

QPCODE :

Reg.No :

Name :

**MAHATMA GANDHI UNIVERSITY, KOTTAYAM
FIFTH SEMESTER MGU-UGP (HONOURS) REGULAR
EXAMINATION OCTOBER 2026**

Fifth Semester

**SIGNATURE COURSE (ELECTIVE) –MG5DSEECO A02 - A BEGINNERS JOURNEY
TO UNDERSTAND GAME THEORY
(2024 ADMISSION ONWARDS)**

Duration: 2 Hrs

Maximum Marks: 70

*Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I) and
Appreciation(Ap)*

Students should attempt at least one question from each course outcome to enhance their overall outcome attainability.

[Learning Domain]/[CO Nos]

Part A

Short Answer Questions {50 words}

Answer any **10** questions

Each question carries **2** marks

- | | | |
|----|---|--------------|
| 1. | What do you mean by Dominant Strategy? | [U] / [CO 2] |
| 2. | What are the components of a Game? | [U] / [CO2] |
| 3. | Recall the role of information in a game. | [R] / [CO4] |
| 4. | Define zero sum games. | [R] / [CO1] |
| 5. | Explain the concept of strategy. | [U] / [CO1] |
| 6. | Restate in your own words the concept of Minmax strategy. | [U] / [CO4] |
| 7. | Identify the use of game theory as a tool for examining social problem. | [K] / [CO1] |

- | | | |
|-----|---|-------------|
| 8. | Review the relevance of a 'tit-for-tat' strategy. | [U] / [CO3] |
| 9. | Write on Nash Equilibrium. | [K] / [CO3] |
| 10. | Comment on Prisoners Dilemma. | [U] / [CO3] |
| 11. | What do you mean by first mover advantage? | [K] / [CO2] |
| 12. | Give an example of an infinite game. | [U] / [CO1] |
| 13. | Describe a saddle point equilibrium. | [U] / [CO4] |
| 14. | Illustrate a tree diagram for representing a sequential game. | [K] / [CO2] |
| 15. | Brief on the existence and efficiency of a Nash equilibrium in social problems. | [U] / [CO3] |

Part B

Short Essay Questions {150 words}

Answer any **10** questions

Each question carries **5** marks

- | | | |
|-----|---|--------------|
| 16. | Distinguish between Pure Strategy and Mixed Strategy. | [An] / [CO2] |
| 17. | Demonstrate the Nash Equilibrium of a Prisoners Dilemma situation for a cartel. | [A] / [CO3] |
| 18. | Give a brief account of different types of games. | [U] / [CO1] |
| 19. | Examine Dominant Strategy Equilibrium with a suitable example | [U] / [CO2] |
| 20. | Compare and Contrast Cooperative and Non Cooperative games. | [An] / [CO1] |
| 21. | Write on the guiding principle behind the theory of games. | [U] / [CO1] |
| 22. | Recall the applications of game theory as a subject matter. | [U] / [CO3] |
| 23. | Make a report on Group rationality. | [U] / [CO4] |

24. Find the Nash Equilibrium of the following game [U] / [CO3]

1 \ 2	X	Y
A	(10,10)	(15,5)
B	(5,15)	(12,12)

25. Brief on simultaneous and sequential games. [U] / [CO2]
26. Derive the saddle point equilibrium for a strictly competitive game. [A] / [CO4]
27. Illustrate a mixed strategy Nash equilibrium for a game. [U] / [CO2]
28. Write on the reasons you can think, on why people or society play a Nash equilibrium. [U] / [CO3]
29. Derive the best response function for firms using a Cournot duopoly model. [A] / [CO3]
30. Examine any of the Coordination games and discuss the nature of Nash equilibrium for such games. [U] / [CO2]

[5x10 = 50]