

## Question Bank for LP-II Practical Examination

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| <b>1)</b>  | Implement depth first search (DFS) algorithm and breadth first search (BFS) algorithm. Use an application for undirected graph and develop a recursive algorithm for searching all the vertices of a graph or tree data structure. Also print the levels as it traverses for both algorithms.       |
| <b>2)</b>  | Implement A Star Algorithm for any game search problem.   |
| <b>3)</b>  | Implement Greedy Search algorithm on some application for :<br>I. Minimum Spanning Tree <b>OR</b><br>II. Single-Source Shortest Path Problem  |
| <b>4)</b>  | Implement Greedy Search algorithm on some application for :<br>I. Job Scheduling Problem <b>OR</b><br>II. Prim's Minimal Spanning Tree algorithm  |
| <b>5)</b>  | Implement Greedy Search algorithm on some application for :<br>I. Kruskal's Minimum Spanning Tree algorithm <b>OR</b><br>II. Dijkstra's Minimum Spanning Tree algorithm   |
| <b>6)</b>  | Implement a solution for a Constraint Satisfaction Problem using Branch and Bound; and Backtracking for n-queens problem <b>OR</b> a graph coloring problem   |
| <b>7)</b>  | Develop an elementary chat bot for any suitable customer interaction application.   |
| <b>8)</b>  | Implement <b>any one</b> of the following Expert System which will give expert opinion:<br>I Information management<br>II Hospitals and medical facilities<br>III Help desk management<br>IV Employee performance evaluation<br>V Stock market trading<br>VI Airline scheduling and cargo schedules |
| <b>9)</b>  | <b>CC:</b> Create following application in Salesforce.com using Apex Programming Language:<br>i. Mathematical Calculator<br>ii. Generate student mark sheet   |
| <b>10)</b> | <b>CC:</b> Create following application in Salesforce.com using Apex Programming Language:<br>To find greatest among three numbers  |
| <b>11)</b> | <b>CC:</b> Create following application in Salesforce.com using Apex Programming Language:<br>i. For a given unit generate or calculate electricity bill<br>ii. To convert degree Celsius to Fahrenheit   |
| <b>12)</b> | <b>CC:</b> Create an application of currency converter in Salesforce.com using Apex Programming Language  |

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| <b>13)</b> | <p><b>CC:</b> Design and develop Student Database custom Application using Sales Force Cloud:</p> <p>Take student details as inputs from user viz; first name, last name, DoB, contact number, e-mail id, gender, Adhaar or PAN number, et cetra; further formulate the Age from DoB (date of birth) &amp; then display the eligibility status for voting in the election</p>   |
| <b>14)</b> | <p><b>CC:</b> Design and develop Employee Database custom Application using Sales Force Cloud:</p>  |
| <b>15)</b> | <p><b>IS:</b> Write a Java/C/C++/Python program to perform encryption and decryption using the method of Double Columnar Transposition technique.</p>   |
| <b>16)</b> | <p><b>IS:</b> Write a Java/C/C++/Python program to implement DES <b>OR</b> S-DES (simplified DES) algorithm.</p>  |
| <b>17)</b> | <p><b>IS:</b> Write a Java/C/C++/Python program to implement AES <b>OR</b> S-AES (simplified AES) algorithm.</p> <p style="text-align: center;"><b>OR</b></p> <p>Implement the Diffie-Hellman Key Exchange mechanism using HTML and JavaScript. Consider the end user as one of the parties (Alice) and the JavaScript application as other party (bob).</p>  |
| <b>18)</b> | <p><b>IS:</b> Write a Java/C/C++/Python program to implement RSA algorithm.</p>   |
| <b>19)</b> | <p><b>IS:</b> Calculate the message digest of a text using the MD5 algorithm in JAVA</p>  |
| <b>20)</b> | <p><b>ARVR:</b> Develop a scene in Unity that includes:</p> <ol style="list-style-type: none"> <li>i. A cube, plane and sphere, apply transformations on the 3 game objects.</li> <li>ii. Add a video and audio source.</li> </ol>  |
| <b>21)</b> | <p><b>ARVR:</b> Develop a scene in Unity that includes a cube, plane and sphere. Create a new material and texture separately for three Game objects. Change the color, material and texture of each Game object separately in the scene. Write a C# program in visual studio to change the color and material/texture of the game objects dynamically on button click.</p>   |
| <b>22)</b> | <p><b>ARVR:</b> Develop and deploy a simple marker based AR app in which you have to write a C# program to play video on tracking a particular marker.</p> <p style="text-align: center;"><b>OR</b></p> <p>Develop and deploy an AR app, implement the following using Vuforia Engine developer portal:</p> <ol style="list-style-type: none"> <li>i. Plane detection</li> <li>ii. Marker based Tracking (Create a database of objects to be tracked in Vuforia)</li> <li>iii. Object Tracking</li> </ol> |