Name: **Enrolment No:**	UPES

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

Course: Energy Sector Structure and Functioning **Semester: II**

Programme: BA- Economics (with specialization in Energy Economics) **CC:ECON1009**

Time: 03 hrs. **Max. Marks: 100**

Instructions:

SECTION A

S. No.		Marks	CO1
Q 1	Statement of question		
A	State whether the following statements are True or False with reasons. 1. Demand for energy is a derived demand. 2. All essential services are public utilities while all public utilities are not essential services.	**02**	
B	Differentiate between Natural Gas, Liquefied Natural Gas, LPG on the basis of their chemical composition	**02**	
F	Give the names of energy ministries in India?	**02**	
G	Explain the following concepts alongwith support data: a) Electricity coverage. b) Share of fossil and renewable energy c) Per capita electricity use	**03**	
F	Explain the concept of GDP Elasticity with the help of an example.	**03**	
G	What is the concept of energy balance and its uses?	**04**	
H	Explain the full names of the following: CERC, SERC, CSP, SPV, CFA, FOR, TOD, CRR	**04**	
SECTION-B			
Q	Attempt all the given questions:		**CO2**
1	What are economic characteristics of Public Utility?	**07**	
2	What are the differences between conventional and non-conventional energy sources and primary and secondary energy classifications?	**07**	
3	What is Marginal Cost Pricing? Explain with the help of an example and diagram.	**06**	
SECTION-C			
Q	Attempt any Three Questions		**CO3,**
A	Why AR & MR curves in a Monopoly market are downward sloping? Explain with the help of a diagram.	**15**	
B	India pursues three key objectives in its energy policy: energy access, energy security and climate change. In this regard share your understanding about the intertwined dynamics of energy stakeholders and multiple interests which are very crucial to understanding India's energy sector.	**15**	
C	How do you see the impact of Open Access policy on the business of a distribution company? Considering a distribution company as a monopolist. Discuss	**15**	

D	Discuss the economics of discriminatory charging in detail with the help of an example.	**15**	
	Section D		**CO4**
	Read and Analyze the following case let on energy efficiency : Energy efficiency has emerged as one of the key policy priorities in India's energy sector since the enactment of Energy Conservation Act 2001. Subsequently, the Bureau of Energy Efficiency (BEE) was established in 2002 under the MOP with the mission to assist in developing policies and strategies to primarily reduce the energy intensity of the Indian economy. The State Designated Agencies (SDA)s are statutory bodies set up by states to implement energy conservation measures at the state level; one of the BEE's tasks is to strengthen the institutional capacity of SDAs. Since its inception, the BEE has made considerable achievements in institutionalising energy conservation measures such as standards and labelling programmes and issuance of an energy efficient building code. One concept introduced in India is a "negawatt," referring to a negative Megawatt as a result of reducing energy needs. The IEP pointed out that "a unit of energy saved by a user is greater than a unit produced as it saves on production, transport, transmission and distribution losses." On this basis, the IEP suggests that Energy Service Companies as a negawatt producer may be given the same incentives as other renewable companies. The IEA ETP 2010 analysis also confirms the huge potential of India's energy saving. A combined 42% of emission reduction in India during 2010-50 would come from energy efficiency improvements in power generation and end-use fuel and electricity Consumption. The NMEEE commenced in 2010 under the MOP and BEE. It is likely to achieve about 23 Mtoe of fuel savings in coal, gas and petroleum products by FY 2014/15 as well as over 19 GW of avoided capacity addition. The centrepiece of NMEEE is the Perform, Achieve and Trade (PAT) scheme, which aims to improve energy efficiency in energy intensive industry through market-based, cost-effective mechanisms. It was included in the amendment to the 2001 Act in 2010 along with the introduction of energy saving certificates. Under the PAT scheme, eight energy-intensive industries, including power, iron & steel, cement, fertilizer and aluminium, will have mandatory participation in the first phase, with an expected reduction of expecting 5.4% of energy consumption by energy intensive industries in three years (BEE, 2012). One of the major challenges for energy efficiency improvements in India is the wide difference in energy efficiency levels among different industries and among companies even in the same industry (IEA, 2011d). On the one hand, India has world-class, large-scale companies with modern, highly efficient facilities. On the other hand, there are small and medium size companies that use outdated and very inefficient processes. Different approaches and technologies need to be applied in consideration to the varying conditions of industry and companies. Q.1 Share your understanding on Energy Efficiency Scenario with the help of case let.	**15**	

Name: **Enrolment No:**	UPES

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

Course: Energy Sector Structure and Functioning **Semester: II**

Programme: BA- Economics (with specialization in Energy Economics) **CC:ECON1009**

Time: 03 hrs. **Max. Marks: 100**

Instructions:

S. No.		Marks	CO1
	SECTION A		
Q 1	Statement of question		
A	State whether the following statements are True or False with reasons. 1. Demand for energy is a derived demand. 2. All essential services are public utilities while all public utilities are not essential services.	**02**	
B	Differentiate distribution of power between central, state and concurrent with the help of an example	**03**	
F	Give the names of four energy ministry and one department in India?	**02**	
G	Give the two examples of unit conversion on the basis volume and mass conversion	**02**	
F	Explain the concept of GDP Elasticity with the help of an example.	**03**	
G	What is the concept of Gross Energy Requirement (GER)?	**04**	
H	Explain the full names of the following: CERC, SERC, CSP, UREDA, CFA, FOR, IREDA, BHEL	**04**	
	SECTION-B		
Q	Attempt all the given questions:		**CO2**
1	Explain energy sector as public utility along with its characteristics?	**07**	
2	What implications do you perceive about electricity as concurrent responsibility?	**07**	
3	What is Peak Load Pricing? Explain with the help of an example and diagram.	**06**	
	SECTION-C		
Q	Attempt any Three Questions		**CO3,**
A	Discuss and explain average cost pricing, marginal cost pricing and market price with the help of diagram.	**15**	
B	India is transforming into a more open and free market economy. Explain with respect to the implication on energy sector in India	**15**	
C	Compare Solar Roof Top Policy of MNRE and Suryoday Swarojgar Yojana of Government of Uttarakhand.	**15**	
D	Discuss the economics of discriminatory charging in detail with the help of an example.	**15**	
	SECTION-D		**CO4**
	Read and Analyze the following: For Indian coal reserves, different data provided by several institutions could have important implications on the country's coal future, as well as its entire energy sector. The	**15**	

	conventional perception of India's coal is its abundance. The 11th Five-Year Plan states that if all resources were to be utilised, the current level of production could be sustained for 140 years, albeit without consideration into technical and economical feasibility. The MOC's report shows that "extractable" reserves (that can be recovered/mined depending on the mining method and technology deployed in the mine) estimated by CIL's subsidiary, Central Mine Planning and Design Institute, are much less than its "proved" reserve estimation (MOC, 2005). Several experts have cautioned against the "myth of abundance" in regard to India's actual coal availability. The IEP warned that "large estimates of total coal resources give a false sense of security because current and foreseeable technologies convert only a small fraction of the total resource into the mineable category" (PC, 2006). The 11th Five-Year Plan indicated that extractable coal reserves will run out in approximately 45 years if India's coal production continues to grow at 5% per year. (WEO 2011 projects that Indian coals demand would increase at a CAGR of 4.1% throughout 2009 to 2035.) One expert argued that CIL can only sustain the current level of production for 45 years and "India does not have adequate extractable coal reserves required either to meet current incremental demand or to make long-term supply commitments" (Batra, 2011). Others questioned the actual accessibility of some coal reserves and CIL's technical capability to develop and produce the proven coal reserves (Madan, 2006). This different data leads to questions; is the current coal shortage temporary, or more fundamentally, does it imply that India might not have sufficient coal resources to meet its long-term energy demands?		