Total No. of Printed Pages: 2

PRN No.		PAPER CODE	U313-213 E&E

December 2023 (ENDSEM) EXAM

TY. B.TECH (SEMESTER - I)

COURSE NAME: CLOUD COMPUTING & ANALYTICS **Branch: AI&DS**

COURSE CODE: ADUA31203

(PATTERN 2020)

Time: [1Hr. 30 Min] **[Max. Marks: 40]**

(*) Instructions to candidates:

1) **Figures to the right indicate full marks.**
2) **Use of scientific calculator is allowed**
3) **Use suitable data wherever required**
4) **All questions are compulsory. Solve any one sub question from Question 3 and any two sub questions each from Questions 4,5 and 6 respectively.**

Q. No.	Question Description	Max. Marks	CO mapped	BT Level
Q.1	a) Compare and contrast Object Storage and File Storage	[2]	CO1	Understanding
Q2	a) Define Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS)	[2]	CO2	Remember
Q3.	a) Evaluate the significance of using modules in Terraform configurations. How do modules enhance reusability, maintainability, and collaboration in infrastructure code?	[6]		Evaluate
	b) Analyze the considerations for choosing between local-exec and remote-exec provisioners in Terraform. Under what circumstances would you opt for one over the other, and what are the potential implications?	[6]	CO3	Analyze
Q.4	a) Propose a use case where Ansible can be employed to automate the provisioning of infrastructure. Design a basic Ansible playbook and inventory file to demonstrate the automation process.	[5]		Apply
	b) Compare and contrast Ansible's architecture with other automation tools. Highlight the unique features that make Ansible a preferred choice for configuration management.	[5]	CO4	Analyze
	c) Analyze the considerations for selecting Ansible as the automation tool for a large-scale IT environment.	[5]		Analyze

	Evaluate factors such as scalability, ease of use, and community support.			
Q.5	a) Analyze the advantages and disadvantages of using Docker containers compared to traditional virtualization. Consider factors such as performance, scalability, and resource efficiency.	[5]		Analyze
	b) Design a Docker file for a simple web application. Include instructions for pulling a base image, setting up the environment and exposing ports.	[5]	CO5	Apply
	c) Analyze the security features provided by Kubernetes for cluster and application security. Identify potential vulnerabilities and propose strategies to enhance Kubernetes security.	[5]		Analyze
Q.6)	a) Define Continuous Integration (CI) and Continuous Delivery (CD). Differentiate between these two concepts and explain their significance in the software development lifecycle.	[5]		Understanding
	b) Compare and contrast Git commands like git clone and git pull. Analyze how these commands are used to manage remote repositories and update the local codebase.	[5]	CO6	Analyze
	c) Explain how Jenkins facilitates continuous integration. How does it automate the process of building, testing, and deploying code changes?	[5]		Understanding