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Total No. of Pages : 01

Total No. of Questions : 08

B.Tech. (Electrical Engineering) (Sem.-6)
WIND AND SOLAR ENERGY SYSTEMS
Subject Code : BTEE-603D-18
M.Code : 79317
Date of Examination : 21-06-21

Time : 2 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE question(s), each question carries 12 marks.

1. a. What is the Betz limit and how is it applied to wind turbines?
b. If you have a wind turbine with three blades, each 4 meters long, what distance does the tip of each blade travel in one full revolution?
2. a. Is tip speed ratio constant? How do you calculate tip speed ratio?
b. According to the “optimal” tip speed ratio for this three-bladed turbine, are these blades moving too fast or too slow?
3. What is the difference between Induction Generator and synchronous generator? What are the types of induction generator?
4. a. What is the spectrum of Solar Radiation?
b. You're Kidwind turbine has blades that are 0.25 meters long. They are spinning rapidly at 600 RPM. What is the tip speed?
5. What is the difference between PV module and PV array? How do you find the PV of an array?
6. What are the different components of solar thermal power generation? Explain Benefits and drawbacks of thermal power plants.
7. What is meant by fault ride through capability? What is the tolerance limit of frequency in power system?
8. What is Hybrid and Isolated Operation of PV system and wind system? How does a solar wind hybrid system work?

Note: Any student found attempting answer sheet from any other person(s), using incriminating material or involved in any wrong activity reported by evaluator shall be treated under UMC provisions.

Student found sharing the question paper(s)/answer sheet on digital media or with any other person or any organization/institution shall also be treated under UMC.

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