NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: VI - THEORY EXAMINATION (2023.- 2024)

Subject: Big Data

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

General Instructions:

IMP: *Verify that you have received the question paper with the correct course, code, branch etc.*

1. *This Question paper comprises of* **three Sections -A, B, & C.** *It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.*

2. *Maximum marks for each question are indicated on right -hand side of each question.*

3. *Illustrate your answers with neat sketches wherever necessary.*

4. *Assume suitable data if necessary.*

5. *Preferably, write the answers in sequential order.*

6. *No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.*

SECTION A	20

1. Attempt all parts:-

1-a.   Among the following are the Benefits of Big Data Processing. (CO1)   1

        (a) Businesses can utilizeoutside intelligencewhile taking decisions

        (b) Better operational efficiency

        (c) Improve customer service

        (d) All of the above

1-b.   Big data analysis does the following except. (CO1)   1

        (a) Spreads data

        (b) Analyze data

        (c) Organises Data

        (d) Collects data

1-c.   Name of C++ interface to hadoop map reduce. (CO2)   1

        (a) Hadoop streaming

        (b) Hadoop Pipes

        (c) Mahaout

(d) Oozie

1-d.   Used for collection and ingestion of semi-structured data. (CO2)   1

       (a) Hbase

       (b) PIG

       (c) Flume

       (d) Sqoop

1-e.   Hadoop streaming allows running map reduce program in which of the   1
languages are used (CO3)

       (a) R

       (b) Python

       (c) Pearl

       (d) All of the above

1-f.   Which one is name of the C++ interface to hadoop mapreduce? (CO3)   1

       (a) Hadoop streaming

       (b) Hadoop Pipes

       (c) Mahaout

       (d) Oozie

1-g.   It is not a property of cloud computing? (CO4)   1

       (a) virtualization

       (b) composability

       (c) scalability

       (d) all of the mentioned

1-h.   It is an example of a SaaS cloud service? (CO4)   1

       (a) Google Workspace

       (b) Dropbox

       (c) Salesforce

       (d) All of the above

1-i.   _____ firewalls are a combination of other three types of firewalls.   1
(CO5)

       (a) pocket filtering

       (b) circuit level gateway

       (c) Application level gateway

       (d) statefull multilayer inspection

1-j.   Physical or logical arrangement of network is _____ (CO5)   1

        (a) Topology

        (b) Routing

        (c) Networking

        (d) Control

2. Attempt all parts:-

2.a.   Define Veracity. (CO1)   2

2.b.   Define Edit logs. (CO2)   2

2.c.   Explain Hadoop archives? (CO3)   2

2.d.   List out any two components of Open Stack. (CO4)   2

2.e.   Define Cloud Datastore. (CO5)   2

<div align="center">SECTION B   30</div>

3. Answer any <u>five</u> of the following:-

3-a.   How data integration, visualization, transmission could be a challenge for conventional systems. (CO1)   6

3-b.   Differentiate between Parallel and Distributed computing. (CO1)   6

3-c.   Can you explain the MR frameworks. (CO2)   6

3-d.   Write internal procedure of Map reduce work. (CO2)   6

3-e.   Elaborate SCALA ? Explain all the components in SCALA. (CO3)   6

3.f.   Explain Cloud service model in detail. (CO4)   6

3.g.   Define the NoSQL Bigdata services in cloud. (CO5)   6

<div align="center">SECTION C   50</div>

4. Answer any <u>one</u> of the following:-

4-a.   How Cloud Computing provides scalability and fault tolerance. (CO1)   10

4-b.   Explain in terms of cloud computing - (A) On demand Services (B) Elasticity on demand (C) Reliability (D) Resource pooling (CO1)   10

5. Answer any <u>one</u> of the following:-

5-a.   Explain MRv2 in detail with all it's components. (CO2)   10

5-b.   Explain in detail the following terms related to YARN. (1) Resource Manager (2) Node Manager (3) HBASE (4) Container (CO2)   10

6. Answer any <u>one</u> of the following:-

6-a.   Explain in detail about HDFS. Write all advantages.(CO3)   10

6-b.   Write all the differences between regular FileSystem and HDFS. (CO3)   10

7. Answer any <u>one</u> of the following:-

7-a.   Explain Conceptual level, Logical and operational level and Infrastructure level   10
in terms of Cloud Federation. (CO4)

7-b.   Explain the need of Cloud Computing in Hadoop in detail. (CO4)   10

8. Answer any <u>one</u> of the following:-

8-a.   Define IP Address. Explain Classification of its classes. (CO5)   10

8-b.   Explain the benefits, advantages, usage and features of of VPC. (CO5)   10