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## **Enrolment No:**

# UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

Online End Semester Examination, May 2020

## **MA Economics**

# Game Theory (Code: SDGD7001)

**Instruction:** In section A and B, all the questions are compulsory. However, section C has choice, candidate can choose any one of the two questions.

# **SECTION A**

1.	Which of the following describes a Nash equilibrium?	(5x1)
	<ul> <li>a. A firm chooses its dominant strategy, if one exists.</li> <li>b. Every competing firm in an industry chooses a strategy that is optimathe choices of every other firm.</li> <li>c. Market price results in neither a surplus nor a shortage.</li> <li>d. All firms in an industry are earning zero economic profits.</li> </ul>	al given
2.	Game theory is concerned with	(5x1)
	<ul> <li>a. predicting the results of bets placed on games like roulette.</li> <li>b. the choice of an optimal strategy in conflict situations.</li> <li>c. utility maximization by firms in perfectly competitive markets.</li> <li>d. the migration patterns of caribou in Alaska.</li> </ul>	
3.	n game theory, the outcome or consequence of a strategy is referred to as the (5	5x1)
	<ul> <li>a. payoff.</li> <li>b. penalty.</li> <li>c. reward.</li> <li>d. end-game strategy.</li> </ul>	
4.	Which of the following is an example of strategic behavior? (5:	x1)
	<ul> <li>a. A firm builds excess capacity to discourage the entry of competitors.</li> <li>b. A firm adopts the pricing behavior of a dominant firm under the assurthat other firms will do likewise.</li> <li>c. Firms in an industry increase advertising expenditures to avoid losing market share.</li> <li>d. All of the above are examples of strategic behavior.</li> </ul>	·

5.	A game that involves multiple moves in a series of identical situations is called a $(5x1)$
	<ul> <li>a. sequential game.</li> <li>b. repeated game.</li> <li>c. zero-sum game.</li> <li>d. nonzero-sum game.</li> </ul>
6.	In which one of the following market structures, game theoretic modeling is applicable?
0000	a. Oligopoly. b. Monopoly. c. Monopsony. d. Perfect Competition.

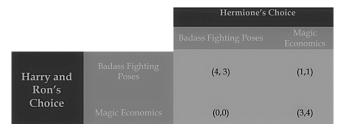
#### **SECTION B**

- 4. Write short notes and give example where you find it necessary. Each question carry equal marks (10x1)
- I- Auctions
- II-Dominant strategies
- III-Iterated elimination
- **IV-Backward Induction**
- V-Mixed Strategies

### **SECTION C**

**Instruction:** Choose any one from the given questions. All the questions in this section carry equal marks (20 x1)

- Q1-What is Cournot model of oligopoly? Explain it with the help of derivation.
- Q2- Solve the following question,



(Hint: Use mixed strategy)