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B.Tech. VIII-Sem. (Back) Examination, April/May - 2024 Computer Sc. and Engineering 8CS4-01 Big Data Analytics	

Time : 3 Hours
 Maximum Marks : 120
 Min. Passing Marks : 42

Instructions to Candidates:

Attempt all Ten questions from Part A. Five questions out of Seven from Part B and Four questions out of Five from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A

(Answer should be given up to 25 words only)

ALL questions are Compulsory (10×2=20)

1. Define Big Data?
2. Write down the characteristics of Big Data Applications.
3. What is Map Reduce Programming Model.
4. What is Hadoop.
5. What is PIG.
6. Define Custom comparators.
7. What is Apache Hive.
8. Write at least two differences between pig and hive.
9. Define Cluster?
10. What is Google file system.

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PART - B

(Analytical/Problem solving questions)

Attempt any FIVE questions (5×8=40)

1. Describe the main features of big data in detail.
2. Explain in detail about Nature of Data and its applications.
3. Explain in detail about Storage Considerations in Big Data.
4. Write in detail the concept of developing the Map Reduce Application.
5. Explain two execution types or modes in PIG.
6. Explain the Implementation of a Custom Writable in detail.
7. What is HiveQL. Explain the features of Hive.

PART - C

(Descriptive/Analytical/Problem Solving/Design questions)

Attempt any FOUR questions (4×15=60)

1. Explain the steps to setting up a Hadoop cluster. Also explain the additional configuration properties to set for HDFS.
2. What is HDFS. Describe namenode, datanode and block. Also explain HDFS operations in detail.
3. Explain the significance of writable interface along with writable comparable and comparators. Also explain with an example, how Hadoop uses scale out feature to improve the performance.
4. Discuss about the Data types and operators supported by PIG also Describe in brief about PIG commands.
5. Illustrate main features and Architecture of Hive with neat diagram. Also explain the concept of HiveQL.

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B.Tech. VIII - Sem. (Back) Examination, April/May - 2024
Information Technology
8IT4-01 Internet of Things

Time : 3 Hours

Maximum Marks : 120
Min. Passing Marks : 42

Instructions to Candidates:

Attempt all Ten questions from Part A, Five questions out of Seven from Part B and Four questions out of Five from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A

(Answer should be given up to 25 words only)

All questions are compulsory.

(10×2=20)

1. What are the characteristic of IoT.
2. What is cloud computing.
3. What is Big - data and why we are using in IoT.
4. What do you mean by sensor.
5. What is wireless sensor network.
6. Define any three challenges in IoT design.
7. Explain difference between IoT and M2M.
8. Differentiate between Wifi - and Wimax.
9. Explain any 3 IoT applications.
10. What is zigbee.

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PART - B

(Analytical/Problem solving questions)

Attempt any **Five** questions.

(5×8=40)

1. What is IEEE802.15.4 protocol? How it is related to IoT?
2. Explain similarities between IoT and M2M.
3. What do you mean by sensor and actuator. Explain with an example.
4. Explain reference model and architecture.
5. What are the security challenges in IoT.
6. What is ultrasonic sensor.
7. Define domain specific IoT's - Home automation.

PART - C

(Descriptive/Analytical/Problem Solving/Design questions)

Attempt any **Four** questions.

(4×15=60)

1. Explain all different layers of IoT protocols? Also define the functions of all the layers.
 2. Explain the IoT Application with case study.
 3. Write a short note on :
 - a) M2M.
 - b) Web sockets.
 - c) Zigbee.
 4. Explain Representation State Transfer (REST) architectural style.
 5. What is Big data analysis and its application in IoT.
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