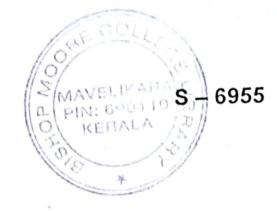
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Reg. No.:....

Third Semester M.A. Degree Examination, February 2024 Behavioural Economics and Data Science BEDS 533 – GAME THEORY

(2020 Admission Onwards)

Time: 3 Hours

Max. Marks: 75

PART - I

Answer all questions. Explain the following concepts in one or two sentences.

- Optimal auctions
- 2. Players
- 3. Cartels
- 4. Dominant strategy
- 5. Focal point equilibrium
- 6. Common value auctions
- 7. Payoff matrix
- 8. Zero Sum game
- 9. Collusion
- 10. Finite games

 $(10 \times 1 = 10 \text{ Marks})$

P.T.O.

PART - II

Answer any seven questions. Each should not exceed 500 words.

- 11. Examine Cooperative games and non-cooperative games.
- 12. Explain different attitudes towards risk.
- 13. Discuss Minimax and maximin principles.
- 14. What are the different types of auctions?
- 15. Compare and contrast static and dynamic games.
- 16. Give a short note on multiple Nash equilibrium.
- 17. Explain different forms of games.
- 18. Compare pure and mixed strategies.
- 19. Write a short note on Prisoners' dilemma.
- 20. Compare risk and uncertainty.

 $(7 \times 5 = 35 \text{ Marks})$

PART - III

Answer any three questions. Each should not exceed 1200 words.

21. Find the optimal plan for both the player

		Player-B			
		1	П	Ш	IV
Player-A	ı	-2	0	0	5
	П	4	2	1	3
	Ш	-4	-3	0	-2
	IV	5	3	-4	2

2

22. Find the mixed-strategy Nash equilibria of the following game:

23. Consider the following two-person game:

Assume that both players know the value of x, and both know that they know, and so on.

- (a) For what values of x (if any) is there a Nash equilibrium in which Player 2 chooses R with probability one? Explain, and describe the equilibrium or equilibria in different cases.
- (b) For what values of x (if any) does decision R for Player 2 survive iterated deletion of strictly dominated strategies? Explain.
- 24. Provide a comparative narration of Cournot's and Bertrant's Nash equilibrium models.
- 25. For the game with payoff matrix,

Determine the best strategies for players A and B and also the value of the game. Is this game (a) fair (b) strictly determinable?

$$(3 \times 10 = 30 \text{ Marks})$$