

**Code No: 156DH****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year II Semester Examinations, August/September - 2021****WIND AND SOLAR ENERGY SYSTEMS****(Electrical and Electronics Engineering)****Time: 3 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 differences between fixed speed and variable speed wind turbines. [15]
5. Explain in detail about the Solar Declination angle and give its empherical formulae along with necessary explanation. [15]
6. Discuss different solar photovoltaic technologies in detail. [15]
7. What are the power quality issues in the interconnected systems of solar PV and wind systems? Elaborate. [15]
8. Explain the solar power generation in Parabolic dish. [15]

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