


| Name:  |  |  |     |
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| Enrolment No:  |  |  |     |
| <b>UNIVERSITY OF PETROLEUM AND ENERGY STUDIES</b><br><b>End Semester Examination, May 2023</b> |  |  |     |
| <b>Course: DevOps</b><br><b>Program: B.Tech CSE CCVT</b><br><b>Course Code: CSDV 3006</b>      |  | <b>Semester: VI</b><br><b>Time : 03 hrs.</b><br><b>Max. Marks: 100</b>             |     |
| <b>Instructions:</b>   |  |  |     |
| <b>SECTION A</b><br><b>(5Qx4M=20Marks)</b>   |  |  |     |
| S. No.   |  | Marks  | CO  |
| Q 1  | Define Agile Methodology for software development  | 4  | CO1 |
| Q 2  | List the reasons why organizations need to ensure DevOps implementation  | 4  | CO1 |
| Q 3  | Explain any four business advantages of DevOps   | 4  | CO1 |
| Q 4  | Discuss the reasons for using issue trackers   | 4  | CO1 |
| Q 5  | Define Automated Testing and its difference with Continuous Testing  | 4  | CO4 |
| <b>SECTION B</b><br><b>(4Qx10M= 40 Marks)</b>  |  |  |     |
| Q 6  | Describe in detail the impact of DevOps on People, Process and Tools   | 10   | CO2 |
| Q 7  | What are the similarities and differences between Cloud based CI/CD tools and traditional DevOps tools   | 10   | CO2 |
| Q 8  | Describe the impact of Scrum core values on the process of software development  | 10   | CO1 |
| Q 9  | Describe the Develop & Test adoption path for DevOps with a case study for the hospitality industry<br><br>OR<br><br>Explain the use of continuous monitoring tools with an example for an ecommerce website | 10   | CO3 |
| <b>SECTION-C</b><br><b>(2Qx20M=40 Marks)</b>   |  |  |     |

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| Q 10 | Create a CI/CD pipeline (case study) using Jenkins, SonarQube, Chef, Ansible, and Docker. Explain every tool in detail along with their applicability in different phases of the pipeline.   | <b>20</b> | <b>CO3</b> |
| Q 11 | <p>With the help of a case study for the healthcare sector define the role of the following DevOps practices:</p> <ul style="list-style-type: none"> <li>a) Continuous Integration</li> <li>b) Infrastructure as a Code</li> <li>c) Configuration Management</li> <li>d) Continuous Delivery</li> </ul> <p style="text-align: center;">OR</p> <p>Create a CI/CD pipeline (case study) using AWS Cloud services for DevOps along with Jenkins, SonarQube and Docker. Explain every service/tool in detail along with their applicability in different phases of the pipeline.</p> | <b>20</b> | <b>CO4</b> |