

# Question Paper

Exam Date & Time: 30-Apr-2024 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

Manipal School of Information Sciences (MSIS), Manipal  
Second Semester Master of Engineering - ME (Big Data Analytics) Degree Examination - April / May 2024

### DevOps for Cloud [CDC 5001]

Marks: 100

Duration: 180 mins.

Tuesday, April 30, 2024

Answer all the questions.

- 1) Briefly explain classical software development life cycle stages in product development and highlight suitable models based on the same. (10)  
(10 MARKS) (BL:L2, CO:1, PO:1,3)
- 2) Briefly explain with suitable diagram Life cycle stages of DevOps and also comment on suitable tools used in each stages (10)  
(8 + 2=10 MARKS) (BL:L2, CO:1, PO:5)
- 3) Briefly explain need of software version control management tools and its features (10 MARKS) (10)  
(BL:L4, CO:3, PO:1)
- 4) Briefly explain the role of Continuous integration server in Devops life cycle with suitable example (10)  
(10 MARKS) (BL:L2, CO:2, PO:1)
- 5) Briefly explain how to setup CI/CD Pipeline using Jenkins to deploy Java maven JSP Web applications (10 MARKS) (BL:L3, CO:2, PO:2) (10)
- 6) Briefly explain what problems does Docker address in software life cycle and also comment on how it is different in comparison to Virtual machines (10 Marks) (BL:L3, CO:2, PO:5) (10)
- 7) Briefly explain how to containerize 3 tier web application using multiple containers and start these containers with the help of Docker compose (10MARKS) (BL:L4, CO:3, PO:2) (10)
- 8) Briefly explain the Architecture of Kubernetes and also comment on its objectives and needs of Container Orchestration Services (10)  
(7 + 3 = 10 MARKS) (BL:L3, CO:2, PO:2)
- 9) Briefly explain the need of Configuration Management tools and also mention its features (10 MARKS) (BL:L3, CO:2, PO:5) (10)
- 10) Explain the need of Continuous Monitoring Tools in IT Infrastructure and also comment on plugins, services and commands to monitor specific metrics from remote node. (10 MARKS) (BL:L4, CO:3, PO:5) (10)

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