Code No: **RT42043E**   **R13**   Set No. 1

IV B.Tech II Semester Regular Examinations, April/May - 2017
CLOUD COMPUTING
(Common to Electronics & Communication Engineering and Computer Science & Engineering)

Time: 3 hours   **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) What is message passing interface?   [3]
    b) Discuss binary translation in Virtualization?   [4]
    c) Define cloud computing? List out characteristics of cloud computing?   [3]
    d) List out system issues for running typical parallel program in cloud data
        centers?   [4]
    e) Explain the Policies and Mechanisms for resource management in cloud data
        centers?   [4]
    f) Define ACID properties of transaction management?   [4]

PART–B *(3x16 = 48 Marks)*

2. a) Discuss HPC and HTC.   [6]
    b) Discuss performance Metrics and Scalability Analysis for virtual Machines.   [10]

3. a) Explain Implementation levels of virtualizations.   [8]
    b) Give VMM design requirements and explain.   [8]

4. a) State and explain service models of cloud computing with architectures?   [10]
    b) Define cloud computing? Explain different types of clouds available.   [6]

5. a) Differentiate between piglatin, sawzall & DrayadLINQ.   [8]
    b) Explain SQL Azure & Azure tables?   [8]

6. a) Discuss about fair queue scheduling algorithm?   [8]
    b) What is the role of power managers in cloud resource scheduling and
        management? Explain briefly.   [8]

7. a) List and explain various storage models of file systems and data base?   [8]
    b) What is Amazon S3? Explain in detail.   [8]

Code No: **RT42043E**   **R13**   Set No. 2

IV B.Tech II Semester Regular Examinations, April/May - 2017
CLOUD COMPUTING
(Common to Electronics & Communication Engineering and Computer Science & Engineering)

Time: 3 hours   **Max. Marks: 70**

Question paper consists of Part-A and Part-B
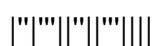*Answer ALL sub questions from Part-A*
Answer any THREE questions from Part-B
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PART–A *(22 Marks)*

1. a) What is Hypervisor? List out some examples?   [4]
    b) What are the steps involved in live VM migration?   [4]
    c) Illustrate cloud design objectives?   [4]
    d) What is HDFS? Name two layers in HDFS?   [3]
    e) What is the role of mapper and reducer in Hadoop platform?   [3]
    f) Discuss the use of NoSQL Database?   [4]

PART–B *(3x16 = 48 Marks)*

2. a) Explain GPU Computing, Exascale & beyond.   [8]
    b) Discuss briefly Massive Parallel Processors.   [8]

3. a) What is VMM? Explain XEN Architecture?   [8]
    b) Define full Virtualization? Draw a neat sketch of Para Virtualization Architecture and explain.   [8]

4. a) List out architecture design challenges of compute & storage Clouds? Discuss them in brief.   [8]
    b) Draw a neat sketch of Google cloud platform and explain?   [8]

5. a) Explain Google file systems.   [8]
    b) Explain Amazon Elastic Block Structure (EBS) & Simple DB?   [8]

6. a) Discuss the various deadlines with respect to cloud scheduling?   [8]
    b) What is resource bundling? Explain combinational auctions?   [8]

7. a) Explain mega store architecture with example?   [10]
    b) What is Bigtable? How it is related to GFS?   [6]

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Code No: **RT42043E**　　　**R13**　　　Set No. 3

IV B.Tech II Semester Regular Examinations, April/May - 2017
CLOUD COMPUTING
(Common to Electronics & Communication Engineering and Computer Science & Engineering)

Time: 3 hours　　　　　　　　　　　　　　　　　　　**Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
*Answer any THREE questions from Part-B*
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PART–A *(22 Marks)*

1. a) Explain SOA with its applications? [4]
   b) Compare physical versus virtual clusters? [4]
   c) What is IaaS? Mention any two IaaS service providers? [4]
   d) Discuss Bigtable? [3]
   e) Define control theory? Discuss the use of control theory in cloud resource management. [3]
   f) List out the functionalities of AmazonS3? [4]

PART–B *(3x16 = 48 Marks)*

2. a) Illustrate the degrees of parallelisms. [8]
   b) Explain the design goals of HPC & HTC. [8]

3. a) What is Memory virtualization? Explain two level memory mapping procedure? [8]
   b) Explain implementation levels of virtualization briefly? [8]

4. a) Draw and explain Amazon cloud computing infrastructure? [8]
   b) List five public cloud offerings of PaaS? [8]

5. a) Explain Google Map Reduce frame work architecture with example? [10]
   b) What is DryadLINQ? Explain briefly? [6]

6. a) Discuss briefly borrowed virtual time (BVT)? [8]
   b) What is utility computing? Explain utility model for cloud web services? [8]

7. a) Explain in detail general parallel file system? [10]
   b) How megastore is associated with Bigtable? Explain. [6]

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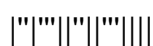
Code No: **RT42043E**　　**R13**　　Set No. 4

IV B.Tech II Semester Regular Examinations, April/May - 2017
CLOUD COMPUTING
(Common to Electronics & Communication Engineering and Computer Science & Engineering)

Time: 3 hours　　　　　　　　　　　　　　　　　　　　　　Max. Marks: 70

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) Define parallel computing. [4]
   b) What is KVM? Explain? [3]
   c) How does cloud computing provides on demand functionality? [4]
   d) List out the features of Amazon S3? [3]
   e) Draw two level architecture of resource allocation in cloud? [4]
   f) What is Chubby? How it is useful to cloud? [4]

PART–B *(3x16 = 48 Marks)*

2. a) Explain different computing paradigms. [8]
   b) Discuss in detail different system models for distributed and cloud computing? [8]

3. a) What is the need of live VM Migration steps and performance effects? [8]
   b) (i) Does VMM acts as an interface in virtualization? Justify
      (ii) What is the rate of domain 'O' is XEN architecture? [8]

4. a) Draw and explain Microsoft Windows Azure? [8]
   b) List five public cloud offerings of IaaS? [8]

5. a) What is HDFS? Explain job management in HDFS with Architecture? [10]
   b) How the piglatin is helpful to Hadoop Architecture? Explain. [6]

6. a) With a neat sketch explain Stability of a two-level resource allocation architecture. [8]
   b) With an example explain start time fair queuing algorithm? [8]

7. a) Explain the architecture of GFS clustering? [10]
   b) Write a short note on AmazonS3? [6]
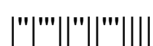
IV B.Tech II Semester Supplementary Examinations, July/August - 2017
CLOUD COMPUTING
(Common to Electronics & Communication Engineering and Computer Science & Engineering)

Time: 3 hours   Max. Marks: 70

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B

PART–A *(22 Marks)*

1. a) Explain about the Energy efficiency in Distributed computing.   [4]
    b) How virtualization can be implemented in the multi-core processors.   [3]
    c) Write a short note on Google App Engine   [4]
    d) What are the traditional features common to grids and clouds.   [4]
    e) What is Start- Time Fair query? Explain.   [3]
    f) Explain briefly about the general Parallel File System.   [4]

PART–B *(3x16 = 48 Marks)*

2. a) What are the advantages of Cloud Computing over the Internet? Explain?   [8]
    b) Give the architecture of P2P systems. What are the major categories of P2P Network families?   [8]

3. a) Explain the differences between full-virtualization and para-virtualization and give one example VMM (virtual machine monitor), that was built in each of the two categories.   [8]
    b) Write and explain about intel hardware support for virtualization of processor, memory and I/O Devices?   [8]

4. a) Explain about Resource provisioning and Platform deployment?   [8]
    b) What is SOA? Discuss with architecture how two software communicate using SOA.   [8]

5. a) Write and explain about programming on Amazon AWS and Microsoft Azure?   [8]
    b) What are emerging cloud software environments? Explain with examples?   [8]

6. a) Write about the scheduling algorithms for computing clouds.   [8]
    b) Explain the cloud scheduling subject to deadlines?   [8]

7. a) Discuss the megastore model with an example?   [8]
    b) "blinding performance depends on removing overhead." Comment on this argument regarding the *NoSQL* concept   [8]