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**ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)**

ORGANISATION OF ISLAMIC COOPERATION (OIC)

**Department of Computer Science and Engineering (CSE)**

**MID SEMESTER EXAMINATION**

**SUMMER SEMESTER, 2021-2022**

**DURATION: 1 HOUR 30 MINUTES**

**FULL MARKS: 75**

**CSE 6273: Cloud Computing**

**Programmable calculators are not allowed. Do not write anything on the question paper.**

Answer **all 3 (three)** questions. Figures in the right margin indicate full marks of questions.

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1. a) What is meant by the term "multi-tenancy" in regards to cloud computing? Differentiate between the scalability and rapid elasticity of cloud service. 7
  - b) What is the rate adoption of Software as a Service (SaaS) among small and medium-sized organizations and government? How much control do you have over manageability if you adopt a SaaS service? 8
  - c) Describe the cloud deployment model. Which approach would you prefer to adopt as the IT manager of a healthcare facility? Justify your answer using relevant reasoning. 5 + 5
  
  2. a) What is the key enabling technology of Cloud computing? Describe the following virtualization techniques in term of their advantages and disadvantages. 3 × 3
    - i. Para Virtualization
    - ii. Full Visualization
    - iii. Hardware Virtualization
  - b) Why is cloud application deployment design process iterative? Discuss the steps required in cloud application deployment process. 6
  - c) What is Network Function Virtualization (NFV)? What is the relationship between NFV and Software-Defined Networking (SDN)? Illustrate the NFV architecture with its key components. 10
  
  3. a) Write short notes on the following terms: 3 × 3
    - i. EC2
    - ii. Blob Storage Service
    - iii. Google App Engine
  - b) What benefits does Container as a Service (CaaS) have over Virtual Machines (VM)? 6
  - c) Assume you are the IT manager of a medium-sized company. You want to migrate your online order system to the cloud exclusively for 'Black Friday' festivities for 2 weeks. As we all know, cloud service providers give their customers with a variety of billing options. Which billing models do you recommend for your company and why? 10