Application containerisation (CDV 3006)

Internal Assessment-1

Part-A (2.5 Marks)

1. **Explain Hypervisor and its type.**
2. **Differentiate between virtual machines and containers**
3. **Explain abour LinuX and Docker containers.**
4. **Describe the chroot system.**

Part –B (10 Marks)

5. **Discuss the various issues/Problems in the software industry and Explain how putting the application in a container solves the issues faced by the Software Industry.**

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MST-I (APRIL-2022)
B. Tech (DevOps) VI Semester

Subject Code: CDV 3006
Subject Name: Application Containerization

Duration: 90 min
Max. Marks: 50

Note: Question Paper consists of two parts (Part-A and Part-B).
All Questions are compulsory in Part-A.
Answer any THREE Questions from Part-B

PART A:(10*2)

1. Define transporting "goods" analogy.
2. Explain how containers solve the problem of shipping different types of goods together and use this analogy to explain shipping off different application stacks.
3. Discuss the chroot system call.
4. Identify the journey of container technology.
5. What is the functionality of a hypervisor?
6. On what circumstances will you lose data stored in a container?
7. What are the basic requirements for the docker to run on any system?
8. Which technology helped LXC to stand out from the other container utilities?
   A) Root process can easily exit the chroot B) Ability to isolate processes
   C) Extraction at software level D) C-groups
9. Which is the key-factor which helped shipping and software industry to overcome the problems?
   A) Isolation B) Availability
   C) Consistency D) Performance
10. What is the main difference between Containerisation and Virtualization?
    A)Lifecycle B) Isolation
    C) Extraction at software level D) Extraction at hardware level

PART B:(10*3)

1. Explain virtualization and comparison with virtual machines.
2. Discuss the various issues in the software industry.
3. Describe containerization platform, images and runtime.
4. Explain FreeBSD Jails, LinuX Containers (LXC) and Docker.

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MST-II (June-2022)
B. Tech (DevOps) VI Semester

Subject Code: CDV 3006 **Duration**: 90 min
Subject Name: Application Containerization **Max. Marks**: 50

Note: Question Paper consists of two parts (Part-A and Part-B).
All Questions are compulsory in Part-A.
Answer any THREE Questions from Part-B

PART A:(10*2)

1. What is container orchestration?
2. What is Kubernetes?
3. Why we need to monitor containers?
4. Explain about the Kubernetes on cloud.
5. Explain about the Google Kubernetes engine.
6. What is infrastructure monitoring?
7. Explain application performance monitoring.
8. What is openshift?
9. Explain about the Docker Swarm.
10. Name some tools to monitor the containers.

PART B:(10*3)

11. Discuss why the container orchestration is important with the help of a Case Study.
12. Discuss the need of container orchestration and Microservices.
13. Describe the Kubernetes architecture and its features.
14. Explain about AWS ECS with the help of its architecture.