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705402

May 2024

M.B.A. (PMS) (Fourth Semester)

Big Data Analytics and Data Science for Power Utility (MPM-D-402)

Time : 3 *Hours*] [*Maximum Marks :* 75

Note : It is compulsory to answer all the questions (1.5 marks each) of Part A in short. Answer any *four* questions from Part B in detail. Different sub-parts of a question are to be attempted adjacent to each other.

Part A

1. (a) Define Big Data Eco System. **1.5**

(b) What do you mean by SQOOP ? **1.5**

(c) What do you mean by API framework ? **1.5**

(d) Define power markets. **1.5**

(e) What do you mean by machine learning ? **1.5**

(f) What do you mean by descriptive analysis ? **1.5**

(g) What do you mean by predictive analysis ? **1.5**

(h) Define Data Lake. **1.5**

(i) Define Data Warehouse. **1.5**

(j) What do you mean by data integration ? **1.5**

Part B

2. (a) Discuss the various challenges in implementing Big Data Infrastructure for power sector. **10**

   (b) Discuss role of descriptive analytics in power sector. **5**

3. (a) Explain Hadoop Big Data Architecture with diagram. **10**

   (b) What do you mean by data visualization ? Explain in brief. **5**

4. Explain the role of revenue recognition for utility from billing information. **15**

5. (a) Briefly discuss the predictive analytics in power sector. **10**

   (b) Explain any tool to apply revenue recognition approach. **5**

6. Explain utility forecasting with time series analysis-Basic Techniques, averages and smoothening features. **15**

7. How to forecast accuracy using MAPE, MAD. MSE, RMSE ? **15**