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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2021

Program: MBA (Power Management)

Subject (Course): Wind and Alternative Sources of Energy

Course Code : PIPM 8002

No. of page/s: 2

Semester – III

Max. Marks: 100

Duration : 3 Hrs

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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