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B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

Sixth Semester

CH16601 – ENERGY ENGINEERING*(Chemical Engineering)***(Regulation 2016)****Time: Three Hours****Maximum : 100 Marks**Answer **ALL** questions**PART A - (10 X 2 = 20 Marks)**

	CO	RBT
1. Classify the various energy resources.	1	R
2. Define BTU.	2	R
3. Defend the necessity for clean development mechanisms.	2	U
4. Differentiate flash point and fire point.	2	U
5. Debate on the negative impacts of geothermal power plant.	3	U
6. Illustrate the importance of the power coefficient of wind power.	3	U
7. Give the composition of biogas.	4	R
8. Explain pyrolysis.	4	U
9. State benchmarking with reference to energy performance.	4	U
10. Justify the importance of thermal energy management.	4	AN

PART B - (5 X16 = 80 Marks)

11. (a) With statistical data compare Indian energy scenario with the global energy scenario in detail.	(16)	1	U
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(OR)

(b) Distinguish short term and long term energy planning. Suggest techniques to reduce the gap between supply and demand.	(16)	1	U
12. (a) With a neat sketch explain the working principle of a hydropower plant and pumped storage power plant.	(16)	2	U

(OR)

- (b) Explain fluidized bed combustion process with a neat diagram. (16) 2 U
Mention its advantages and disadvantages.
13. (a) (i) Illustrate the working principle of a solar water heating system with a neat sketch. (8) 2 U
- (ii) Explain solar refrigeration. (8) 2 U

(OR)

- (b) (i) With a schematic diagram explain the working of a simple OTEC power plant. (8) 2 U
- (ii) List the points to be considered while selecting a site for a wind mill. (8) 2 U
14. (a) Classify biogas plants. With a neat sketch explain the principle of working of a biogas plant. (16) 3 U

(OR)

- (b) With a neat sketch explain the working of an integrated gasification system. Also list its merits and demerits. (16) 3 U
15. (a) Elaborate the objectives of the Energy Conservation Act. (16) 4 U

(OR)

- (b) Explain the detailed energy auditing methodology. Also mention various energy auditing tools used in energy auditing. (16) 4 U