M.Tech. (Energy Management Systems) Regular-Semester 2012 Sem II

MT-1013 - Energy Audit & Management

P. Pages : 1 **GUG/W/16/3956**

Time : Three Hours * 4 7 5 4 * Max. Marks : 70

Notes :
1. All questions carry equal marks.
2. Answer **any five** questions in all.
3. Due credit will be given to neatness and adequate dimensions.
4. Assume suitable data wherever necessary.
5. Illustrate your answers wherever necessary with the help of neat sketches.
6. Use of Non programmable calculator and drawing instruments is permitted.

1.	a)	What is the significance of Energy Policy for an industry. Write down & explain in brief energy policy for one of the Company/ industry that you have visited or studied.	**7**
	b)	What are the different types of Energy Audits. Give standard Energy Audit Reporting Format.	**7**
2.	a)	Why is it mandatory for an Energy Manager to understand details of Energy Costs. What are the methods by which they can be realized?	**7**
	b)	State & explain two vital tools for performance assessment & logical evolution in energy efficiency improvement.	**7**
3.	a)	What are the two parts of a standard format of an Energy Policy, normally formulated by the industries.	**7**
	b)	As an Energy Manager, how will you motivate the employees to cooperate in execution of energy management program?	**7**
4.	a)	It is said that accountability is key to the successful execution of an energy management program. Justify.	**6**
	b)	Discuss role of an Energy Committee in effective implementation of an energy management program.	**8**
5.	a)	List down various guidelines for carrying out material & energy balance.	**6**
	b)	In a dryer, the condensate was measured to be 80 Kg/Hr. The flash steam was calculated to be 12 Kg/Hr. Find out actual steam consumption of the Dryer.	**8**
6.	a)	Explain how energy saving opportunities may be located to an electricity demand profile.	**6**
	b)	A college is occupied for a period of 11 hours/ day for 5 days a week. Assume that the load factor is 0.45. List any three natural questions that will emerge in the mind of an Energy Auditor, looking at the aforesaid data pattern.	**8**
7.	a)	Draw typical heat balance diagram (block diagram) in a steam boiler.	**7**
	b)	Explain difference between internal & external benchmarking.	**7**
8.	a)	State & explain importance & significance of Sankey Diagram.	**7**
	b)	Explain how CUSUM chart is drawn with example.	**7**

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