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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year I Semester Supplementary Examinations Feb-2021

NON- CONVENTIONAL ENERGY RESOURCES

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Explain brief about solar radiation. 6M
b Explain working of sunshine recorder with neat sketch. 6M

OR

- 2 a What are the types of solar radiation measuring instruments? 6M
b What is the need of renewable energy? 6M

UNIT-II

- 3 a Mention the thermal analysis of flat plate collector. 6M
b Write the application of solar energy. 6M

OR

- 4 a Explain working principle of concentrating collector. 6M
b Explain working principle of solar PV cells. 6M

UNIT-III

- 5 a Explain wind power. Explain in detail. 6M
b Mention advantages and disadvantage of wind energy. 6M

OR

- 6 a Difference between HAWT and VAWT. 5M
b Classify the wind turbines. Explain any one with neat sketch. 7M

UNIT-IV

- 7 a What is bio mass? Why it is called renewable energy? 6M
b Write merits and demerits of Biomass energy. 6M

OR

- 8 a Mention characteristics of Bio diesel. 6M
b What are the factors affecting generation of bio mass? 6M

UNIT-V

- 9 a Mention the application of hydrogen. 6M
b Difference between wave and tidal energy. 6M

OR

- 10 a What is geothermal energy and explain its extraction process. 6M
b What are the different methods of hydrogen storage? 6M

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