  |           |
|-------------|-----------|--|-----------|
| <b>Q. 1</b> | <b>A)</b> | <b>Write a Java programs to demonstrate nested try and catch block.</b>  | <b>5</b>  |
|             | <b>B)</b> | <b>Write a Java program having a class MANAGER which contain two fields name and qualification. Extend this class to DEPARTMENT containing deptno and deptname. Create an interface COMPANY containing one filled name_of_comapny. Use above classes and interfaces to get the appropriate information and display it.</b> | <b>10</b> |
|             | <b>C)</b> | <b>Write a program to create and insert data into STUDENT (rollno, name, total_marks) table and display record of the student having rollno 120 using JDBC connectivity.</b>   | <b>10</b> |

**PART B (15 Marks)**

|             |           |   |           |
|-------------|-----------|---|-----------|
| <b>Q. 2</b> | <b>A)</b> | <b>Create 2 HTML pages, one with GET method and one with POST method, with the action to the same Servlet. Handle both the requests using doGet and doPost methods.</b> | <b>15</b> |
|             |           | <b>OR</b>   |           |
| <b>Q. 2</b> | <b>B)</b> | <b>Create a Login application using Struts that will display appropriate error message.</b>   | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|                |   |           |
|----------------|---|-----------|
| <b>Q. 1 A)</b> | <b>Write a program on package to demonstrate scope of access specifier.</b>   | <b>5</b>  |
| <b>B)</b>      | <b>Create a class Employee which accepts information about empid and empname. Create another class Department which Inherits Employee which accepts information about deptid and deptname. Create another class Company which inherits Employee and accepts an information about empid and prints all the details of the employee including empname, deptid, deptnamee.</b> | <b>10</b> |
| <b>C)</b>      | <b>Write a Java program to demonstrate dictionary application with database connectivity where database contains table DICTIONARY (word, meaning).</b>  | <b>10</b> |

**PART B (15 Marks)**

|                |  |           |
|----------------|--|-----------|
| <b>Q. 2 A)</b> | <b>Design loan calculator using JSP which accepts Period of Time (in years) and Principal Loan Amount. Display the payment amount for each loan and then list the loan balance and interest paid for each payment over the term of the loan for the following time period and interest rate:<br/> 1 to 7 year at 5.35%<br/> 8 to 15 year at 5.5%<br/> 16 to 30 year at 5.75%</b> | <b>15</b> |
| <b>OR</b>      |  |           |
| <b>Q. 2 B)</b> | <b>Write a program to add items to the cart and list the cart contents (Use Stateful Session Bean).</b>  | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|               |  |           |
|---------------|--|-----------|
| <b>Q.1 A)</b> | <b>Create a animated bouncing boll using Thread object, control the ball movement by using event start and stop button.</b>  | <b>5</b>  |
| <b>B)</b>     | <b>Write a program to demonstrate String class methods for the following:</b> <ul style="list-style-type: none"> <li>• <b>To display the length of a string</b></li> <li>• <b>Convert the String into Upper case and Lower case</b></li> <li>• <b>Replace the any character of the string with another character</b></li> <li>• <b>Display the character at the 4th position</b></li> <li>• <b>Display last position of any character</b></li> </ul> | <b>10</b> |
| <b>C)</b>     | <b>Write a Java program to create and insert records into table STUDENT (rollno, name, phno).</b>  | <b>10</b> |

**PART B (15 Marks)**

|               |  |           |
|---------------|--|-----------|
| <b>Q.2 A)</b> | <b>Write a Servlet program to count the number of hits made to the website using Cookies.</b>  | <b>15</b> |
| <b>OR</b>     |  |           |
| <b>Q.2 B)</b> | <b>Create a Bean Student which has following data members Name, Age, percentage write appropriate property for each data member and implement this component in JSP.</b> | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|             |           |   |           |
|-------------|-----------|---|-----------|
| <b>Q. 1</b> | <b>A)</b> | <b>Write a program to sort an array of strings in descending order.</b>   | <b>5</b>  |
|             | <b>B)</b> | <b>Write a program using SWING components to display the registration form (Use proper layout manager).</b>   | <b>10</b> |
|             | <b>C)</b> | <b>Write a program using JDBC that displays the following information of the table:</b> <ul style="list-style-type: none"> <li>• <b>Display the number of columns in the table</b></li> <li>• <b>Display the name of first column</b></li> <li>• <b>Display the size of first column</b></li> <li>• <b>Display the data type of first column</b></li> </ul> | <b>10</b> |

**PART B (15 Marks)**

|             |           |  |           |
|-------------|-----------|--|-----------|
| <b>Q. 2</b> | <b>A)</b> | <b>Write a JSP program to add, delete and display the records from StudentMaster (RollNo, Name, Semester) table.</b> | <b>15</b> |
|             |           | <b>OR</b>  |           |
| <b>Q. 2</b> | <b>B)</b> | <b>Create a guestbook application using struts (Make your own assumptions).</b>                                      | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

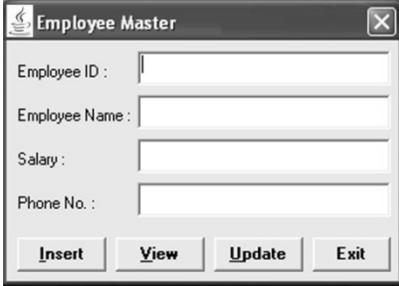
**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|             |           |  |           |
|-------------|-----------|--|-----------|
| <b>Q. 1</b> | <b>A)</b> | <b>Write a Java program to demonstrate the concept of Method Overriding.</b>   | <b>5</b>  |
|             | <b>B)</b> | <b>Write a program to create an interface and implement the methods present in the interface.</b>  | <b>10</b> |
|             | <b>C)</b> | <b>Write a code to prepare a following screen using swing components and perform Insert, View and Update functionalities using JDBC connectivity.</b><br><br> | <b>10</b> |

**PART B (15 Marks)**

|             |           |  |           |
|-------------|-----------|--|-----------|
| <b>Q. 2</b> | <b>A)</b> | <b>Write a Servlet program to insert student records into database and display the same when roll number is entered.</b> | <b>15</b> |
|             |           | <b>OR</b>  |           |
| <b>Q. 2</b> | <b>B)</b> | <b>Create a simple calculator Bean that will accept two numbers and find the appropriate operations on it.</b>           | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|                |   |           |
|----------------|---|-----------|
| <b>Q. 1 A)</b> | <b>Write a Java program to find leap year using applets.</b>  | <b>5</b>  |
| <b>B)</b>      | <b>Create a package Book containing Book name and Publisher name. Call Book name and Publisher name from the package.</b>                               | <b>10</b> |
| <b>C)</b>      | <b>Write a program using JDBC for adding, deleting, and displaying the records from ProductMaster (ProdNo, Description, Quantity, UnitPrice) table.</b> | <b>10</b> |

**PART B (15 Marks)**

|                |  |           |
|----------------|--|-----------|
| <b>Q. 2 A)</b> | <b>Write a program using Servlet that will print number of requests.</b>   | <b>15</b> |
| <b>OR</b>      |  |           |
| <b>Q. 2 B)</b> | <b>Create a Bean Student which has following data members Name, Age, percentage write appropriate property for each data member and implement this component in JSP.</b> | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|                |  |           |
|----------------|--|-----------|
| <b>Q. 1 A)</b> | <b>Write a Java program to demonstrate concept of constructor overloading (Make your own assumptions).</b> | <b>5</b>  |
| <b>B)</b>      | <b>Write a JAVA program to implement Thread Synchronization.</b>   | <b>10</b> |
| <b>C)</b>      | <b>Write a program using JDBC that displays the metadata information of the table.</b>                     | <b>10</b> |

**PART B (15 Marks)**

|                |   |           |
|----------------|---|-----------|
| <b>Q. 2 A)</b> | <b>Write a program using Servlet that will print number of requests.</b>                    | <b>15</b> |
|                | <b>OR</b>   |           |
| <b>Q. 2 B)</b> | <b>Create a Login application using Struts that will display appropriate error message.</b> | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|               |   |           |
|---------------|---|-----------|
| <b>Q.1 A)</b> | <b>Create a animated bouncing boll using Thread object, control the ball movement by using event start and stop button.</b> | <b>5</b>  |
| <b>B)</b>     | <b>Write a program using AWT components to display the registration form (Use proper layout manager).</b>                   | <b>10</b> |
| <b>C)</b>     | <b>Write a program using JDBC that displays the metadata information of the table.</b>                                      | <b>10</b> |

**PART B (15 Marks)**

|               |  |           |
|---------------|--|-----------|
| <b>Q.2 A)</b> | <b>Write a JSP program to add, delete and display the records from ProductMaster (ProdNo, Description, Quantity, UnitPrice) table.</b> | <b>15</b> |
|               | <b>OR</b>  |           |
| <b>Q.2 B)</b> | <b>Create a guestbook application using struts (Make your own assumptions).</b>  | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|                |   |           |
|----------------|---|-----------|
| <b>Q. 1 A)</b> | <b>Write a program to sort an array of strings in ascending alphabetical order.</b>   | <b>5</b>  |
| <b>B)</b>      | <b>Write a program to create an interface and implement the methods present in the interface.</b>   | <b>10</b> |
| <b>C)</b>      | <b>Write a program to create registration form that will navigate records and insert, update and delete it from respective database use JDBC component.</b> | <b>10</b> |

**PART B (15 Marks)**

|                |  |           |
|----------------|--|-----------|
| <b>Q. 2 A)</b> | <b>Write a program to demonstrate session tracking.</b>  | <b>15</b> |
| <b>OR</b>      |  |           |
| <b>Q. 2 B)</b> | <b>Create a simple calculator Bean that will accept two numbers and find the appropriate operations on it.</b> | <b>15</b> |

**UNIVERSITY OF MUMBAI**  
**Practical Examination – November 2017**  
**M.C.A Semester – IV**  
**LABORATORY L401**  
**[Core & Advanced JAVA]**

**Duration: 3 hours**

**Seat No: \_\_\_\_\_**

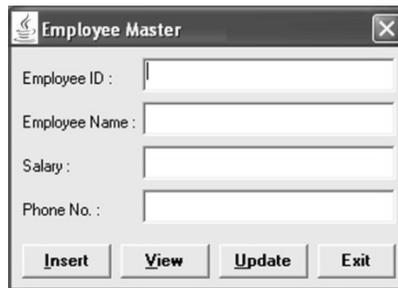
**Marks: 40 Marks**

**General Instructions:**

- *The practical consists of questions of 40 marks.*
- *Viva will be taken at the time of practical as well as after the practical if required.*
- *The figures to the right indicate full marks*
- *Create a folder with name of your seat Number in the folder “MCA\_SEM\_IV\_2017” on the desktop.*
- *Answer to the questions, if any, should be written in the answer book. Use the last page for rough work.*
- *You are allowed to use help files / documentation of the software/language that you are using..*
- *If you are using any additional information, state it clearly.*
- *Once you finish with the code show it to the examiner for testing. Attach the printout of the program and its output along with the answer book.*

**PART A (25 Marks)**

|             |           |  |           |
|-------------|-----------|--|-----------|
| <b>Q. 1</b> | <b>A)</b> | <b>Write a java Program to catch Arithmetic exception.</b>   | <b>5</b>  |
|             | <b>B)</b> | <b>Write a program on constructor overloading, Create a class student, with two constructor, one is parameterized and another is non-parameterized, initialize with following data member, rollno, name, percentage.</b> | <b>10</b> |
|             | <b>C)</b> | <b>Write a code to prepare a following screen using swing components and perform Insert, View and Update functionalities using JDBC connectivity.</b>  | <b>10</b> |



**PART B (15 Marks)**

|             |           |   |           |
|-------------|-----------|---|-----------|
| <b>Q. 2</b> | <b>A)</b> | <b>Write a program using JSP that displays a webpage consisting Application form for change of Study Center which can be filled by any student who wants to change his/ her study center. Make necessary assumptions.</b> | <b>15</b> |
|             |           | <b>OR</b>   |           |
|             | <b>B)</b> | <b>Create Entity Bean Message which having data member (message_id, message) and implement it into session bean. Create appropriate client for it.</b>  | <b>15</b> |