


<b>Name:</b> <b>Enrolment No:</b>	
<b>UNIVERSITY OF PETROLEUM AND ENERGY STUDIES</b> <b>End Semester Examination, December 2022</b>	
<b>Course: Wind and Alternative Sources of Energy</b> <b>Program: MBA (Power Management)</b> <b>Course Code: PIPM 8002</b>	<b>Semester: III</b> <b>Time: 03 hrs.</b> <b>Max. Marks: 100</b>

**Section – A (2 marks \* 10 = 20 Marks)**

**Fill in the blanks with the most suitable word/figure. Correct filling of each blank will fetch 2 marks. (CO1)**

1. Wind energy is the energy content of air in motion due to \_\_\_\_\_ heating of earth's surface.
2. For both wind and biomass energy, \_\_\_\_\_ energy is the input source of energy.
3. Biomass gasification leads to the generation of \_\_\_\_\_ gas that is a mixture of \_\_\_\_\_ and \_\_\_\_\_ .
4. Based on location, wind power projects can be classified as \_\_\_\_\_ , \_\_\_\_\_ and \_\_\_\_\_ wind farm.
5. Out of the total target of \_\_\_\_\_ MW installed capacity from solar, wind, biomass and small hydro to be completed by year 2022 in India, \_\_\_\_\_ MW is the targeted installed capacity from wind.

**Section – B (5 marks \* 4 = 20 Marks)**

**Briefly explain the following: (CO1)**

1. Wind Atlas
2. Betz Law
3. Wind Park Effect
4. Bio-CNG

**Section – C (10 marks \* 3 = 30 Marks)**

**Answer all questions in this section:**

**(CO2)**

1. Discuss the various options to improve wind power at a particular site.
2. Assuming yourself as a policymaker, discuss policy measures that can help create a market for biogas run vehicles.
3. It has been observed that the wind power industry is going for larger and larger wind turbines. Discuss the reasons for such a trend.

**Section – D (15 marks \* 2 = 30 Marks)**

**Answer all questions in this section:**

**(CO3)**

1. Discuss Sweden's waste management practices (including waste to energy practices) that make it a world leader in this area.
  2. RPO, Feed-in Tariff, Generation Based Incentive, Accelerated Depreciation and other incentives have been used worldwide for creating an initial market for wind power. Explain how these instruments and incentives have created an initial market for wind power in India. Additionally, discuss the role of competitive bidding in making stable wind power market efficient, competitive and transparent.
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