C 63110

Name....................................

Reg. No................................

SECOND SEMESTER M.Com. DEGREE EXAMINATION, JUNE 2019

(CUCSS)

MC 2C 9—MANAGEMENT SCIENCE

(2015 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Part A

Answer **all** *questions.*
Each question carries 1 weightage.

1. What is a model ?

2. What are tactical decisions ?

3. What is payoff matrix ?

4. What is slack variable ?

5. What is total float ?

6. What is unbalanced assignment model ?

(6 x 1 = 6 v$re gtage)

Part B

Answer any six questions.
Each question carries 3 *weightage.*

7. Explain the main characteristics of OR.

8. What is 'Big M' method ?

9. What is degeneracy in transportation problem ?

10. How does the problem of replacement arise ?

11. Explain the meaning of 'critical path'.

12. Draw a network for a simple project rection of steel works for a shed. The various elements of the project are as shown below

Activity node	Pre-requisites
A	
B	
C	A
D	
E	B
F	B
G	C, D
H	G, F
I	E
J	II, I
K	J

Turn over

13. Reduce the following game by dominance property and solve it :

<table>
<tr><td></td><td></td><td colspan="5">Player B</td></tr>
<tr><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>Player A</td><td>I</td><td>1</td><td>3</td><td>2</td><td>7</td><td>4</td></tr>
<tr><td></td><td>II</td><td>3</td><td>4</td><td>1</td><td>5</td><td>6</td></tr>
<tr><td></td><td>III</td><td>6</td><td>5</td><td>7</td><td>6</td><td>5</td></tr>
<tr><td></td><td>IV</td><td>2</td><td>0</td><td>6</td><td>3</td><td>1</td></tr>
</table>

14. Customers arrive at a one window drive-in washing centre according to a Poisson distribution with mean 10 per hour. Service time per customer is exponential with mean 5 minutes. The space in front of the window, including that for the serviced car can accommodate a maximum of three cars. Other cars can wait outside the space. flow long is an arriving customer expected to wait before starting service ?

(6 x 3 = 18 weightage)

Part C

Answer any two questions.
Each question carries 6 weightage.

15. Explain the scope of Operations Research.

16. Write a brief note on PERT.

17. What is LPP ? Explain the requirements for a Linear Programming Problem.

(2 x 6 = 12 weightage)