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**SUBJECT CODE NO:- H- 4028**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**Final B.Tech. (E.E.) (Sem-VII)**  
**Open Elective-II**  
**Energy Planning & Conservation**  
**[Revised]**

[Time: Three Hours]

[Max. Marks:80]

- N.B. Please check whether you have got the right question paper.
- 1) Question No.1 from section A and question no 6 from section B are compulsory
  - 2) Solve any two from remaining questions from each section.
  - 3) Assume suitable data , if required

**Section – A**

- |     |   |          |
|-----|---|----------|
| Q.1 | Solve any 5 from following  | 10       |
|     | <ol style="list-style-type: none"> <li>a) Define Energy conservation and Energy Efficiency.</li> <li>b) Recall the basis for achieving the aim of energy security for a country?</li> <li>c) Identify the elements of succesful energy management program.</li> <li>d) List tworeponsibilities of Energy Manager.</li> <li>e) Recall the term Targeted audit</li> <li>f) Impact of Global variations</li> </ol> |          |
| Q.2 | <ol style="list-style-type: none"> <li>a) Review method for energy pricing is done in India</li> <li>b) Identify the need of integrated energy policy for organization.</li> </ol>  | 07<br>08 |
| Q.3 | <ol style="list-style-type: none"> <li>a) Outline duties of energy manager</li> <li>b) Explain goal setting element for successful energy management program.</li> </ol>  | 07<br>08 |
| Q.4 | <ol style="list-style-type: none"> <li>a) What are skills and duties of energy Manager</li> <li>b) Explain Force Field Analysis</li> </ol>  | 07<br>08 |
| Q.5 | Explain in short ( any three) <ol style="list-style-type: none"> <li>a) Recognition and motivation</li> <li>b) Skills of energy manager</li> <li>c) Targeted audit</li> <li>d) Bench marking</li> </ol>   | 15       |

**Section B**

- |     |  |    |
|-----|--|----|
| Q.6 | Solve any 5 from following   | 10 |
|     | <ol style="list-style-type: none"> <li>a) Maximum Energy efficiency</li> <li>b) Enlist basic measurements for energy audit</li> <li>c) Natural lighting</li> <li>d) List down any two designated customers</li> <li>e) Recall any two salient features of EC Act – 2001</li> <li>f) Enlist instruments used in energy audit</li> </ol> |    |

- Q.7 a) Enlist and explain types of energy audits and need of the same 07  
b) Reproduce salient features of energy conservation act 2001. 08
- Q.8 a) Enlist utility systems used in the factory and briefly explain energy conservation opportunities in them 08  
b) Energy manager has arrived following data 07  
i) Ref. year energy used -----12 million kcal  
ii) P.F for current year (2010) -----0.92  
iii) Energy for current year ----- 11 million kcal  
calculate Plant energy Performance for year 2010 & comment
- Q.9 a) Explain phenomenon of Day lighting 07  
b) What are mandatory provisions of energy Conservation Act 2001. 08
- Q.10 Write short notes ( on any three ) 15  
i) Bench marking  
ii) ELCB  
iii) Flow measuring instruments  
iv) Energy conservation principle