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20SSP59

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc (SS) DEGREE EXAMINATION DECEMBER 2025
(Ninth Semester)

Branch - **SOFTWARE SYSTEMS(five years Integrated)**

DISCIPLINE SPECIFIC ELECTIVE - IV BIG DATA ANALYTICS

Time: Three Hours Maximum: 50 Marks

SECTION-A (5 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 1 = 5)

1) Which of the following is not a characteristic of Big Data?
a) Volume b) Variety c) Velocity d) Validation

2) Which of the following is the core component of Hadoop?
a) HDFS and MapReduce b) MySQL and SQL Server
c) Spark and Scala d) Oracle DBMS

3) Which data source produces the highest velocity of data?
a) IoT devices b) Enterprise databases
c) Digital archives d) Historical repositories

4) Counting distinct elements in a stream helps in_____
a) Data compression b) Unique element estimation
c) Duplicate removal d) Visualization

5) The Nearest Neighbour Classifier works based on_____
a) Clustering b) Distance metrics
c) Probability distribution d) Random sampling

SECTION - B (15 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 3 = 15)

6) a) Explain the characteristics of big data.
OR
b) Determine the steps to development of big data.

7) a) Elaborate the general architecture of Hadoop Distributed File System (HDFS).
OR
b) Compare and construct the Hive and Pig Latin in Hadoop.

8) a) Distinguish between the internet data and bio-medical data.
OR
b) Outline the data transportation in big data acquisition.

Cont...

9) a) State the sampling data in a stream.

OR

b) Discuss the benefits of filtering streams.

10) a) Summarize the multi–task learning in machine learning.

OR

b) Determine the procedure for smart grid.

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

11) a) Analyze the relationship between IoT and big data.

OR

b) Enumerate the importance of intelligent data analysis.

12) a) What are the data loading techniques? Explain.

OR

b) Discuss the system architecture of MapReduce model.

13) a) Identify the data generation from other fields.

OR

b) Examine the data collection in big data acquisition.

14) a) Discover the basic concept of stream data model.

OR

b) Assume the counting distinct elements in a stream.

15) a) Elucidate the requirements of Nearest Neighbour Classifier.

OR

b) Determine the use of network and mobile traffic.

Z-Z-Z END