Faculty of Science

B.Sc (Statistics) III-Year, CBCS-VI Semester Backlog Examinations –January, 2021

PAPER: OPERATIONS RESEARCH

Time: 2 Hours   Max Marks: 60

I. Answer any Three of the following questions   (3x20=60 Marks)

1. Explain the simplex method to solve an LPP.

2. What is an artificial variable and explain the procedure for two- phase to solve an Lpp

3. Consider the following transportation problem:

Source	Destination				Availability
	1	2	3	4	
1	20	22	17	4	120
2	24	37	9	7	70
3	32	37	20	15	50
Requirement	60	40	30	110	240

Determine an IBFS using i) North west corner rule   ii) Matrix minima method.

4. Explain various steps involved in finding optimum solution of TP by MODI method.

5. What is Assignment problem? Explain various steps involved in finding the optimum solution to an AP by Hungarian method.

6. Determine the optimal sequence of jobs that minimizes the total elapsed time based on the following information.

Jobs	1	2	3	4	5	6	7
Machine A	10	8	12	6	9	11	9
Machine B	6	4	6	5	3	4	2
Machine C	8	7	5	9	10	6	5

Processing time on machines is given in hours and passing is not allowed.

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