Question Paper

Exam Date & Time: 02-Jan-2023 (10:00 AM - 01:00 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal
First Semester Master of Engineering - ME (Cloud Computing) Degree Examination - January 2023

DevOps for Cloud [CDC 5001]

Marks: 100 **Duration: 180 mins.**

Monday, January 1, 2023

Answer all the questions.

1)	Briefly explain classical software life cycle models in product life cycle development and its disadvantages. (TLO 1.1) (10 MARKS)	(10)
2)	Explain the following Git commands (TLO 4.1) (2Marks each) a) git add . b) git clone < github.url> c) git push origin master d) git revert < commitid> e) git diff HEAD filename	(10)
3)	Describe with suitable diagram the stages of Devops with suitable example for each stage. Also highlight the tools used in each stage. (TLO 5.1) (6Marks + 4Marks examples)	(10)
4)	Illustrate Jenkins Distributed Architecture. Explain how to setup CI/CD Pipeline using Jenkins to deploy Java applications. (TLO 5.2) (5+5 Marks)	(10)
5)	Briefly explain what problems does Docker address in software life cycle and also comment on how it is different in comparison to Virtual machines. (TLO 5.3)	(10)
6)	Illustrate the need of container orchestration with a relevant example and Explain various components of master node (TLO 6.1) (6+ 4Marks)	(10)
7)	There is a php web application based on lamp environment. The source code is available on GitHub repo. Do the following tasks: (TLO 6.1) (10 Marks) a) PULL the code to your local repo from GITHUB. b) Write a dockerfile to Containerize this application. c) Create an image of the application. d) Push the image to your GITHUB repo and a docker hub repo by tagging it.	(10)
8)	Explain what is Docker Compose? Classify the benefits of Docker Compose. Provide the basic Commands in Docker Compose. (TLO 6.2) (2+4+4 Marks)	(10)
9)	Explain configuration management. Explain why is configuration management important? Classify some SCM Features. (TLO 6.3) (2+4+4 Marks)	(10)
10)	Briefly explain the architecture and Features of Ansible with suitable block diagram. (TLO 6.3) (2+4+4 Marks)	(10)

-----End-----