

Reg. No:

--	--	--	--	--	--	--	--	--	--

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

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

NON- CONVENTIONAL ENERGY RESOURCE

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

- 1 a Derive an expression for solar radiation on tilted surface. 6M
b Explain brief about solar radiation. 6M

OR

- 2 a Describe the Renewable Energy scenario in Andhra Pradesh. 6M
b What is the need of Renewable Energy? 6M

UNIT-II

- 3 a How steam will be generated with parabolic dish collector? Explain. 8M
b Write the application of solar energy. 4M

OR

- 4 a Explain the construction and uses evacuated tube collectors. 6M
b Explain working principle of solar PV cells. 6M

UNIT-III

- 5 a Explain the performance of wind machines. 6M
b What are the safety and environmental impact of wind energy? 6M

OR

- 6 a Explain briefly functioning of Darrieus Wind turbine. 5M
b Difference between HAWT and VAWT. 7M

UNIT-IV

- 7 a What is meant by fermentation, aerobic, anaerobic digestion? Explain. 8M
b Write merits and demerits of Biomass energy. 4M

OR

- 8 a Explain the function of the Deenbandhu biogas digester with neat sketch. 8M
b What is bio mass? Why it is called renewable energy? 4M

UNIT-V

- 9 a Explain Geothermal binary cycle power plant with neat sketch 7M
b Mention the application of hydrogen. 5M

OR

- 10 a How do you classify hydrogen production method and mention any one in detail. 8M
b Difference between wave and tidal energy. 4M

*** END ***