Name:

Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2019

Subject: Microeconomics **Semester: I**
Course Code: ECON 7005

Programme: MA (Economics) Specialization in Energy Economics
Time: 03 hrs. **Max. Marks: 100**

Instructions: Answer **all** the questions from Section A, **Four** questions from Section B**, Two** questions from Section C. Section D is **compulsory.**

SECTION A (5*4 = 20 marks)

S. No.		Marks	CO
Q 1	Explain the reasons of the shift in budget line.	**4**	**2**
Q 2	Let the production function be $Q = K^{0.2}L^{0.4}$, where Q represents level of output, K and L denotes capital and labour respectively. Find the degree of homogeneity and determine the returns to scale for the given production function.	**4**	**3**
Q 3	What are the characteristics of monopoly market structure?	**4**	**1**
Q 4	Describe different types of price discrimination.	**4**	**1**
Q 5	What is price elasticity of demand (ε_p)? How to measure point elasticity of demand?	**4**	**2**

SECTION B (4*5 = 20 marks)

Q 6	Compute the marginal rate of substitution between x_1 and $x_2 (MRS_{x_1,x_2})$ for the utility function $u(x_1, x_2) = x_1^c x_2^d$	**5**	**3**
Q 7	What is cartel? How oligopoly market structure is different from perfect competition?	**5**	**2**
Q 8	The total cost of production of x units of commodity is given as $C(x) = x^3 - 90x^2 + 7500x$+500, $x \geq 0$. (a) Compute the marginal cost function $C'(x)$. (b) Find the level of output *x* at which marginal cost is minimum.	**5**	**3**
Q 9	What are the properties of isoquant curves? Define isocost line.	**5**	**2**
Q 10	How increase in income of the consumer affects his consumption of two different goods. Explain using indifference curve analysis.		**3**

SECTION C (2*15 = 30 marks)

Q 11	Explain Slutsky's theorem that price effect is the sum of substitution effect and income effect using graphs.	**15**	**3**
Q 12	Describe consumer's equilibrium through indifference curve analysis.	**15**	**2**
Q 13	Assume that the production function is $Q = AL^aK^b$, where *Q* is level of output, *A* is a constant, and *L* and *K* denote labour and capital respectively. Compute the marginal product of *L* and *K*, Calculate the marginal rate of technical substitution $MRTS_{L,K}$ between	**15**	**4**
SECTION D (30 marks)			
Q 14	Let the utility function is given as $u(x_1, x_2) = x_1^a x_2^b$. The price per unit of x_1 and x_2 are given as P_1 and P_2 respectively. The total income of the consumer is *M*. Find the optimum bundle of x_1 and x_2 that will maximize the consumer's utility/ satisfaction.	**30**	**4**