Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Source Code Management **Semester: 2nd**
Program: B.Tech CSE + DevOps **Time 03 hrs.**
Course Code: CSDV 1003 **Max. Marks: 100**

Instructions: Support your answers with examples, diagrams where necessary.

SECTION A (All questions are compulsory)

S. No.		Marks	CO
Q 1	Relate concept of source code management to DevOps toolkit.	4	CO3
Q 2	Explain how the CI works with the help of a block diagram.	4	CO1
Q 3	Elaborate on limitations of Subversion as a VCS.	4	CO2
Q 4	Summarize the details of Local Version Control System.	4	CO2
Q 5	VCS has an allowed set of Basic operations. Identify the needs of basic operations.	4	CO4
	SECTION B		
Q 6	Provide justification to the needs of maintaining Repository at a remote location.	10	CO3
Q 7	Elucidate on need of Staging area w.r.t maintenance of repositories	10	CO4
Q 8	Enlist the features of VCS. Elaborate on any three.	10	CO2
Q 9	Enlist various CI Practices along with their brief descriptions. OR Provide the elements of successful DevOps implementation	10	CO1
	SECTION-C		
Q 10	A company wishes to create software for a client from healthcare/entertainment industry. The software shall be maintained in a repository in a version control system and Dev team of 3-4 people. The team shall work from different locations to create software. (Program is not needed) a) Create a folder strategy by providing attributes to the folder. b) Create a branching strategy to simultaneously work on different modules. c) Generate a workflow where using Git commands final software is arrived upon. d) Demonstrate the advantages of a version control system while answering for a,b,c through Git Commands	20	CO5
Q 11	Elucidiate on the following terms in details using examples and diagrams. a. Merge b. Rebase	20	CO3,CO4

	c. Fetch d. Pull OR		
	i. Provide complete workflow of committing a local repo to remote. Mention each of the steps clearly and support with figures. ii. What are the issues that can arise due to many developers contributing to the same repo and what strategies can be put to use to address them? Explain with examples.	**20**	**CO3,CO4**

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SECTION A (All questions are compulsory)

S. No.		Marks	CO
Q 1	Enlist the needs of maintaining Remote Repositories.	4	CO3
Q 2	Provide block diagram of CI.	4	CO1
Q 3	Elaborate on limitations of Subversion as a VCS.	4	CO2
Q 4	Summarize the details of Centralized Version Control System.	4	CO2
Q 5	Write briefly about any 4 basic operations in VCS	4	CO4
	SECTION B		
Q 6	Relate concept of source code management to DevOps toolkit.	10	CO3
Q 7	Elucidate on significance of Staging area for a VCS.	10	CO4
Q 8	Compare and contrast Centralized Version control System and Distributed version Control System.	10	CO2
Q 9	Describe the relationship between CI and CD with support of diagrams. OR Provide the elements of successful DevOps implementation	10	CO1
	SECTION-C		
Q 10	A company wishes to create software for a client from education/banking. The software shall be maintained in a repository in a version control system and Dev team of 3-4 people. The team shall work from different locations to create software. (Program is not needed) a. Create a folder strategy by providing attributes to the folder. b. Create a branching strategy to simultaneously work on different modules. c. Generate a workflow where using Git commands final software is arrived upon. d. Demonstrate the advantages of a version control system while answering for a,b,c through Git Commands	20	CO5
Q 11	Elucidate the following terms in details with the help of workflows and diagrams a. Merge b. Rebase c. Fetch	20	CO3,CO4

	d. Pull OR		
	i. Describe the workflow of committing a local repo to remote. Mention each of the steps clearly and support with figures. ii. Elaborate on strategies that can be adopted to mitigate the challenges of multiple developers contributing to a single project repository. What makes these strategies effective?	**20**	**CO3,CO4**