

MMPO-001

**Master of Business Administration (MBA)/ Master of Business Administration
(Online) MBA(OL) /Master of Business Administration (Operations
Management) (MBAOM)/ Post Graduate Diploma in Operations Management
(PGDIOM)**

**ASSIGNMENT
For
July 2025 and January 2026 Semesters**

MMPO-001: OPERATIONS RESEARCH

**(Last date of submission for July 2025 Semester is 31st October 2025
and for January 2026 Semester is 30th April, 2026)**



**School of Management Studies
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI – 110 068**

ASSIGNMENT

Course Code	:	MMPO-001
Course Title	:	Operations Research
Assignment Code	:	MMPO-001/TMA/JULY/2025
Coverage	:	All Blocks

Note: Attempt all the questions and submit this assignment to the Coordinator of your study centre. Last date of submission for July 2025 Semester is 31st October 2025 and for January 2026 Semester is 30th April, 2026.

1. Explain the concept and computational steps of the simplex method for solving linear programming problems. How would you identify whether an optimal solution to a problem obtained using the simplex algorithm is unique or not?
2. A manufacturer employs three inputs: man-hours, machine-hours and cloth material to manufacture two types of dresses. Type A dress fetches him a profit of Rs. 160/- per piece, while type B, that of Rs. 180/- per piece. The manufacturer has enough man-hours to manufacture 50 pieces of type A or 20 pieces of type B dresses per day, while the machine-hours he possesses suffice only for 36 pieces of type A or for 24 pieces of type B dresses. Formulate the linear programming model and solve it graphically.
3. What is integer linear programming (LP)? Explain the merits and demerits of 'rounding off' a continuous optimal solution to an LP problem to obtain an integer solution.
4. Discuss the similarities in the solution procedures for transportation and assignment models.
5. Describe a single-server waiting model. Give an example from real life for each of the following queuing models:
 - a) First-come-first-served
 - b) Last-come-first-served
 - c) Random pick service
 - d) Customers stay only if served instantly