

Reg. No.

Question Paper Code

21303

MBA - DEGREE EXAMINATIONS, NOV/DEC 2022

Third Semester

Master of Business Administration

20MBS303 - ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING FOR
DECISION MAKING

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART-A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | Marks, |
|---|-------------------------|
| 1. Define the term Machine Learning. | K-Level, CO 2,K1,CO1 |
| 2. Differentiate Artificial intelligence and Machine learning | 2,K2,CO1 |
| 3. List out the various types of Probability Distribution | 2,K1,CO2 |
| 4. Narrate about posterior predictive distribution. | 2,K2,CO2 |
| 5. Illustrate the usage of Bayesian models. | 2,K2,CO3 |
| 6. Infer the term Logistic Regression. | 2,K2,CO3 |
| 7. Define the term Artificial Intelligence (AI). | 2,K1,CO4 |
| 8. Illustrate the working of neural network. | 2,K2,CO4 |
| 9. Define Recurrent Neural Networks | 2,K1,CO5 |
| 10. Infer the term Feed-forward neural networks | 2,K2,CO5 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) "A machine has the ability to learn if it can improve its performance by gaining more data" – Do you agree? – Justify. 13,K5,CO1
- OR**
- b) Explain the Applications of Machine Learning in our day – to – day life with example. 13,K5,CO1
12. a) Explain the various types of Probability Distribution in detail. 13,K5,CO2
- OR**
- b) Differentiate Gaussian discriminant analysis and Gaussian Naive Bayes? 13,K4,CO2
13. a) Explain Bayesian statistics and also differentiate between Hierarchical and Empirical Bayes. 13,K5,CO3

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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OR

- b) "Explain linear regression and also highlight the types of the same with suitable examples. 13,K5,CO3

14. a) Explain the evolution of Artificial Intelligence in detail. 13,K5,CO4

OR

- b) Differentiate between the approaches of divide and conquer method and gradient descent method. 13,K5,CO4

15. a) Explain the process of Recurrent Neural Networks. 13,K5,CO5

OR

- b) Distinguish between Feed-Forward Neural Networks vs Recurrent Neural Networks. 13,K4,CO5

PART - C (1 × 15 = 15 Marks)

(Compulsory)

16. **Spotify** 15,K6,CO6

We all know companies like Netflix use data analytics to drive their recommendation engines or that Google uses it for search and spam filtering. In short, big data is big business in big tech. However, most examples of data analytics in these spheres cite applications that occur behind the scenes, like app development and strategy. Powerful though these uses are, we love a bit of data analysis front and center. Enter Spotify. While they use data for many backend purposes, too, their annual Spotify Wrapped campaign is a cracking example of how data can offer fascinating insights into people's musical tastes.

Launched in December 2016, Spotify Wrapped is an annual campaign that gives users a summary of their past year's listening habits, ready to share on social media. It's just a clever marketing campaign, really, but we love how it places data in the spotlight. The campaign has been running for five years now, proving that beautiful data is not just for engineers and data analysts. It's something listeners can share a little bit of love for, too.

Spotify Wrapped is more than just free flyering. Using data analytics, the company can tell users if they're one of a band's most loyal followers or if they discovered popular music 'before it was cool'. These little nudges can help turn data analytics into an emotive story, helping build brand loyalty and generating good vibes... something Spotify has (quite savvily) used to their advantage.

Questions:

1. Outline your learning how Spotify has transformed itself by using data analytics.
2. Recommend Spotify the future prospects to succeed, if the similar approach is adopted by competitors.