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Reg. No. :

Name :

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.

1. 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 × 1 = 10 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 × 5 = 35 Marks)

PART – III

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

21. Find the optimal plan for both the player

		Player-B			
		I	II	III	IV
Player-A	I	-2	0	0	5
	II	4	2	1	3
	III	-4	-3	0	-2
	IV	5	3	-4	2



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

		Player 2			
		L	R		
Player 1	T	1, 4	4, 3		
	C	2, 0	1, 2		
	B	1, 5	0, 6		

23. Consider the following two-person game:

		Player 2	
		L	R
Player 1	U	1, 2	0, 1
	D	3, 0	x, 1

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 Bertrand's Nash equilibrium models.
25. For the game with payoff matrix,

		Player B		
		-1	2	-2
Player A		6	4	-6

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 × 10 = 30 Marks)

