UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2021

Course: Container Orchestration & Infrastructure Automation   **Semester: V**
Program: B.Tech CSE Spz. CCVT   **Time 03 hrs.**
Course Code: CSVT 3009   **Max. Marks: 100**

SECTION A

S. No.		Marks	CO
Q 1	Define Docker.	4	CO1
Q 2	State the difference between Virtualization and Containerization.	4	CO1
Q 3	State the advantages of using Docker.	4	CO1
Q 4	Discuss in detail the features of Docker Swarm.	4	CO2
Q 5	With reference to Docker, explain the contents of a Dockerfile.	4	CO1

SECTION B

Q 6	Describe in detail all the characteristics of Kubernetes.	10	CO2
Q 7	With reference to Docker and Kubernetes; define Docker Compose and Minikube respectively.	10	CO2
Q 8	Illustrate the Docker Architecture along with a suitable diagram.	10	CO2
Q 9	Discuss in detail Kubernetes Architectural Components. **OR** State the difference between Kubernetes and Docker Swarm.	10	CO3

SECTION-C

Q 10	Describe the following with reference to CI/CD and DevOps:
	  (a) Continuous Integration
	  (b) Continuous Delivery
	  (c) Continuous Monitoring
	  (d) Continuous Development
		[5+5+5+5]	CO3

Q 11	Illustrate various concepts relating to Kubernetes by answering the following:
	  (a) Describe Google Kubernetes Engine along with its features.
	  (b) Discuss in detail Kubernetes as a Service (KaaS).
	
	OR
	
	Discuss in detail the combination of Docker, CI/CD & DevOps along with its benefits.
		[10+10]
		
		[10+10]
			CO4