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Deregulation of Power System
End Semester Examination
Duration : 3:00hrs

EE-442
Maximum Marks: 50

All questions are compulsory

- Q.1 Give the block diagram representation of California ISO with the explanation of all components along with functions of all entities involved. (5)
- Q.2 What is the structure of electricity industry in England and Wales? Give the details of all stages involved in deregulating scenario of England and Wales. (5)
- Q.3 A four participant market has two generation companies (GenCo I GenCo II) as sellers and two distribution companies (DisCo I and DisCo II) as buyers. The offers by two GenCos are tabulated in Tables 1 and 2; the bids provided by two DisCos are as shown in Tables 3 and 4. (10)
- Draw the bid curves of DisCo I and DisCo II, and supply curves of (GenCo I GenCo II).
 - Calculate and draw aggregated demand and supply curves of the given values.
 - Calculate the market clearing price and market clearing quantity.

Table 1 GenCo I bids

Price (\$/MWh)	Supply (MW)
0.00	15.0
19.99	15.0
20.00	90.0
40.00	90.0

Table 2 GenCo II bids

Price (\$/MWh)	Supply (MW)
0.00	15.0
19.99	0.0
20.00	40.0
35.00	60.0
40.0	100.0

Table 3 (DisCo I)

Price (\$/MWh)	Demand (MW)
0	70
40	70

Table 3 (DisCo II)

Price (\$/MWh)	Supply (MW)
0.00	80.0
22.5	80.0
30.00	65.0
35.00	65.0
37.5.0	60.0
40.0	60.0

- Q.4 Explain the transmission pricing methods, MW-Mile method and postage stamp methods in detail. (5)
- Q.5 What are ancillary services? Why the ancillary services are needed? Give the detailed classification of ancillary services. (5)
- Q.6 Describe congestion management. What are the causes and effects of congestion management? (5)
- Q.7 Give the functions of the following in the restructured power system in detail: (2*5=10)
- ESP
 - Co-generator
 - Load aggregator
 - PX
 - Retailer
- Q.8 Give the step by step procedure (in terms of a flow chart representation) to describe the process of settling the spot market. (5)

Best of luck