

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2016

(2013 SCHEME)

13.703 COMBUSTION TECHNOLOGY(S)

Time: 3 Hours

Max.Marks:100

N.B: Answer all questions from PART- A and any one question from each module in PART-B.

PART – A

1. What are the applications of Combustion
2. What is chain reaction
3. What are the factors that influence the flame velocity
4. What is meant by quenching
5. What are the effects of pollutants in emission
6. What do you mean by ideal gas mixtures
7. Explain briefly multistep reactions
8. What is flammability
9. What is latent heat for a combustion
10. What are the applications of droplet combustion (2*10)

PART-B

MODULE -1

11. A) What are the different types of fuels and oxidizers (15)
- B) Explain reactant mixtures (5)

OR

12. A) What are the different types of combustion modes and its applications (10)
- B) Explain enthalpy of formation (10)

MODULE-2

13. A) Write a short note on

i) Multistep reaction

ii) Global reaction (10)

B) Explain collision theory (10)

OR

14. A) Write a short note on

i) Chemical equilibrium

ii) Equilibrium products of combustion (16)

B) Explain the concepts of conserved scalar (4)

MODULE 3

15. Explain in details about pre mixed flames (20)

16. Explain in details about diffusion flames. And also explain soot formation and destruction (20)

MODULE 4

17 . Explain droplet evaporation and combustion (20)

18 .Explain emission from non pre mixed combustion (20)