



GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

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Name of Examination : **Winter 2020** - (Preview)

Course Code & Course Name : **EE404A - Elective -II-Wind and Solar Power Technologies**

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Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

- 1) Solve any three:
 - a) Give the control methods and control strategies to optimize the power output. [6]
 - b) Define Solidity, Tip-speed ratio and power coefficient. [6]
 - c) What is Ben's limit? Give its importance in Wind Power Generation. [6]
 - d) Give the reasons why there is a need for reactive power compensation. Enlist the methods of compensation. [6]
- 2) Solve any three:
 - a) Write short note on Fixed Speed Wind Turbine. [6]
 - b) What are different Wind Turbine Topologies? [6]
 - c) Describe in brief the voltage and frequency limits. [6]
 - d) How the Solar Spectrum reaches to earth? [6]
- 3) Solve any three:
 - a) Explain Solar power estimation for house in residential area. [6]
 - b) Describe the Solar cell, PV module and Array. [6]
 - c) Give in brief the scenario of Solar Power Generation in India. [6]
 - d) What is solar pond? give its advantages and dis-advantages. [6]
- 4) Give the advantages and dis-advantages of Mono-crystalline solar panels. [6]

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