Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

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

Course: Basics of Energy Economics **Semester: I**
Program: BA (H), Specialization in Energy Economics **Time: 3 Hours**
Course code: ECON1005 **Max. Marks: 100**
Instructions: Do as Directed

SECTION A

		Marks	CO
Q1.	Choose the correct answer		
i.	India's energy intensity has: (a) increased over the period of time (b) decreased over the period of time (c) remained constant over the period of time (d) None of the above	**[2]**	**CO1**
ii.	The first law of thermodynamics states : (a) Energy can neither be created nor destroyed (b) Energy can be converted from one form to another (c) Energy can be converted from one form to another with the interaction of heat, work and internal energy, but it cannot be created nor destroyed, under any circumstances (d) All of the above.	**[2]**	**CO1**
iii.	The demand for Natural Gas is determined by : (a) Price of Natural gas (b) Price of Coal and Oil (c) Number of Buyers (d) All of the Above	**[2]**	**CO1**
iv.	Energy demand has increased because of: (a) Increase in Human Population (b) Economic Development (c) Rapid Industrialization (d) All of the above	**[2]**	**CO1**
v.	The production of biofuels has globally increased from 9.18 billion in 2000 to 84.12 billion in 2017 because they are: (a) Renewable, Secure and Sustainable (b) Non-renewable but cheaper than Oil and Natural Gas (c) Easily Accessible and Cheaper (d) None of the Above	**[2]**	**CO1**

SECTION B

Q2.	Differentiate between renewable and non-renewable sources of energy.	**[4]**	**CO1**
Q3.	Describe energy-mix of India.	**[4]**	**CO2**
Q4.	Delineate the scope and limitations of energy economics.	**[4]**	**CO1**
Q5.	What are the basic features of biomass energy or bioenergy?	**[4]**	**CO5**

Q6.	Enumerate and explain briefly the role of various data sites on energy consumption.	**[4]**	**CO2**
	SECTION-C		
Q 7.	Energy intensity and elasticity has declined in India since the first decade of twenty-first century? What does it signify?	**[5]**	**CO4**
Q8.	Energy is considered to be a key player in the generation of wealth and also a significant component in economic development. Explain the statement with reference to the context.	**[5]**	**CO3,4**
Q9.	Do you think that energy sector is complex? Why? Why not? Analyze the multidimensional nature of energy-related interactions at the global level.	**[5]**	**CO3,4**
Q10.	Consider a hypothetical economy whose primary energy consumption increased from 3,940 Mtoe in 2017 to 4,450 Mtoe in 2018. The GDP increased from 28,394 Billion Rupees in 2017 to 31,206 Billion Rupees in 2018 at constant prices. What was the GDP elasticity of energy demand in this economy?	**[5]**	**CO5**
	SECTION-D		
Q11.	Consider the following demand and supply function of coal as: Q_d= 75-2P_c + P_{sb} - 2P_{cm} + 0.1Y and Q_s= 6 + P_c - P_k – 0.2P_l - 0.4P_{nr} – 1.5P_{sm} Where P_c is the price of coal P_{sb} is the price of substitute to coal, such as natural gas, set = 1 P_{cm} is a complement to coal such as boiler set, set = 10 Y is a measure of economic activity, set = 100 P_k is the price of capital, set = 2 P_l is the price of labor, set = 3 P_{nr} is the price of natural resources used in the production of coal, set = 5 P_{sm} is the price of similar products which a coal can produce, set = 4 Assume that the market is competitive. Calculate equilibrium price and quantity of coal.	**[20]**	**CO5**
Q12.	What are the major environmental concerns of energy generation and utilization in India? How can these concerns be addressed?	**[15]**	**CO5**
Q13.	Consider the following definition of energy economics and answer the questions given at the end: "Like any branch of economics, energy economics is concerned with the basic economic issue of allocating scarce resources in the economy. Thus the microeconomic concerns of energy supply and demand and the macro-economic concerns of investment, financing and economic linkages with the rest of the economy form an essential part of the subject." (Bhattacharyya, 2011) (a) What is the basic concern of energy economics? (b) Elaborate the micro and macro concerns of energy economics. (c) List some measures that can help in addressing the above concerns.	**[15]**	**CO5**