

<b>Name:</b>	 <b>UPES</b> UNIVERSITY WITH A PURPOSE
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, May 2019**

**Course: Energy & Business Law**  
**Program: MBA – Power Management**  
**Course code: PMPI 8006**  
**Instructions:**

**Semester: IV**  
**Time: 03 Hours**  
**Max. Marks: 100**

**SECTION A**

**( 5 \* 4 = 20 Marks)**

Attempt All Questions		Marks	CO
Q 1	Conceptually explain evolution of the Indian power industry in two phases - Pre Independence and post-Independence area till 1990 (pre-reform area pertaining to Electricity Act 1910 & 1948.	4	CO1
Q2	Analyse the impact of the Electricity Act 2003 with its all segments, objectives and impacts on Indian power sector.	4	CO1
Q3	Explain and describe the role of various statutory bodies in Indian Power sector, CERC, SERC, CEA, Mop, NLDC, RLDC SLDC, CTU, and STU.	4	CO1
Q4	Write down all the 42 No. General Condition of Contracts for an Electricity power company in India.	4	CO1
Q5	Conceptually analyse and describe the failure cases of ENRON Power Company and Orissa Power Reforms with their impact on further reforms on Indian Power sector.	4	CO2

**SECTION B**

**( 4 \* 5 = 20 Marks)**

Attempt All Questions		Marks	CO
Q6	Analyse all the post reforms relevant regulations in Indian Power Sector till date from (1990 to 2019) with law, policies and their objectives and impacts in brief.	5	CO2
Q7	Analyse the general principles of Law of the Indian Contract Act, 1872.	5	CO2
Q8	Analyse the salient features of Environment Protection Act, 1986.	5	CO2
Q9	Analyse the Levelised Generic Tariff for Various Renewable Energy technologies for the FY 2018-19 announced on 28.03.2019.by C,E,R,C,	5	CO3

**SECTION-C**

**( 3 \* 10 = 30 Marks)**

Attempt Any three Questions		Marks	CO
Q10	Integrate, Analyse and describe the role of B.E.E and Energy Conservation Act, 2001 and its amendment in Electricity saving projects.	10	CO3
Q11	Integrate, Analyse and compare the Land Acquisition Act, 1894 and L.A.R & R Act, 2013 and Amendment in 2015 in the present context of delays in Land Acquisition project cases.	10	CO3
Q12	Integrate, Analyse the Cyber Laws in India, Cybercrimes, in reference to the Information technology Act, 2000.	10	CO3
Q13	Analyse and Integrate the various terms and conditions of C.E.R.C Tariff Regulations for the period (01-04-2019 to 31-03-2024).	10	CO3

## SECTION-D

( 2\*15 = 30 Marks )

	Attempt All Questions		
Q14	<p>Comparatively, Analyse the Case studies of the following three projects in reference to L.A.R &amp; R Act of India 2013.</p> <ol style="list-style-type: none"> <li>TATA Nano projects in Singur.</li> <li>Noida Development</li> <li>Koyambedu Market, Chennai</li> </ol>	15	CO4
Q15	<p>Study the Case given below of “Restoring Angola’s Electricity Network”, And Answer the following questions.</p> <p>Angolans have suffered three decades of civil war, and only in recent years have they been able to begin the slow process of reclaiming their nation by rebuilding both the physical and social infrastructure necessary for peace, security and economic growth. A critical component of this progress is the restoration of the electricity network. The government of Angola has set a goal to provide 100 per cent electrification in urban areas and 60 per cent electrification in adjoining areas by 2012. The U.S. Agency for International Development (USAID) is assisting Angola’s government in reaching this target. A pilot project is under way to address the electrification goals, piloting innovative methods to improve electrification in the adjoining areas.</p> <p><b>Electricity Network in the Municipality of Kilamba Kiaxi, Luanda, Created in GIS</b></p> <p>To address this need, the Academy for Educational Development (AED), a leading non-profit organization working globally to improve education, health, civil society, and economic development, is working with Empresa Distribuidor de Electricidade (EDEL), Angola’s national electricity distribution company and two municipal governments to provide training in urban planning, engineering, and capacity building through the USAID-funded Angola Electricity Support Program (AESP).</p> <p><b>Closing Information Gaps</b></p> <p>Up-to-date maps are essential for planning and managing municipal infrastructure. Cadastral maps are critical for granting land titles and acquiring data necessary to establish an electricity connection. Prior to the launch of AESP, the most recent cadastral maps available in Angola dated back to 1989, a serious barrier to the design and implementation of electricity access programs.</p> <p>“Providing electricity to homes and businesses requires more than just installing poles and stringing cable,” says Joao Baptista Borges, the chief executive officer of EDEL, which provides service to more than seven million people in and around Luanda. “Maps, census, customer, and infrastructure data—which are outdated or non-existent in Angola—are fundamental in planning for and providing electricity.”</p> <p>One of the first activities under AESP was the systematic gathering of information about community resources, households, and infrastructure already in place in the pilot areas. AESP employed ArcView software to introduce its Angolan counterparts to GIS in order to develop accurate baseline information on residences and businesses in the municipalities of Kilamba Kiaxi and Viana. The information collected through surveys and site visits was added to geographic data and maps to create the most up-to-date geographic information systems for the two municipalities.</p>	15	CO4

AED selected ArcView based on Esri’s reputation and because the software is easy to use for inputting and manipulating data for utility, governmental and community use. The newly created maps contain information on land plots and existing electric networks and are providing EDEL with vital information, such as street addresses, meter numbers, and where houses are connected to the electrical system. That information will help EDEL deliver more accurate electricity bills, provide better customer service, and extend the network.

**Surveyors in Kilamba Kiaksi Map the Municipality**

A further breakdown of the layered datasets provides information detailing the extent of electrical infrastructure. With this information, AED and local stakeholders were able to gather and analyse trend information and establish a concrete understanding of who was benefiting from electricity, differentiating between legal and illegal connections and identifying which households were not electrified.

**A Sustainable Intervention**

In addition to upgrading the quality and type of information available, there is a capacity-building component to AESP. To date, EDEL and municipal government staff have been trained on the use and application of ArcView software and GIS principles. The training was so successful—and the software so useful—that EDEL has secured its own ArcView software licenses.

As this project continues, training has been expanded to local stakeholders, including small businesses, civil servants, and residents. Within a forum of open dialog and transparency, municipal governments will have increased opportunities for iterative planning, flexibility, and adjustment. This will lead not only to improved electrical infrastructure but also to increased capacity through collective engagement, planning, and improved governance practices.

Community members in the AESP pilot areas place a high value on the information that has become available to them through the application of GIS. Equipped with information, community groups and individual households are better able to communicate their needs to EDEL and advocate improved service.

GIS has forged new paths and shed new light on underutilized power sources, forecasting, and long-term capital planning. AESP has increased access to electricity or improved electricity service for more than 6,500 households. Another 25,000 households will be supplied with electricity in 2009.

**Questions:**

- 1. Establish the facts of the above case. (5 Marks)
- 2. How can planning help in improving electricity service of any nation? (10 Marks)

**The End**

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**SECTION A**

**( 5 \* 4 = 20 Marks)**

	Attempt All Questions	Marks	CO
Q 1	Conceptually analyze the changing electricity markets in India and contribution of regulatory bodies after electricity act 2003.	4	CO1
Q2	Analyze the development and reforms in India since evolution of electricity power industry first act – 1910 to Electricity Act-2003.	4	CO1
Q3	Describe the salient features of National Electricity Policy-2016	4	CO1
Q4	Analyze the role and impact of the I.P.D.S. and D.D.U.G.V.Y. schemes launched by Ministry of Power for Indian power sector development.	4	CO1
Q5	Conceptually explain the six level implementation strategies in electricity power development.	4	CO2

**SECTION B**

**( 4 \* 5 = 20 Marks)**

	Attempt All Questions		
Q6	Analyze the salient features of the consumer protection act-1986	5	CO2
Q7	Analyze the salient features of Companies Act-2013	5	CO2
Q8	Compare and analyze the nation tariff policy-2016 with the old one of 2006	5	CO2
Q9	What does FIDIC mean. Analyze and compare all the nine types of various coloured contracts used internationally.	5	CO3

**SECTION-C**

**( 3 \* 10 = 30 Marks)**

	Attempt Any three Questions		
Q10	Analyze the objectives of IT act-2000 and explain various types of crimes and computer related crimes under IPC.	10	CO3
Q11	Analyze why we need cyber laws. Explain the amendment in this act in 2008 with short comings in this present act.	10	CO3
Q12	Analyze the problems faced in land acquisition for big projects in the light of L.A.R.&R. act-2013 and 2015 amendment with their salient features.	10	CO3
Q13	Analyze the achievements and progress of L.E.D. distribution program of government of India and explain salient features of the Energy Conservation Act-2001.	10	CO3

## SECTION-D

( 2\*15 = 30 Marks )

	Attempt All Questions		
Q14	Taking case study of Indian Railways, analyze the land acquisition process for joint venture projects and its associated problems.	15	CO4
Q15	<p><b>Case Study : ArcGIS Image Server Speeds Enterprise Imagery Distribution and Processing at CenterPoint Energy</b></p> <p>CenterPoint Energy now deploys Esri’s ArcGIS Image Server for an advanced enterprise application infrastructure, allowing employees to quickly and easily access valuable geospatial imagery.</p> <p>While the application is initially being used by clients in Minnesota, it will be made available to all CenterPoint Energy employees in the seven states the company serves. The new solution delivers rapid deployment of imagery for multiple simultaneous users, providing high-performance, on-the-fly image processing that aids decision, making and boosts productivity.</p> <p>“We set ambitious goals for using our imagery data, and we needed fast processing times to meet the demands we set up for ourselves,” says Cynthia Salas, GIS manager for CenterPoint Energy, the third largest publicly traded natural gas delivery company in the United States. “When we tested ArcGIS Image Server, we found designers, technicians, and digitizers were all very pleased with the processing time. It was twice as fast in some cases, even faster than previously. In addition, they were impressed with the resolution. It was much better. This is the first time since I’ve been here that we tested a new technology and had staff come to us requesting that we immediately go into full production.”</p> <p>CenterPoint began using ArcGIS Image Server in the fourth quarter of 2006. The application was initially configured to support mission-critical needs in the event of a large-scale natural disaster, such as a hurricane, which would disrupt service to CenterPoint customers. The value of digital image data was recognized as vital to the restoration of service. CenterPoint wanted to implement a solution that would enable fast, quality delivery of image data immediately after such a large-scale event.</p> <p>ArcGIS Image Server is poised to fulfil those requirements, providing quick access to imagery of an impacted area and damaged assets. This type of information will enable strategic decision-making about restoration plans as well as provide the information needed to deliver initial assessment to the media. The demand for timely</p>	15	CO4

imagery led to the opportunity for using image data for numerous other challenges at the utility such as new construction and maintenance. Future uses will include land management, right-of-way management, environmental concerns, pipeline integrity, high-consequence area analysis, and customer service. For example, CenterPoint engineers can look at aerial photography to see hospitals, schools, day-care facilities, and other high-population centres to determine the best locations for adding new pipelines or other assets. Overlaying and integrating imagery data with proposed network data provides a complete view for making the best possible decisions. ArcGIS Image Server provides fast access and visualization of large quantities of file-based imagery-processed on the fly and on demand. Output imagery can be displayed nearly instantly for a number of users working simultaneously, without the need to preprocess the data and load it into a database management system.

**Questions:**

- 1. Outline the facts of the above case.
- 2. What are the pros and cons of introducing a new technology like ArcGIS in distribution system?

**The End**