Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, July 2020

Programme Name: B.Tech CS+DevOps **Semester : VI**
Course Name : Application Containerization **Time : 02 hrs**
Course Code : CSDV 3004 **Max. Marks : 100**
Nos. of page(s) : 02

Instructions:

SECTION A (20 Marks)

S. No.		Marks	CO
Q1.	Which is the key-factor which helped shipping and software industry to overcome the problems? a) Isolation b) Availability c) Consistency d) Performance	**2**	**CO1**
Q2.	What is the main difference between Containerisation and Virtualization? a) Lifecycle b) Isolation c) Extraction at software level d) Extraction at hardware level	**2**	**CO1**
Q3.	What was the demerit of chroot? a) Root process can easily exit the chroot b) Ability to isolate processes c) Extraction at software level d) C-groups enabling how much resource you can use	**2**	**CO2**
Q4.	What was the advantage of FreeBSD over chroot? a) Root process can easily exit the chroot b) Ability to isolate processes c) Extraction at software level d) C-groups enabling how much resource you can use	**2**	**CO1**
Q5.	Which technology helped LXC to stand out from the other container utilities? a) Root process can easily exit the chroot	**2**	**CO2**

	b) Ability to isolate processes c) Extraction at software level d) C-groups		
Q6.	What type of architecture does docker have? a) Client-Server Architecture b) Multi-node Architecture c) Single-node Architecture d) Standalone Architecture	**2**	**CO2**
Q7.	Production environment is similar to which environment? a) Staging environment b) Development environment c) Pre-prod environment d) User Acceptance test environment	**2**	**CO2**
Q8.	Which is the disadvantage of Docker? a) Bare metal speed is better than container b) Ecosystem of a container c) Both d) None	**2**	**CO1**
Q9.	Volume mapping maps the host server's directory into the Docker container. The data will remain in a safe and accessible place if you do which of the following? a) re-create the container b) migrate the container c) delete the container d) backup the container	**2**	**CO2**
Q10.	[docker exec -it container_id bash] Docekr command is used for a) Build an image b) Access a running container c) Commit changes done in a Docker image d) Pull and image and run a container without accessing it	**2**	**CO1**
Q11.	Each virtual machine includes the application, the necessary binaries and libraries, and an entire guest operating system - All of which may be tens of GBs in size. a) TRUE b) FALSE	**2**	**CO2**
Q12.	Containers include the application and all of its dependencies, but share the kernel with other containers. They run as an isolated process in userspace on the host operating system. They're also not tied to any specific infrastructure – Docker containers run on any computer, on any infrastructure, and in any cloud. a) TRUE b) FALSE	**2**	**CO2**

Q13.	_____is a text document that contains all the commands a user could call on the command line to assemble an image. a) Docker Cloud b) Docker Kitematic c) Dockerfile d) Docker Compose	**2**	**CO2**
Q14.	You can install Docker Engine directly to servers you have on cloud providers. The providers supported are. (Choose any Three) a) Amazon Web Services (AWS) b) Microsoft Azure c) Digital Ocean d) Google Colab	**2**	**CO1**
Q15.	Docker host's IP address by default is 192.168.99.100 a) True b) False	**2**	**CO2**
Q16.	Containers orchestration means managing the containers with following aspects: (Choose any Two) a) Scaling b) Design c) Insight d) Devlope	**2**	**CO1**
Q17.	What are the reasons behind the need of orchestration (Choose any Two) a) Maturity of orchestrators b) Easiness in modernizing applications c) Building an Image d) Managing Host operating system	**2**	**CO2**
Q18.	Which of the following orchestration tools are Available in market? (Choose any Three) a) Amazon ECS b) Google Colab c) Docker-swarm d) Google Container Engine	**2**	**CO3**
Q19.	What are not the key components of Docker Swarm? (Choose any Two) a) Docker Node b) Docker Image c) Docker Services d) Docker Tag	**2**	**CO4**
Q20.	Which is not a component in Kubernetes architecture?	**2**	**CO4**

	a) Kube API server b) Etcd c) Kube control manager d) Kube Image		
Q21.	what are the components of elastic compute service? (Choose any Two) a) Fargate b) Elastic Compute Registry c) Elastic Image d) ECDS	**2**	**CO4**
Q22.	What is Openshift? (Choose any Two) a) it an orchestrator tool b) Enterprise tool adopted by RedHat c) It comes with docker engine d) It is available at Docker-hub	**2**	**CO1**
Q23.	What is need for Container monitoring tool? (Choose any two) a) Monitoring data to help applications run better. b) To control Docker-Swarm failure c) Implement changes by catchingproblems early and resolvingissues quickly. d) To monitor cloud service accessibility	**2**	**CO4**
Q24.	What are the parameters for monitoring an application? (Choose any Two) a) Failure Rate b) Code level performance c) MTTR d) Network based	**2**	**CO1**
Q25.	Which are not the components of Docker Architecture? (Choose any two) a) Docker CLI b) Docker Boot c) Docker Daemon d) Docker Net	**2**	**CO1**
Q26.	What are the various methods to deploy code in production? (Choose any Three) a) Recreate b) Canary c) Modular d) Shadow	**2**	**CO2**
Q27.	What are main issues in which Containers are the easy way out to overcome them. (Choose any Two) a) Difference in Testing Methods b) Difference in environments c) Budget constraints	**2**	**CO2**

	d) Difference in code Design		
Q28.	What are the stages in docker life cycle (Choose any Three) a) Building code and Dockerizing the application b) Deploying it to the testing environment c) Installing Host Operating System d) Going live	**2**	**CO3**
Q29.	What are the main advantages of Docker? (Choose any Three) a) Rapid deployment b) Single host OS usage c) Isolation d) Standardization and productivity	**2**	**CO2**
Q30.	What are the disadvantages of Docker Containerization? (Any Two) a) It is Open-Source, so limited support b) Ecosystem of a container c) Containers are not compatible with all types of application d) less powerful than VMs	**2**	**CO3**
Q31.	A Docker container only stays alive for as long as there is a running process. a) TRUE b) FALSE	**1.5**	**CO3**
Q32.	Applications inside the containers accept configuration parameters in the form of environment variables. These variables can tell the app to listen on a specific port but you can't use a specific password.* a) TRUE b) FALSE	**1.5**	**CO3**
Q33.	Docker Hub is the only Docker registry available for finding Docker images a) TRUE b) FALSE	**1.5**	**CO4**
Q34.	Explain the difference between using `docker run busybox` and `docker create busybox` a) The `run` command is an alias to the pull and create commands. `create` won't work if you haven't pulled the image of the container you're trying to run first. b) The `run` command creates the container if it doesn't exist already and then runs it. `create` is used to create a new container without running it right away. c) `create` is not a Docker command.	**1.5**	**CO4**
Q35.	On Docker Hub, you get ten private repositories for free with your Docker Hub user account. If you need more accounts, you can upgrade your Docker Hub plan.	**1.5**	**CO2**

	a) TRUE b) FALSE		
Q36.	One advantage of Docker is that when you download an image it's only one file which is why it's usually so fast to download new images. a) FALSE b) TRUE	**1.5**	**CO3**
Q37.	The following command will fail without first pulling the image: `docker run ubuntu echo "Hello, world!"` a) TRUE b) FALSE	**1.5**	**CO3**
Q38.	Which of the following command is used for stopping a running container? a) docker kill <container_id> b) docker stop <container_id> c) docker rm <container_id> d) docker start <container_id>	**1.5**	**CO4**
Q39.	Which of the following is used for monitoring the docker in a production environment? a) Docker stats b) Docker events c) both d) none	**1.5**	**CO3**
Q40.	Why is a Docker container lighter in terms of resources compared to virtual machine? a) Docker only needs to create one small virtual machine on which multiple containers can be built using much less resources than creating multiple VM's. This is possible because Docker containers are capable of sharing the same Kernel whereas VM's require the entire OS. b) Docker containers are light weight because they usually are intended run only one thing. This means they usually have far fewer process than a virtual machine which tends to have a heavier workload and thus are usually associated with the cost of higher resource usage. c) It's a trick question. Docker containers are not necessarily any lighter on system resources than a virtual machine. The benefit of Docker isn't that containers are lighter than VM's it's just that they can be created more easily, which is what makes them so portable.	**1.5**	**CO4**
Q41.	_____is a cloud-hosted service from Docker that provides registry capabilities for public and private content. a) Docker Swarm b) Docker Hub c) Docker Cloud	**1.5**	**CO4**

	d) Docker Compose		
Q42.	_____is a text document that is used to stop unnecessary files to be the part of an image. a) .dockerignore b) .ignore c) Dockerfile d) .fileignore	**1.5**	**CO3**
Q43.	_____is a tool for defining and running multi-container Docker applications. a) Docker Swarn b) Docker Hub c) Docker Cloud d) Docker Compose	**1.5**	**CO4**
Q44.	An abstraction in kubernetes which defines a logical set of pods and a policy to access them. a) Kubelet b) Service c) Node d) Container	**1.5**	**CO4**
Q45.	As soon a service starts, ... daemon running on each node add a set of environment variables on the pod for each active service. a) Kubectl b) Kubelet c) Kubeadm d) Service discovery	**1.5**	**CO4**
Q46.	The Git clone command does which of the following? a) Creates a working directory b) Makes a local copy of the repository c) Both d) None	**1.5**	**CO3**
Q47.	Kubernetes is written in a) C++ b) Go c) Python d) Java spring framework	1	**CO1**
Q48.	Replication Controllers and Deployment Controllers are part of a) API Controller Manager b) Etcd manager c) Master Controller Manager d) Kubeadm	**1**	**CO3**

Q49.	To create a new deployment in kubernetes, use the command a) Kubernetes set deployment b) Kubernetes get deployment c) Kubectl run d) Kubectl deploy	**1**	**CO3**
Q50.	_____ is responsible for health check of the pods running on individual nodes a) Kubectl b) Kube controller manager c) Kube scheduler d) Kubelet	**1**	**CO4**
Q51.	_____ runs on each node and ensures containers are running in a pod. a) Kubelet b) Etcd c) Scheduler d) Pod	**1**	**CO4**
Q52.	_____ service is automatically created for you k8s cluster creation and takes care of the internal routing of the cluster. a) NodePort b) ClusterIP c) Headless d) Load Balancer	**1**	**CO3**
Q53.	_____ manages the assigning nodes to pods depending on resource availability. a) Etcd b) Kubectl c) Scheduler d) Flanneld	**1**	**CO4**
Q54.	The major aspects because of which docker is still running are. (Choose any Two) a) Promoting microservice architecture b) New and emerging Technology c) Consistency in continuous integration d) Open Socurce	**2**	**CO1**
Q55.	The main reasons behind FreeSBD were? (Choose any Two) a) Security vulnerability present in chroot b) File and Process Isolation c) C-groups enabling how much resource you can use d) Root process can easily exit the chroot	**2**	**CO1**
Q56.	Imagine that you just joined a development team that uses Git for version control and collaboration. To start contributing to the project, what best suitable Git operation	**1**	**CO3**

	would you most likely invoke first? a) Clone b) Pull c) Downlaod d) Fetch		
Q57.	Agile and DevOps are similar but differ in a few important aspect. Which statement is correct? A) Agile is a change of thinking whereas DevOps is actual organisation cultural change B) Agile is actual organisational cultural change whereas DevOps is a change of thinking. C) Agile is process driven whereas DevOps is role driven. D) Agile is role driven whereas DevOps is process driven. a) A b) B c) C d) D	**1**	**CO1**
Q58.	DevOps means… A) Developers taking over all Operations tasks. B) Automating the process of software delivery and infrastructure changes. C) The collaboration and communication of both software developers and other information-technology (IT) professional while automating the process of software delivery and infrastructure changes. D) The collaboration and communication of just software developers and operations staff while automating the process software delivery and infrastructure changes. a) A b) B c) C d) D	**1**	**CO1**
Q59.	If you want to make radical changes to your team's project and don't want to impact the rest of the team, you should implement your changes in … a) A Tag b) A branch c) A Head d) The Trunk	**1**	**CO1**
Q60.	Is this statement correct? "DevOps is more than just a tool or a process change, it inherently requires an organisational culture shift" A) Yes, there needs to be cultural shift within the organisation across all stakeholders to ensure a successful adoption of a DevOps approach.	**1**	**CO1**

	B) Yes, but the most up to date tools and LEAN processes need to be in place to drive an organisational culture shift. C) No, DevOps is all about the tools. D) No, cultural shift will occur when staff are using the most up to date tools and LEAN processes. a) A b) B c) C d) D		