

Question Paper

Exam Date & Time: 12-Jan-2024 (02:30 PM - 05:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

SEVENTH SEMESTER B.TECH (IT/CCE) MAKEUP EXAMINATIONS, JANUARY 2024

Cloud Computing [ICT 4045]

Marks: 50

Duration: 180 mins.

A

Answer all the questions.

Instructions to Candidates: Answer ALL questions Missing data may be suitably assumed, wherever necessary include diagram.

- 1) Vihaan is working for a company as a consultant and he is being consulted for suitable virtualization technique and its explanation for a logging software with following requirements. (5)
 - A) i). Virtual Machine hosted should be isolated.
ii). Security is of much concern.
Explain his solution for the problem.
 - B) Identify three important challenges of cloud computing and discuss how it can be addressed? (3)
 - C) Compare any two hypervisor types. (2)
- 2) 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 $w_b = 4$ when the time quantum is $q = 12$ 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)
 - A)
 - B) Explain any three key security concerns and its mitigation techniques for cloud infrastructure. (3)
 - C) What is multifactor authentication? Give an example. (2)
- 3) Distinguish between five deployment models for cloud. (5)
 - A)
 - B) Explain Microservice Architecture with an application example (3)
 - C) Discuss any one open source simulator available for Cloud Computing. (2)
- 4) Explain a suitable memory reclamation technique for over-commitment when there are multiple similar memory pages. (5)
 - A)
 - B) Mention different single point of failures in a Virtual data center (3)
 - C) For what purpose clustering is used in Cloud Computing? (2)

- 5) What components help to migrate from physical machine to virtual machine. With the help of a neat diagram, explain the working of online conversion process. (5)
- A)
- B) A company wants to use suitable desktop virtualization for supporting more number of users. (3)
Suggest a suitable desktop virtualization technique for them and explain.
- C) Name a virtual machine and storage service available in Amazon web services and explain them (2)

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