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UNIVERSITY OF PETROLEUM & ENERGY STUDIES
DEHRADUN
End Semester Examination-May 2017

Program/course	: MA (EE)	Semester	: II
Subject	: Techno economic of energy system	Max. Marks	: 100
Code	: MEDE833	Duration	: 3 Hrs
No. of page/s	: 2		

Section A

Q1. Attempt all the questions. Mark "T" for True & "F" for False (10 X2= 20)

- a) Efficiency of a typical large hydroelectric plant is generally very less..
- b) Geo thermal energy is a popular & common energy source in India.
- c) Wind plant production is highly predictable & forecasting is easy.
- d) The efficiency of a solar PV is generally greater than 50%.
- e) Biomass energy sources are readily available in cities.
- f) Biomass fuels are zero emission fuels.
- g) Solar PV plant generates AC voltage.
- h) Capacity factor depends on height of wind turbine.
- i) High density of air makes more production from wind turbine.
- j) Net metering is very common in India.

Section B

Answer any four of the following questions: (4 X5= 20)

- Q2. What are the macro economic factors considered for checking viability of a wind form?
- Q3. What are the advantage of Mini hydroelectric plants?
- Q4. Draw an schematic diagram for Net metering enabled roof top PV plant.
- Q5. How the performance of PV Cell varies with rise in temperature?
- Q6. Why HAWT is more popular than VAWT? .

Section - C

Answer any three questions

(3 X 10 = 30)

- Q7. What is capacity factor of a wind turbine and How is it related with location & height?
- Q8. What are the various active & passive solar thermal devices?
- Q9. What are the components of wind turbines used in wind farms?
- Q10. What kind of biomass fuels are available in India and write advantage / disadvantage?

Section - D

Answer any two questions

(2 X 15 = 30)

- Q11. What are the various type of PV cell technologies and their comparison?
- Q12. What are the impacts & issues of Wind power plant?
- Q13. What are the highlights & benefits passed on under JNNSM?