

M.E DEGREE EXAMINATIONS: JANUARY 2011

First Semester

ENERGY ENGINEERING

EEG504: Bio-Energy Conversion Techniques

Time: Three Hours

Maximum Marks: 100

**Answer all the Questions:-
PART A (10 x 2 = 20 Marks)**

1. What is Carbon neutrality?
2. What is biomass?
3. What are the phases in biogas production?
4. What do you mean by retention time in biogas digester?
5. What is equivalence ratio?
6. What is briquetting?
7. What is gasification?
8. What is the modification that should be done in a diesel engine to make it run by producer gas?
9. What do you mean by TGA?
10. What is Pyrolysis?

PART B (5 x 16 = 80 Marks)

11. (a) What are the types of biomass resources? Explain.
(OR)
(b) Briefly explain the various biomass conversion technologies.
12. (a) Explain the Factors affecting biogas yield in biogas digester
(OR)
(b) Compare the Floating dome and fixed dome type biogas digester.
13. (a) Explain the types of biomass briquetting technologies.
(OR)
(b) Explain various types of Combustion:
14. (a) Explain theory of gasification.
(OR)
(b) Explain different type of gasifiers with neat sketch.
15. (a) Explain the process of TGA for biomass material.
(OR)
(b) Explain Differential Scanning Calorimetry.
