CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐   18CS643

Sixth Semester B.E. Degree Examination, July/August 2022
Cloud Computing and Its Applications

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1   a.   With neat diagram, explain cloud computing reference model.   (08 Marks)
    b.   List the characteristics and benefits of cloud computing.   (06 Marks)
    c.   Write a note on challenges in cloud computing.   (06 Marks)

OR

2   a.   Explain in brief the services provided by following cloud service provider
         i) Amazon Web Service   ii) Microsoft Azure   iii) Hadoop.   (10 Marks)
    b.   Define virtualization and explain hardware level virtualization with its pro's and con's of
         virtualization.   (10 Marks)

Module-2

3   a.   Explain the following is detail
         i) Hardware as service   ii) Platform as service   iii) Software as service.   (10 Marks)
    b.   Explain the open challenges faced in cloud computing in detail.   (10 Marks)

OR

4   a.   Explain the following deployment mode platform for building Aneka cloud
         i) Private cloud   ii) Public cloud   iii) Hybrid cloud.   (10 Marks)
    b.   Explain Aneka SDK in detail.   (10 Marks)

Module-3

5   a.   What is thread? Explain the thread API's techniques for parallel computation.   (08 Marks)
    b.   Differentiate Aneka thread with local thread with diagram.   (06 Marks)
    c.   Explain the programming applications with Aneka thread.   (06 Marks)

OR

6   a.   Explain the features of workflow applications with task depenolencies.   (10 Marks)
    b.   List and explain popular framework for task computing.   (10 Marks)

Module-4

7   a.   What is Data Intensive Computing? List all the challenges in data intensive computing and
         explain each in detail.   (10 Marks)
    b.   Explain Amazon Dynamo architecture that support data intensive applications.   (10 Marks)

OR

8   a.   Explain the following : i) IBM General Parallel File System   ii) Goolge File System
         iii) Amazon Simple Storage Service.   (10 Marks)
    b.   Design and Implement an application for log parsing, Mapper and Reducer with Aneka map
         Reduce.   (10 Marks)

Module-5

9   a.   Describe the core components of Google App Engine.   (10 Marks)
    b.   Explain the Windows Azure platform architecture.   (10 Marks)

OR

10 a.   Discuss in detail the following media applications of cloud computing technologies.
         i) Animoto ii) Maya Rendering with Aneka   iii) Video encoding on cloud.   (12 Marks)
    b.   Explain in detail about the application of cloud computing in satellite Image processing.
                                                                                          (08 Marks)

* * * * *

CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐   18CS643

Sixth Semester B.E. Degree Examination, Jan./Feb. 2023
Cloud Computing and Its Applications

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1 a. What is cloud computing? Explain the cloud computing reference model with neat diagram.
                                                                    (05 Marks)
   b. Explain advantages and disadvantages of virtualization.   (07 Marks)
   c. List any four different computing platform and technologies.   (08 Marks)

OR

2 a. Discuss the taxanomy of virtualization. Explain Hardware virtualization techniques.
                                                                    (08 Marks)
   b. What are the characteristics of virtualized environment?   (06 Marks)
   c. Explain two types of Hypervisor?   (06 Marks)

Module-2

3 a. With a help of a diagram, explain IaaS Reference model.   (08 Marks)
   b. What are the candidate sectors and factors and benefits of community cloud? (08 Marks)
   c. What are the main characteristics of Aneka?   (04 Marks)

OR

4 a. Examine types of services hosted in Aneka container and its use? (08 Marks)
   b. Discuss the logical organization of Aneka cloud.   (06 Marks)
   c. What are the open challenges of cloud computing?   (06 Marks)

Module-3

5 a. Define Task Computing? List and explain computing categories related to task computing.
                                                                    (08 Marks)
   b. With the help of diagram, explain Domain Decomposition and functional decomposition
      techniques for parallel computation with threads.   (08 Marks)
   c. With an example, explain parameters sweep application.   (04 Marks)

OR

6 a. With a neat diagram, explain MPI program structure.   (06 Marks)
   b. List the difference between Aneka thread V/s common thread.   (06 Marks)
   c. Explain offspring workflow manager architecture with a neat diagram. (08 Marks)

18CS643

Module-4

7   a.   What is data Intensive computing? List the challenges.   (06 Marks)
    b.   Explain the variation and extension of Map Reduce?   (08 Marks)
    c.   What is google Bigdata?   (06 Marks)

OR

8   a.   Explain the types of High performance distributed file storage and cloud storage.   (10 Marks)
    b.   List out the real examples of MapReduce model.   (05 Marks)
    c.   List Five parameter that can be controlled in Aneka Map reduce programming.   (05 Marks)

Module-5

9   a.   Describe Amazon EC2 and its basic features.   (06 Marks)
    b.   What are the core components of Azure?   (06 Marks)
    c.   Describe an application on cloud computing technologies in biology and geosciences.   (08 Marks)

OR

10 a.   Explain Amazon S3 key concepts.   (05 Marks)
    b.   Discuss Run time and storage support of Google appengine.   (10 Marks)
    c.   What are web desktops? What is their relation with cloud computing?   (05 Marks)

* * * * *

CBCS SCHEME

USN ☐☐☐☐☐☐☐☐☐☐　　　　　　　　　　　　　　　　18CS643

Sixth Semester B.E. Degree Examination, Dec.2023/Jan.2024
Cloud Computing and Its Applications

Time: 3 hrs.　　　　　　　　　　　　　　　　　　　　Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1. a. What is cloud computing? Explain could computing reference model. (10 Marks)
   b. Explain in brief the services provided by the following cloud service providers.
      i) Amazon web services　ii) Manjrasoft Aneka. (10 Marks)

OR

2. a. Explain XEN in detail. (10 Marks)
   b. What is virtualization? Explain full virtualization. (10 Marks)

Module-2

3. a. Explain in detail public cloud deployment of Aneka cloud. (10 Marks)
   b. Explain in detail cloud computing architecture. (10 Marks)

OR

4. a. Explain infrastructure and hardware as a service. (10 Marks)
   b. Explain Aneka frame work overview in detail. (10 Marks)

Module-3

5. a. What is thread? Explain techniques for parallel computation with threads. (10 Marks)
   b. Differentiate Aneka thread from local thread with diagram. (10 Marks)

OR

6. a. What is task computing? Explain with a diagram Task computing scenario. (10 Marks)
   b. Explain the following task based application model.
      i) Parameter sweep application　ii) MPI application. (10 Marks)

Module-4

7. a. List open challenges in data intensive computing. Explain Amazon simple storage service (S₃). (10 Marks)
   b. Explain MapReduce Execution service architecture. (10 Marks)

OR

8. a. Explain Google Map Reduce infrastructure in detail. (10 Marks)
   b. Explain Bigtable architecture. (10 Marks)

Module-5

9. a. Explain about the storage services of cloud platforms. (10 Marks)
   b. Explain Google AppEngine platform architecture in detail. (10 Marks)

OR

10. a. Explain ECG analysis in the cloud. (10 Marks)
    b. Discuss applications of cloud computing in satellite image processing. (10 Marks)

* * * * *

CBCS SCHEME

USN | | | | | | | | | | 18CS643

Sixth Semester B.E. Degree Examination, June/July 2023
Cloud Computing and Its Applications

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1   a. Define cloud computing. Explain its characteristics and benefits.   (06 Marks)
    b. List and explain pro's and con's of virtualization.   (06 Marks)
    c. Explain the following :
       i) Amazon web services
       ii) Microsoft Azure.   (08 Marks)

OR

2   a. Explain with neat diagram, Type – I and Type – II hypervisor.   (06 Marks)
    b. List and explain the different various cloud competing platforms and technologies.
                                                                                (06 Marks)
    c. With the help of neat diagram, explain the cloud computing reference model. (08 Marks)

Module-2

3   a. What is Iaas? Explain its reference implementation with neat diagram.   (10 Marks)
    b. Explain hardware and software stack of private cloud. List any 2 advantages of using private cloud interface.   (10 Marks)

OR

4   a. Explain the different services located in the Aneka Container.   (10 Marks)
    b. Explain with the neat diagram, logical organization of the Aneka cloud. (10 Marks)

Module-3

5   a. What are the two major technique used to define parallel implantation of computer algorithm? Explain.   (06 Marks)
    b. Describe how to implement a parallel matrix scalar product by using domain decomposition.   (06 Marks)
    c. Define thread? Explain the relation between process and thread with suitable diagram. (08 Marks)

OR

6   a. Explain Aneka thread application model with simple Application.   (08 Marks)
    b. Define task. Explain the computing categories that relate to task.   (06 Marks)
    c. Explain MPI program structure with neat diagram.   (06 Marks)

Module-4

7   a. What is data intensive computing? What are the open challenges in the data intensive computing?   (06 Marks)
    b. Discuss the features of Google file system and Amazon Simple Storage Service (S3).
                                                                                (06 Marks)
    c. Explain with a reference scenario, the characteristics and applications of data grid. (08 Marks)

1 of 2

OR

8   a.   What does the term NOSQL mean? Explain Google bigtable with its architecture. **(06 Marks)**
    b.   Explain Mapreduce execution Service of Aneka with a neat diagram. **(06 Marks)**
    c.   Explain the following Mapreduce similar framework.
         i) Pig   ii) Hive   iii) Hadoop. **(08 Marks)**

Module-5

9   a.   Explain the various storage and communication services provided by AWS. **(08 Marks)**
    b.   With a neat diagram, explain the Google AppEngine platform architecture. **(06 Marks)**
    c.   Establish the relationship on how the cloud computing technology can be applied to support ECG monitoring. **(06 Marks)**

OR

10 a.   With a detailed inference, explain the CRM and ERP implantation based on cloud computing technologies. **(08 Marks)**
    b.   Demonstrate with a neat sketch, the architecture of Windows Azure. **(06 Marks)**
    c.   Describe an application of cloud technologies for online gaming. **(06 Marks)**

* * * * *