Code: DC119   **Subject: CLOUD COMPUTING**

DipIETE – CS (New Scheme)

Time: 3 Hours   **June 2018**   Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.
NOTE: There are 9 Questions in all.
- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1 Choose the correct or the best alternative in the following: **(2×10)**

    a. Which is *not* one of the three main categories of cloud computing services?
      (A) Infrastructure-as-a-Service (IaaS)
      (B) Platform-as-a-Service (PaaS)
      (C) Communication-as-a-Service (CaaS)
      (D) Software-as-a-Service (SaaS)

    b. Which cloud deployment model is managed by a cloud provider, has an infrastructure that is off site, and is accessible to the general public?
      (A) Community cloud   **(B)** Hybrid cloud
      (C) Public cloud   **(D)** Private cloud

    c. Interoperability is enabled by _____.
      (A) a cloud operating system   **(B)** middleware
      (C) a community cloud   **(D)** a composite cloud

    d. Which cloud characteristic refers to the ability of a subscriber to increase or decrease its computing requirements as needed without having to contact a human representative of the cloud provider?
      (A) Rapid elasticity   **(B)** On-demand self service
      (C) Broad network access   **(D)** Resource pooling

    e. _____ is the feature of cloud computing that allows the service to change in size or volume in order to meet a user's needs.
      (A) Scalability   **(B)** Virtualization
      (C) Security   **(D)** Cost-savings

    f. _____ describes a cloud service that can only be accessed by a limited amount of people.
      (A) Data centre   **(B)** Private cloud
      (C) Virtualization   **(D)** Public cloud

    g. What is an advantage of a multitenancy cloud environment over a single tenancy environment?
      (A) cost savings   **(B)** easy to customize
      (C) faster performance   **(D)** higher data security

    h. _____ , the virtual machine simulates the hardware and hence become independent of the it. In this, the guest operating system does not require modification
      (A) Emulation Virtualization   **(B)** Simulation Virtualization
      (C) Para Virtualization   **(D)** Full Virtualization

i. Which statement is true about cloud computing and cluster computing?
(**A**) A cluster computing environment can be deployed in a cloud computing environment.
(**B**) A cloud computing environment can be deployed in a cluster computing environment.
(**C**) A cluster computing environment cannot be deployed without a cloud computing environment.
(**D**) A cloud computing environment cannot be deployed without a cluster computing environment.

j. What is grid computing?
(**A**) It is distributed computing where autonomous computers perform independent tasks.
(**B**) It is interconnected computing where a computing platform is delivered to consumers.
(**C**) It is parallel and distributed computing where computer infrastructure is offered as a service.
(**D**) It is parallel computing where autonomous computers act together to perform very large tasks.

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. What is Cloud Computing? Explain Characteristics of Cloud Computing. **(8)**
b. What are Cloud Services? What are main features of cloud services? **(4)**
c. Discuss in brief History of Cloud Computing? **(4)**

Q.3 a. Enlist and explain the different types of Cloud Service Model? Explain advantage and disadvantage of each. **(12)**
b. Discuss the business case for going to the cloud for the company Thomson Reuters. **(4)**

Q.4 a. Discuss the role played by Hardware and Infrastructure in getting maximum benefits from Cloud Computing. **(12)**
b. Why API's is used in cloud services? **(4)**

Q.5 a. What is Virtualization in Cloud Computing? What are the different types of Virtualization? **(8)**
b. What are cloud infrastructure components? **(8)**

Q.6 a. What is the architecture of Software as a Service? Discuss the various advantages of implementation of SaaS. **(10)**
b. What are SOA and Grid Computing? **(6)**

Q.7 a. How the Cloud Computing Data Storage done? What are the challenges? **(8)**
b. Explain the architecture of Mobile Cloud Computing (MCC). **(8)**

Q.8 a. What are various security related issues in Cloud Computing? **(8)**
b. What is the role played by clouds models, people, API's and thin client to support Migration? **(8)**

Q.9 a. What are various Cloud Computing Applications in different fields? **(8)**
b. What are various Companies offering Cloud Computing? **(8)**