

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December, 2022
Course: Power Economics Semester: I
Programme: MBA -PM

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

Instructions: Read carefully all the instructions in all sections before you answer

SECTION A
Answer all questions

S. No.		Marks	CO
Q 1	What is the objective of Multi-Year-Tariff (MYT)-framework	2	CO1
Q2	What do you mean by open access?	2	CO1
Q3	Give two reasons why demand curve slopes down words	2	CO1
Q4	Mention two examples of elastic and in elastic demand	2	CO1
Q5	Price in 2021 – 180, Price in 2020 is 172 and Quantity in 2021 is 1080, Quantity in 2020 is 1072. Calculate the price elasticity of demand	2	CO1
Q6	Define advertisement elasticity of demand	2	CO1
Q7	Why intercept of supply curve always start from any positive numbers in Y-axis?	2	CO1
Q8	Give two most important functions of regulatory commission	2	CO1
Q9	What are the two important functions of Central Electricity Authority (CEA)	2	CO1
Q10	Which section of Electricity Act deals with power tariff regulations?	2	CO1

SECTION B
Answer any four

Q 1	Determine the equilibrium price and quantity based on the following demand and supply equations $Q = a - bP$, $Q = c + dP$. Also show this through a diagram	5	CO2
Q2	Distinguish between nominal, discounted and levelised tariff	5	CO2
Q3	Analyze the impact of non-price determining factors on demand	5	CO2
Q4	Discuss the applications of elasticity of demand for the managers	5	CO2
Q5	How electricity – GDP elasticity is measured? What are its implications on macro economy	5	CO2

SECTION-C

Q 1	Elaborate the structure of India power sector in terms of generation, transmission and distribution	10	CO3
Q2	Discuss the econometric method of power demand forecasting. How this method is	10	CO3
Q3	Discuss the features of Electricity Act – 2003. What are the recent amendment in this Act?	10	CO3
SECTION-D			
	<p style="text-align: center;">Case Study</p> <p>Amid the Covid-19 pandemic last year, the government of India announced a rescue package for the power sector under the Atmanirbhar Bharat plan. This rescue package was arranged to prevent the entire power sector chain from suffering because of the discoms' inability to meet their obligations.</p> <p>This is not the first time (earlier intervention: UDAY scheme) that the Centre government has stepped in to aid discoms and tackle the problems plaguing the distribution segment. However, even after the repeated interventions, the result has been the cash-strapped discoms looking for another rescue package.</p> <p>This highlights the major structural problems ailing the power sector, which must be rectified for a sustainable power sector in India.</p> <p>Associated Challenges</p> <ul style="list-style-type: none"> ▪ AT&C Losses: Aggregate technical and commercial (AT&C) losses stem from poor or inadequate infrastructure or on account of theft or bills not being generated or honoured. <ul style="list-style-type: none"> ○ The UDAY scheme had envisaged bringing down these losses to 15 per cent by 2019. ○ However, as per data on the UDAY dashboard, the AT&C losses currently stand at 21.7 per cent at the all-India level. ▪ Cost-Revenue Gap: The difference between discoms' costs (average cost of supply) and revenues (average revenue realised) is still high. <ul style="list-style-type: none"> ○ This is due to the absence of regular and revision in electricity tariffs. ▪ Magnifying Effect: Paradoxically, the government's push for ensuring electrification of all has contributed to greater inefficiency. <ul style="list-style-type: none"> ○ As household connections are ramped up, to support higher levels of electrification, cost structures need to be reworked, and the distribution network (transformers, wires, etc.) would need to be augmented. ○ In the absence of all this, losses are bound to rise. 	15	CO4

	<ul style="list-style-type: none"> ▪ Economic Fallout of the Pandemic: Amid pandemic, with demand from industrial and commercial users falling, revenue from this stream, which is used to cross-subsidize other consumers, has declined, exacerbating the stress on discom finances. ▪ Low Investment: Owing to the poor financial health of the dicoms, there are less new investments in the electricity sector (particularly by the private sector). ▪ Fossil Fuel Dominated Energy Generation: Thermal power based on fossil fuel such as coal, natural gas and diesel accounts for 80% of the country's generation. <ul style="list-style-type: none"> ○ Moreover, the majority of plants in India are old and inefficient. <p>Way Forward</p> <ul style="list-style-type: none"> ▪ Eliminate Cross Subsidization: High industrial/commercial tariff and the cross-subsidy regime have affected the competitiveness of the industrial and commercial sectors. <ul style="list-style-type: none"> ○ Thus, there is a need to ensure effective enforcement of rationalization of cross-subsidy. ▪ Covering up AT&C Losses: To manage the demand for power, it is necessary to introduce 100% metering-net metering, smart meters, and metering of electricity supplied to agriculture. <ul style="list-style-type: none"> ○ There is also a need to introduce performance-based incentives in the tariff structure. ▪ Greening The Grid: The KUSUM scheme provides a suitable alternative to the power subsidy model in agriculture. <ul style="list-style-type: none"> ○ The scheme intends to promote the use of solar pumps for agriculture and make provisions that local discoms should buy surplus power from the farmer. ▪ Cross-Border Trade: The government needs to actively promote cross-border electricity trade to utilize existing/upcoming generation assets. The SAARC electricity grid is a step in the right direction. <p>Conclusion</p> <p>A solution that has now been pitched forward to deal with the ailing discoms, is the creation of a national power distribution company. However, without addressing the systemic challenges, it is difficult to see how a sustainable turnaround in the financial and operational position of discoms can be engineered.</p>		
Q 1	Analyze the impact of Covid 19 on Power sector Distribution Companies (Discoms)	15	CO4

Q 2	Critically discuss the impact of rescue package by Govt of India to ailing Discoms	15	CO 4
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