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**BIJU PATNAIK INSTITUTE OF INFORMATION TECHNOLOGY  
& MANAGEMENT STUDIES, BHUBANESWAR**

**Semester : 10<sup>th</sup> Sem. IMBA  
Batch : 2021-26  
Subject : Operations Research Applications  
Subject Code : 16IMN1001D**

**Date : 07.04.2026  
Class Test : II  
Duration : 1 Hr.  
Full Marks : 30**

**Section- A**

1. **Answer any four out of following questions.** [4 x 2 = 8]
- a) Define flow shop scheduling. [CO1]
  - b) What is job shop scheduling? [CO1]
  - c) Explain the concept of the Vehicle Routing Problem (VRP). [CO1]
  - d) What is the bin packing problem? [CO1]
  - e) Define portfolio optimization. [CO1]

**Section-B**

2. **Answer any two questions out of following** [2 x 6 = 12]
- a) Explain the Travelling Salesman Problem (TSP) and its applications. [CO2]
  - b) Describe the North-West Corner Method used in transportation problems. [CO2]
  - c) Discuss the queue model and its basic components. [CO2]

**Section-C**

3. **Answer any one out of following questions.** [1 x 10 = 10]
- a) Explain the two-stage supply chain distribution problem with a suitable example. [CO3]
  - b) Discuss the staff transfer problem and explain how it can be modeled and solved using optimization techniques. [CO3]

*All the Best*