Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

VII SEMESTER B.TECH END SEMESTER EXAMINATIONS, NOV 2022

Cloud Computing [ICT 4045]

Marks: 50   **Duration: 180 mins.**

Answer all the questions.

Instructions to Candidates: Answer ALL questions Missing data may be suitably assumed

1)	A)	Rama uses Box for file sharing services. Ram uses Google App engine and Ramya uses Amazon Web services EC2 machine. Identify the benefits they get from each of the delivery model they use.	(5)
	B)	Suma wants use a proper workload distributor for her web application consisting of three Web servers. Suggest a service for the same and also explain the functionality of that software.	(3)
	C)	Compare and contrast cloud with on premise.	(2)
2)	A)	Ranjani wants to build a Virtual Local Area Network(VLAN) for her servers. Identify the reasons for her selecting VLAN . Include necessary figures in your answer.	(5)
	B)	Compute the max-min fair allocation for a set of four sources with demands 4, 2, 10, 4 and weights 2.5, 4, 0.5, 1 when the resource has a capacity of 16.	(3)
	C)	Identify the need for VLAN tagging .	(2)
3)	A)	Use the start-time fair queuing (SFQ) scheduling algorithm to compute the virtual startup and the virtual finish time for two threads a and b with weights $w_a = 1$ and $w_b = 5$ when the time quantum is $q = 15$ and thread b blocks at time $t = 24$ and wakes up at time $t = 60$. Plot the virtual time of the scheduler function of the real time.	(5)
	B)	The data is transferring in a cloud between two hosts at 10 am with an average rate of 10 Kbps bandwidth. After one minute bandwidth is increased more than an average rate to 20 Kbps. Further at 10:12 am for three minutes bandwidth at peak say 60 Kbps. What is the burst size at 10:14 am? So how long the burst can stay if the data rate is 3.0 Kbps?	(3)
	C)	Suggest a suitable workflow for the customer whose requirement is to deliver the ordered items to its client location. State the creation, designing, pre-conditions, post conditions, enactment stage of the workflow.	(2)
4)	A)	Write a complete WSDL for the webservice which encrypts the given string input and decrypts the given cipher text. Write all the required WSDL object. Service should be available at URL www.crypto.com.	(5)
	B)	Differentiate different techniques of compute virtualization with suitable diagram and example.	(3)
	C)	Differentiate between the following	(2)

a. Image based and File based backup

b. Compute based and Storage based backup

5)   List any two security threats possible at VM level. State the reason for the cause of security threats. (5)
Suggest security measures to safeguard against these threats.

A)

B)   Describe the issues of co-locating multiple VM's in a single server with respect to cloud service (3)
provider and cloud service consumer. Suggest solutions to mitigate the same.

C)   During Image based backup, out of the total allocated 100 GB storage, VM is having only 88 GB of (2)
actual data. But during the image based backup without any optimization VM file size is upto 98
GB. Suggest a suitable optimization method. Justify how the optimization method reduces the file
size with suitable diagram.

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