6441

BOARD DIPLOMA EXAMINATION

JUNE - 2019

DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING

POWER SYSTEMS -I (G& P)

FOURTH SEMESTER EXAMINATION

Time: 3 Hours **Total Marks: 80**

PART - A (3m x 10 = 30m)

Note 1:Answer all questions and each question carries 3 marks

2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. List the different methods of Energy conservation
2. State the method of generation of Geo Thermal Power plant
3. State the function of Steam turbine in thermal power station
4. State the need of Spill gates in Hydroelectric Power Station
5. List any three properties of Nuclear Fuels used in Nuclear Power Station
6. List the basic Components of a Wind Mill
7. List various Charges in Power station
8. Define i) Arc Voltage ii) Recovery Voltage
9. List the possible Faults in a Transformer
10. State the reasons for the Cause of Surges

PART - B (10m x 5 = 50m)

Note 1:Answer any five questions and each carries 10 marks

2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11. A) Mention any ten factors affecting the selection of site for Thermal Power Station

    B) State the functions of Super Heater and Air Pre-heater with neat sketches

12. Explain the working of Hydroelectric Power Station with neat diagram
13. Explain the working of a Moderate type Nuclear Power Station with neat block diagram

14. Explain the working principle of Wind Mill with neat sketch

15. A single phase motor connected to a **230 V**, 50 Hz supply takes **30** A at a P.F of **0.7** lag. A capacitor is shunted across the motor terminals to improve the P.F to **0.9** lag. Determine the capacitance of the Capacitor

16. Explain the working of Axial blast Air Circuit Breaker with neat sketch

17. Explain the Earth Fault protection for Rotor of an Alternator with neat sketch

18A. Explain the effects of load factor and diversity factor on the cost of Generation of Electrical energy

B. Explain the Construction and working of Horn gap Lightening Arrester With neat sketch

- xxx -