

Reg. No. :

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

Question Paper Code: 39303

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

Elective

Electrical and Electronics Engineering

01UEE903 - NON-CONVENTIONAL ENERGY RESOURCES

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What are the adverse effects produced by geo thermal energy source?
2. What are the resources for power development in India?
3. Name the types of concentrating collectors.
4. What is solar heating?
5. What are the advantages of vertical axis wind turbine over horizontal axis wind turbine?
6. Define cut-in and cut-out speed in wind turbine.
7. Distinguish between wet fermentation and dry fermentation.
8. List out factors affecting generation of bio-gas.
9. What are the disadvantages of tidal power plant?
10. Mention the uses of low enthalpy geothermal fluids.

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss the environmental aspects of various renewable energy sources. (16)

Or

(b) Describe various types of renewable energy sources. (16)

12. (a) What is the principle of solar photovoltaic power generation? Explain the main elements of a PV system. (16)

Or

(b) Describe with block diagram working of solar thermal power plant. (16)

13. (a) Derive the expression for wind energy estimation. (16)

Or

(b) Explain construction and working of vertical axis wind turbine. (16)

14. (a) With neat diagrams explain floating drum and fixed dome bio gas plants. (16)

Or

(b) With block diagram describe production of ethanol from sugar cane. (16)

15. (a) Explain with suitable schematic diagram closed OTEC cycle plant and point out its major differences with a conventional thermal electrical plant. (16)

Or

(b) Explain working of hydrogen fuel cell system. (16)