

Code: 17F00203

MCA II Semester Regular Examinations June/July 2018

OPERATIONS RESEARCH

(For students admitted in 2017 only)

Time: 3 hours

Max. Marks: 60

Answer all the questions

- 1 Discuss importance of operations research in decision making process.

OR

- 2 State different types of modes used in (OR) operations research. Explain briefly general methods for solving OR models.

- 3 Explain the following terms in PERT / CPM.

(i) Earliest time. (ii) Latest time. (iii) Event slack.

OR

- 4 Describe various network models.

- 5 How do maximization & minimization problem differ when applying simplex method.

OR

- 6 Explain how Gomory's cutting plane algorithm works.

- 7 Give a note on constraint programming.

OR

- 8 Give a note on applications of metaheuristics to integer linear programs.

- 9 A sales man has to visit 5 cities A, B, C, D & E. The distance (hundred km) between 5 cities are:

| | | To city | | | | |
|-----------|---|---------|----|----|----|----|
| | | A | B | C | D | E |
| From City | A | - | 17 | 16 | 18 | 14 |
| | B | 17 | - | 18 | 15 | 16 |
| | C | 16 | 18 | - | 19 | 17 |
| | D | 18 | 15 | 19 | - | 18 |
| | E | 14 | 16 | 17 | 18 | - |

If the sales man starts from city A and has to come back to city A, which route should he select so as to reduce his distance?

OR

- 10 What is dynamic recursive relation? Describe the general process of backward recursion.
