**INDIAN INSTITUTE OF MATERIALS MANAGEMENT**
**Post Graduate Diploma in Materials Management– 2 years**
**Post Graduate Diploma in Logistics & SCM**
Paper 21( Enrollment code : CPM, CPS)
**Business Analytics**

**Dec 2022**

Date: 23.12.2022      **Max. Marks 70**
Time: 2.00 pm to 5.00 pm      **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 10 marks    **Total marks-30**
3. Part C is a case study with sub questions and it is compulsory.    **Total marks-20**

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# PART A      (20 marks)

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

a) Information = Data + _____

b) _____ data has a defined repeating pattern.

c) Collection of data elements in a logical and integrated manner is called a _____.

d) Smallest unit of information in the table is called a _____.

e) On an E-R diagram ellipses represent _____.

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

a) PESTEL analysis is used to figure out external impact on the organizations.

b) Digitization turns digital image to analog image.

c) Analysis of big data using Tableau is data visualization.

d) A top-level project director cannot be a business analyst.

e) Bernoulli distribution is a continuous distribution.

**Q. 3. Match the following:**      **[ 5 marks]**

| | **Column A** | | **Column B** |
|---|---|---|---|
| A | R-Square | 1 | Decision making process |
| B | Problem Identification | 2 | Coefficient of determination |
| C | Visible objects | 3 | Protein structure analysis |
| D | Bioinformatics | 4 | Huge amount of data |
| E | Data science | 5 | Graphical user interface |

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

a) ICT    b) OLTP    c) DBMS    d) JMI    e)CWM

# PART B      (30 marks)

**(Answer any three. Each question carries 10 marks)**

**Q.5**. a)What is the importance of ERP and CRM?      **[5 marks]**

b)Discuss the importance of business intelligence in an organization.      **[5 marks]**

**Q.6**.a)Discuss the concept of business analytics and its various types.      **[5 marks]**

b) Explain the significance of data science in ICT.      **[5 marks]**

**Q.7**.a)Discuss extraction methods in data warehouse. **[5 marks]**

b)Explain the functions of IDBI. **[ 5 marks]**

**Q.8**.a)Explain the importance of descriptive analytics for an organization. **[5 marks]**

b)Discuss predictive modeling with suitable examples. **[5 marks]**

**Q.9.** Write Short Notes **anyTwo**. **[2 x 5 = 10 marks]**

A)Data visualization                    B)Minimum spanning tree

C)Warehouse location problem.           D)Game Theory

# PART C `                                    20 marks

**Q.10  Case Study (compulsory)**

Organisations today collect large amounts of data from internal and external sources. The current technology leads to collection of a large amount of data in an efficient manner. However, leveraging this data and extracting the maximum value from it to improve its market positioning is a challenge. Information derived by analysing the data is used to make certain decisions that directly or indirectly have a financial impact on the organisation in terms of market share, profitability and customer satisfaction. Here, the role of Business Analytics (BA) becomes relevant. BA includes a lot of advanced statistical techniques and tools which can be used to extract the maximum value from the available information or data. In a research conducted by Lesser, Lavalle, Shockley, Hopkins and Kruschwitz in 2011, it was found that high-performing organisations may make use of BA more often than their low-performing peers.

BA helps an organisation in various types of decision making. However, the most prominent decisions for an organisation are the financial decisions. Therefore, the use of BA in making financial decisions must be evaluated thoroughly.

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While using BA, it must be remembered that it involves three elements, namely technological, human and business processes. BA is the process of turning data into actions by using various tools and techniques.

The process of BA involves steps as shown in the following figure:
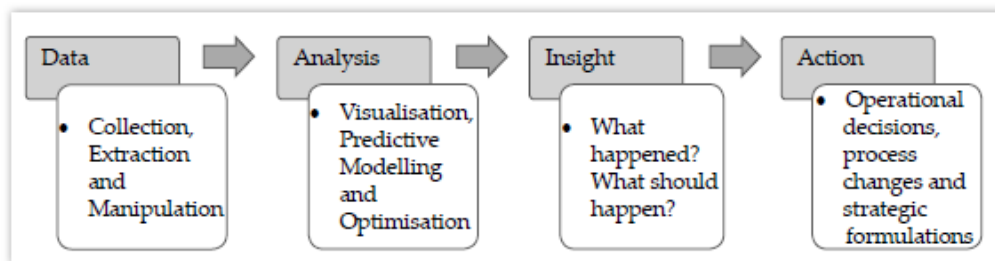


A wireless provider **Ipro** is a large private organisation which provides wireless services in the United States. IPro is the organisation that introduced innovative voice and data services. Ipro's major contribution lies in providing advanced wireless services in rural America, which were earlier available only in the urban areas.

Until recently, Ipro was using Excel spreadsheets and an old general ledger system. The data from these sources was fed into a financial reporting tool which did not have the required functional and infrastructure support to prepare and generate comprehensive budget. Different information or data sets required to prepare a budget were on disparate spreadsheets which were not designed to handle budgeting.

To overcome this problem and to be able to use the available data, Ipro's technology team decided to implement the IBM Cognos TM1 solution. Cognos TM1 is a Business Analytics software tool developed by IBM to aid an organisation in financial performance management and reporting. The Cognos software tool helped **Ipro** in the following ways:

o   All the relevant departments of Ipro were able to input detailed information in a central place.

o   Finance department did not need to look up for individual invoices.

o   Individual transactions that added up to totals in the financial reports could be referenced individually.

o   Transparency.

o   Up-to-date information was available to all the users.

**Questions:**

1,      Why the role of business analytics is relevant in the organization?

2.      What are the four steps involved in business analytics?

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