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II Semester M.B.A(Day and Evening) Degree Examination December- 2024

MANAGEMENT

Business Analytics

(CBCS Scheme 2019 Onwards)

Paper : 2.4

Time : 3 Hours **Maximum Marks : 70**

SECTION - A

Answer any Five questions from the following. Each question carries 5 marks. (5×5=25)

1. Define Business Analytics. How does it help organizations make data-driven decisions?
2. What is Knowledge Discovery from Data (KDD)? How does it differ from Data mining?
3. What is Logistic Regression? How is it different from linear Regression?
4. Discuss the concept of real-time data in the context of Big Data.
5. Explain the concept of Social Media Analytics and its importance.
6. Describe how Financial Analytics can be used to predict financial trends and manage risks.
7. What is the Internet of Things (IoT)? Provide examples of its applications in everyday life.

SECTION - B

Answer any Three questions from the following. Each question carries 10 marks. (3×10=30)

8. Discuss various types of BI tools and how they help in monitoring business performance and improving decision-making processes.
9. Explain the cross Industry Standard Process for Data mining (CRISP-DM) methodology used in data mining.
10. Explain the characteristics of Big Data, Including the 3Vs (Volume, Variety, Velocity) and how each affects data processing and analysis?
11. Discuss the significance of Marketing Analytics in customer behaviour analysis, personalized marketing strategies, and ROI measurement.

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SECTION - C

12. **Case Study (Compulsory) :** (1×15=15)

Smart, digital, and precision farming have dramatically increased the amount of data available for the numerous improvement scenarios in agriculture for smart spraying, seeding, and harvesting. But What counts the most is not data alone; it's the ability to extract meaningful information from it by applying data science in agriculture. Insightful metrics in the form of schemes, dashboards, and analytical reports are critical for an industry with so many variables. Even though making farming technologies transparent and simple for farmers to adopt is a tall task, it's realistic objective for tech providers.

Ideal Agri Tech dashboards and analytics solutions should leverage data science in agriculture to automate and visualize as much as possible for farmers. When data is pulled together into a backend system, it can be placed into a customizable dashboard with easy-to-use data views. For instance, it could present mapping information and field and crop data, enable collaboration, and show the status of integrated equipment. A customizable dashboard can track all set conditions and alert farmers when important changes take place. Once the dashboard is set up, all data gathered by sensors, irrigation equipment, weather forecasts, and other sources can be automatically updated and secured.

The use of big data in agriculture also changes the way farmers receive their yield analytics. They can use smartphones to document the progress of their crops throughout the season. Or satellites, drones, and robots can do it for them. Analytical software can then estimate the yield potential according to the weather conditions, historical data, and information captured by farmers. As the next step, a big data -powered system can automatically generate yield reports to help farmers see actual automatic calculations. According to these yield reports, farmers can plan their actions to improve the management of their crops and increase yields.

Practically all agricultural production is reliant on natural conditions such as climate, soil, pests, and weather. With the help of data analysis for agriculture businesses, farmers can observe the impact that extreme weather conditions and other phenomena can have on their crops. But even more valuable is the ability to predict and adjust to these things. Incorporating big data in smart farming software, you can see changes in weather conditions in real-time and respond promptly. For example, data from sensors in soil and images taken by drones can help farmers establish expected growth rates. When a smart system knows What to expect, it can automatically detect anomalies or deviations and warn farmers of them.

Various technologies are disrupting agriculture. Precision agriculture is more about how crops are produced, while smart farming can cover all stages of the agricultural supply chain. There are many stakeholders in an agricultural supply chain, and big data has proven useful for all parties throughout all stages. At the production stage, automated systems handle data to show performance and reveal issues in critical equipment. When we deal with such sensitive materials as seeds, plants, and food products, preventing spoilage is a matter of serious concern. Big data helps farmers and suppliers optimize fleet management software to increase delivery reliability. Moreover, big data tracking solutions, smart meters, and GPS-oriented analytics improve routing, cutting transportation costs and offering advanced mapping of the locations of animals and vehicles.

Questions

a) What are the various types of Big Data used in Agriculture?

b) Explain how Business Analytics can be used in Agriculture.