

Dr. Babasaheb Ambedkar Open University
Term End Examination January – 2026

Course : MBA
Subject Code : MBA01C105
Subject Name : Quantitative Management

Date : 20/02/2026
Time : 11:30am to 01:45pm
Duration : 02.15 Hours
Max. Marks : 70

Q-1 Explain the function and Limitations of statistics. **14**

Or

From the available information of profits (in lakh Rs.) of 50 firms is given below. Find the mean, median and mode of profit.

Profit (in lakh Rs.)	0-7	7-14	14-21	21-28	28-35
No. of firms	4	9	18	12	7

Q-2 Explain the types of mathematical models in Detail. **14**

Or

Use the graphical method to solve the following LP problem:

Minimize $Z = 5x + 8y$

Subject to $25x + 20y \leq 300$

$2x + y \geq 10$

$6x + 10y \leq 120$

$y \geq 5$

$x, y \geq 0$

Q-3 Five employees are available to do five different jobs. The time (in hours) that each employee takes to do each job is given in the following table: **14**

Job

Employee		I	II	III	IV	V
A		2	9	2	7	1
B		6	8	7	6	1
C		4	6	5	3	1
D		4	2	7	3	1
E		5	3	9	5	1

Find out how employees should be assigned the jobs in way that will minimize the total time taken.

Or

Explain the types of queuing systems in detail.

Q-4 The probability that a bomb dropped from a plane will hit a target is $\frac{2}{5}$. Two bombs are enough to destroy a bridge. If 4 bombs are dropped from the plane on a bridge, find the probabilities that (1) The bridge will be saved, (2) the bridge will be partially destroyed (3) the bridge will be destroyed. **14**

Or

Discuss the assumptions of linear programming model in Detail.

Q-5 (A) Write a short note (any three) **09**

1. State different methods to obtain the initial basic feasible solution of a transportation problem.
2. Differentiate between CPM and PERT.
3. Properties of Poisson Probability distribution.
4. Properties of Expectation.
5. If The four coins are tossed simultaneously then, what will be the mean (expected) number of heads and its variance.

(B) Select the correct Option for each of the following questions.

05

- 1 Which of the following model has no any standard mathematical formulation technique?
(a) linear programming (b) dynamic programming (c) allocation (d) competitive
- 2 Which of the following specifies the goal of solving the LP problem?
(a) objective function (b) constraints (c) decision variables (d) opportunity costs
- 3 Which of the following method is a method of solution of assignment problem?
(a) North–West corner (b) least cost method (c) Hungarian (d) VAM
- 4 Activity in a network diagram is represented by?
(a) Circle (b) Square (c) Arrow (d) Rectangle
- 5 FIFO stands for _____
(a) First In First Out (b) First In First Overflow (c) First in Fast Out (d) Full in Full Out
