INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Materials Management– 2years
Post Graduate Diploma in Logistics & SCM
Paper 5 (Enrollment code : PGMM, PGSM)
Business Analytics [OFFLINE EXAM]

June 2024

Date: 13.06.2024   **Max. Marks 70**
Time: 2.00 p.m to 5.00 p.m   **Duration 3 hours**

Instructions
1. Part A is compulsory. Each sub question carries one mark.   **Total marks-20**
2. In Part B answer any 3 questions. Each question carries 10marks   **Total marks-30**
3. Part C is a case study with sub questions and it is compulsory.   **Total marks-20**

_____

PART A   (20 marks)

Q. 1. Fill in the blanks.   **[5 marks]**

    a.   ___ refers to the key that helps us to uniquely identify a record in the table
    b.   ____ provides the critical information to the executives and top level managers for making strategic decisions.
    c.   ____ uses current and past data to optimize the current age performance for success.
    d.   Mean, Median and mode of normal distribution are _____
    e.   _____ can be used to discover data and development of data product that helps in generating value.

Q. 2 State True or False   **[5 marks]**

    a.   Regression analysis is a qualitative method that is used to model a relationship between two or more variables of interest.
    b.   Sentiment analysis is not possible through data science
    c.   The operation of moving from finer granular data to coarser granular data is called Roll up.
    d.   In OLAP, analysts cannot view a dimension in different levels of detail.
    e.   Strategic Information System (SIS) is a support to the existing system and helps in achieving a competitive advantage over the organization's competitors in terms of its objectives.

Q.3 **Tick the correct option:**   **[5 marks]**

    a. The operation of changing a dimensions used in a cross-tab is called as _____

        i.   Alteration
        ii.   Pivoting
        iii.   Piloting
        iv.   Renewing

    b.   Management information system is _____human-machine based system.
        i.   an interpreted
        ii.   an interstellar
        iii.   an integrated
        iv.   an interdependent

    c.   ____ is a way of making a computer, a computer- controlled robot, or a software think intelligently, in the similar manner the intelligent humans think
        i.   Machine Intelligence
        ii.   Artificial Intelligence
        iii.   Linguistic Intelligence
        iv.   Naturalistic Intelligence

    d.   The mean, mode, and median of the data set: 5, 4, 10, 12, 1, 5, 3, 7, 15, and 8 is respectively_____
        i.   5,6,7
        ii.   7,6,5
        iii.   6,5,7
        iv.   7,5,6

e. CNN is best suited for
    i. Image Classification
    ii. Natural Language Processing
    iii. Understanding patterns in time series
    iv. All of the above

Q. 4 Expand the following: **[5 marks]**
    a. MDM

    b. KRA

    c. CNN

    d. LSTM

    e. MLP

PART B   [30 marks]

(Answer any three. Each question carries 10 marks)

Q. 5 Explain the link between data, information and knowledge. Explain relationship between Business Intelligence and Business Analytics. Also explain the importance of Business Intelligence for an organization

                                         [10 marks]

Q.6 What do you understand by classification Trees? Explain the characteristics of Trees. Explain the role of decision trees in decision making with suitable example.   **[10 marks]**

Q.7 . Explain the difference between descriptive, predictive and prescriptive analytics, Explain different computation tools and techniques used for all the three analytics.   **[10 marks]**

Q. 8. Explain different techniques for data visualization. Also explain different applications of data visualization. Explain how data visualization can help managers to derive solutions.   **[10 marks]**

Q.9 What do you understand by Neural Networks (NN) ? Explain NN with suitable diagram. Explain any three types of Neural Networks with their applications.   **[10 marks]**

PART C   [20 marks]

Q.10 Case Study (compulsory)

Started in 1965, ChemCo is a leading manufacturer of car batteries in the U.K. market. Since then, it has been under the charge of Mr. Jones, the founder-owner of the firm. In 1999, the company decided to go for a diversification by expanding the product line. The new product was batteries for fork-lift trucks. At the same time, Mr. Marek was appointed the Senior Vice President of marketing in the company. However, soon after its successful diversification into fork-lift batteries, the sales in this segment began dropping steadily. Mr. Marek wanted to introduce some radical changes in the advertising and branding of the new business but the proposal was turned down by the old-fashioned Mr. Jones.

At this juncture in 2023, the firm is losing heavily in the fork-lift batteries business and its market share in car batteries is also on a decline. Mr. Jones has asked Mr. Marek to show a turnaround in the company within a year.

    Questions

    a. What steps should Mr. Marek take to take the company out of its troubles?
    b. Do you think that Business Analytics can help the company to handle the competition and increase the customer satisfaction? Justify your answer