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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

Programme: B.E. **Semester: V**
Branch: Information Science and Engineering **Duration: 3 hrs.**
Course Code: 22IS5PCCLC **Max Marks: 100**
Course: Cloud Computing

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	Illustrate the various types of service models with a neat diagram.	*CO2*	*PO1*	**10**
	b)	Identify the challenges and risks in Cloud Computing.	*CO2*	*PO1*	**10**
		OR			
2	a)	Illustrate the Seven-Step Model of Migration into a Cloud.	*CO2*	*PO1*	**10**
	b)	Explain the basic and advanced features that are usually available in Virtual Infrastructure Managers [VIM].	*CO1*		**10**
		UNIT - II			
3	a)	Illustrate the logical steps that are executed when migrating an OS in which the migration process has been viewed as a transactional interaction between the two hosts.	*CO2*	*PO1*	**07**
	b)	Illustrate the Virtual Machine [VM] life cycle with a neat diagram.	*CO2*	*PO1*	**06**
	c)	Construct Representational State Transfer [REST] architecture and explain its four principles along with its architectural elements.	*CO2*	*PO1*	**07**
		OR			
4	a)	Explain Web Services-I [WS-I] protocol stack and its related specifications.	*CO2*	*PO1*	**10**
	b)	Construct Open Grid Services Architecture [OGSA] and explain its services.	*CO2*	*PO1*	**10**
		UNIT - III			
5	a)	With a neat diagram, analyze the monolithic application with all the functions needed to support online shopping built into a single program.	*CO3*	*PO2*	**07**
	b)	Illustrate the Microservices approach with a shopping application.	*CO3*	*PO2*	**07**
	c)	Identify the disadvantages of Microservices.	*CO3*	*PO2*	**06**
		OR			

	6	a)	Identify the communication protocols used in the microservices along with all operations required to add data item in the request message sent in the form of Uniform Resource Identifier (URI).	*CO3*	*PO2*	**8**
		b)	Differentiate between the Virtual Machine and a Container with suitable examples.	*CO2*	*PO1*	**6**
		c)	Illustrate the role of Proxy in Microservices along with its merits.	*CO2*	*PO1*	**6**
			UNIT - IV			
	7	a)	Identify the four aspects of traditional security.	*CO2*	*PO1*	**08**
		b)	Illustrate the several factors which increase the complexity of managing cloud computation, communication, and data storage.	*CO2*	*PO1*	**06**
		c)	How Security is enhanced using zero trust security model and privileged access management in cloud?	*CO1*		**06**
			OR			
	8	a)	Differentiate between Single Sign On and Zero trust security with an example.	*CO3*	*PO2*	**06**
		b)	Consider perimeter less security. Without a perimeter, how can a customer know which individuals should be allowed to access and manage services? Give example for the same	*CO3*	*PO2*	**06**
		c)	An employee joins a company. The company offers WFH option by giving him a laptop. How an organization ensures employee to login to their secured network. Provide appropriate solutions for login to company's network.	*CO2*	*PO1*	**08**
			UNIT - V			
	9	a)	Illustrate the characteristics found in Industrial Internet of things [IIoT] applications such as automated assembly line that distinguish them from most consumer Internet of things [IoT] applications.	*CO3*	*PO2*	**06**
		b)	With a neat diagram, illustrate a data bus that uses gateways to span multiple levels of a hierarchy.	*CO3*	*PO2*	**08**
		c)	Identify the three aspects of the connected vehicle system that lend themselves to the edge computing approach.	*CO3*	*PO2*	**06**
			OR			
	10	a)	How edge computing overcomes the limitations of cloud computing with an appropriate diagram?	*CO3*	*PO2*	**06**
		b)	Explain the advantages moving towards edge from cloud with suitable example.	*CO1*		**06**
		c)	Justify how the data cached at each level in the hierarchy with help of diagram in edge and fog data centers.	*CO3*		**08**

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