

Register No.: ..... Name: .....

**SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)**

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**SECOND SEMESTER M. TECH DEGREE EXAMINATION (Regular), JULY 2022****POWER SYSTEMS****(2021 Scheme)****Course Code :** 21PS205-C**Course Name:** Power System Economics**Max. Marks :** 60**Duration: 3 Hours****PART A***(Answer all questions. Each question carries 3 marks)*

1. Explain the key components in power system market operation.
2. Summarize the concept behind following terms,  
a) Open and closed oligopoly b) Partial and full oligopoly c) Perfect and imperfect oligopoly
3. What are the different types of ancillary services scheduling?
4. Differentiate between generation asset valuation and generation capacity valuation.
5. Write a short note on local marginal pricing.
6. Discuss the term transmission congestion management.
7. Demonstrate the significance of FACTS devices in power market.
8. Explain the significance of distributed generation in restructured markets.

**PART B***(Answer one full question from each module, each question carries 6 marks)***MODULE I**

9. Articulate in general about the issues addressed by NEC policy 2005 in accordance with the power generation, transmission and generation. (6)

**OR**

10. Describe the role of following market entities in detail. (6)  
a) ISO b) GENCOs c) TRANSCO

**MODULE II**

11. Reliance wants to construct a new diesel power plant in Kerala. Help the team set and list out the various short term and long-term goals for the company. How will you classify the cost incurred and bring out the difference between both? (6)

**OR**

12. Even though price discrimination is beneficial it can lead to a few consumers ending up paying higher prices. Justify this statement. (6)

**MODULE III**

13. Explain the concept of price volatility in energy market. (6)

**OR**

14. Explain the sequential auction of ancillary services with the help of a flow chart. (6)

**MODULE IV**

15. With the help of a flowchart, explain how VAR can be implemented for asset valuation based on daily schedule. (6)

**OR**

16. Enumerate the significance of the concept of arbitrage in a power market and also explain same commodity arbitrage in detail. (6)

**MODULE V**

17. Identify the use of MW mile method and MVA mile methods and explain each term in detail. (6)

**OR**

18. Write a short note on firm transmission right and explain its connection to transmission congestion management. (6)

**MODULE VI**

19. Explain the term ATC. Explain the significance of ATC in various perspective of energy market. (6)

**OR**

20. Explain any three FACTS devices and enumerate how it influences energy market. (6)

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