Code No: 138FK **R16**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year II Semester Examinations, December - 2020
WIND, SOLAR AND HYBRID ENERGY SYSTEMS
(Electrical and Electronics Engineering)

Time: 2 Hours **Max. Marks: 75**

Answer any Five Questions
All Questions Carry Equal Marks
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1. Explain in the wind power statistics in Indian and global scenario. [15]

2. Show that the Power of wind is directly proportional to the air density, Speed and Cross sectional Area. [15]

3. Explain in detail about the working of doubly fed Induction generator with a neat diagram. [15]

4. Explain the operation of fixed and variable speed wind turbine. [15]

5. Explain in detail about the Solar Declination angle and give its empherical formulae along with necessary explanation. [15]

6. What is pv module? Explain the V-I characteristics of a p-v cell. [15]

7. Explain the solar power generation in:
   a) Parabolic dish and b) Solar pond. [8+7]

8. Explain Voltage and Frequency operating Limits of grid and their Impacts. [15]

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