

SEM-2358

M. A./M. Sc. (Fourth Semester) Examination, June 2021

MATHEMATICS

Paper : Fourth

(Operation Research)

Time Allowed : Three hours

Maximum Marks : 80

Note: Attempt all questions. Each question carries equal marks.

1. Prove that the number of basic variables in an $m \times n$ transport table are $m + n - 1$.
2. Draw the network, given the following precedence relationship :

Event Nos.	:	1	2·3	4	5	6	7
Preceded by	:	Start event	1	2·3	3	1·5	5·6
3. Consider an inventory in a manufacturing concern. If the number of sales per day is Poisson with mean 5, then generate 30 days of sales by Monte-Carlo method.
4. Show how simulation technique can be used in solving Queueing problems.
5. Indicate any four shortcomings of taking a simulation approach to solve an operational research problem.