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MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

VII SEMESTER B.TECH. (INFORMATION TECHNOLOGY)

MAKEUP EXAMINATIONS, JANUARY 2017

SUBJECT: PROGRAM ELECTIVE IV-CLOUD COMPUTING [ICT 441]

REVISED CREDIT SYSTEM

(02/01/2017)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ANY FIVE FULL** questions.
- ❖ Missing data may be suitably assumed.

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| 1A. | Explain five characteristics of cloud computing with suitable example for each. | 5 |
| 1B. | How Community Cloud can be useful in Electronic Healthcare Management System? Explain with suitable architecture diagram. | 3 |
| 1C. | Justify the statement, “Total Cloud: Anything as a Service.” | 2 |
| | | |
| 2A. | How can one transform Classic Data Center to Virtualized Data Center? Explain stepwise process with suitable diagram. | 5 |
| 2B. | Draw a flow diagram for VM to revert the same state using following scenario. Snapshot 1 of the VM is created at time point 13.00 and late at time-point 21.00. At time 14.00 the VM crashed and VM reverted back to snapshot 1. | 3 |
| 2C. | Why is Identity-as-a-Service important in Cloud Computing? | 2 |
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| 3A. | Explain Thin Provisioning with its benefits. Demonstrate the thin provisioning technique with the help of neat diagram by taking an example of total usable capacity of the storage system is 100TB. Three thin LUN of 20TB, 25TB and 50TB are created with 5 TB extension of thin LUN. | 5 |
| 3B. | Draw Network Connectivity and Traffic Flow Diagram for given network components in the context of Virtual Network: Physical Server 1, Three Virtual Machines with NIC, Hypervisor Kernel, Virtual Switch, Physical Servers with some clients in other network, NAS/FC/iSCSI Storage Array, Physical Switch, Converged Network Adapter. | 3 |
| 3C. | Write a scenario where Memory Ballooning technique can be useful. | 2 |
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| 4A. | An organization wants to implement security at compute level in Virtual Data Centre. Suggest some mechanisms which will consider all components of compute virtualization. | 5 |
| 4B. | How can Velocity of Attack and Multitenancy security issues be handled in Cloud Scenario? | 3 |

4C.	Why is User State Virtualization important in Desktop Virtualization?	2
5A.	How can memory resources optimization be achieved in compute virtualization?	5
5B.	Explain the need of Virtual Machine Migration. Describe Virtual Machine Migration Scenario in Hot-On Server-to-Server Migration.	3
5C.	How is backup optimization possible in Virtual Data Center for business continuity?	2
6A.	Explain the series of processes to create cloud services in Unified Management Software.	5
6B.	Aakash is doing masters course in well-established engineering college. His area of interest is Dot Net and Java to develop web application but recently he started his final year project in CUDA programming where he has to go for parallel programming concepts. Since Aakash wants to demonstrate his work on more than one compute node with the parallelism, he started thinking about infrastructure which will support his basic requirements. He has two options either take permission to utilize the infrastructure of college or think about public cloud. List out risk factors and convenience factors for both options with proper justification and suggest suitable option.	3
6C.	Write all RESTful API HTTP methods for collection of URI.	2