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Total Number of Pages: 02

Course: MBA  
Sub Code: MBPC1011

2<sup>nd</sup> Semester Regular Examination: 2024-25

SUBJECT: Introduction to AI

BRANCH(S): BA, FM, FM&HRM, GM, HCHM, HRM, IB, LSCM, MBA, MBA (A & M), MM, RM

Time: 3 Hours

Max Marks: 100

Q.Code: S554

Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

**Part-I**

**Q1 Answer the following questions: (2 x 10)**

- Differentiate between general artificial intelligence and super artificial intelligence.
- Explain reactive machines in artificial intelligence.
- What are the common steps in an AI project workflow?
- What is Density-Based Clustering?
- What is association in machine learning?
- Define the term "AI project pipeline" and list its main components.
- What is model overfitting, and how can it be avoided?
- Explain why data quality is critical for building AI systems.
- What are some challenges companies face when trying to scale AI across multiple departments?
- Explain any three adverse uses of AI in society.

**Part-II**

**Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)**

- Differentiate Between Machine Learning and Deep Learning.
- What are the Applications of Supervised Machine Learning in Modern Businesses?
- Write a short note on the self-driving car case study.
- Mention unsupervised learning and explain various type of unsupervised learning.
- Explain the steps involved in building an AI project from problem definition to deployment.
- How can you evaluate the performance of a classification model? Mention at least three metrics.
- Discuss the significance of data labeling and annotation in AI projects.
- What are the key considerations when selecting a machine learning algorithm for an AI project?
- Discuss the strategic advantages of integrating AI into a company's operations. Include examples of real-world applications.

- j) What regulatory frameworks should govern the use of AI in public and private sectors?
- k) What impact is AI likely to have on employment in the next decade? Which sectors are most at risk and why?
- l) Explain the role of cross-functional teams in successful AI projects. How can companies ensure effective collaboration?

**Part-III**

**Only Long Answer Type Questions (Answer Any Two out of Four)**

**(16 x 2)**

- Q3** a) Write down the difference between Bagging and Boosting. **(8 x 2)**  
b) Explain K-means clustering algorithm.
- Q4** Compare and contrast cloud-based vs. on-premise deployment of AI models in terms of scalability, cost, and data security. **(16)**
- Q5** Analyze the benefits and risks of AI adoption in education, healthcare, and agriculture in developing countries. Describe the steps you would take to evaluate, plan, and implement this initiative, considering both technical and organizational factors. **(16)**
- Q6** Discuss the challenges in designing fair and unbiased algorithms. How can these be reduced? **(16)**