

**Name:**

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

5. A game that involves multiple moves in a series of identical situations is called a (5x1)

- a. sequential game.
- b. repeated game.
- c. zero-sum game.
- d. nonzero-sum game.

6. In which one of the following market structures, game theoretic modeling is applicable? (5x1)

- 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,

		Hermione's Choice	
		Badass Fighting Poses	Magic Economics
Harry and Ron's Choice	Badass Fighting Poses	(4, 3)	(1, 1)
	Magic Economics	(0, 0)	(3, 4)

(Hint: Use mixed strategy)