Roll No. | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 08

M.Tech. (Mechanical Engineering) (Sem.–3)

COMBUSTION ENGINEERING

Subject Code : MTME-226

M.Code : 75002

Time : 3 Hrs. **Max. Marks : 100**

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT question.**
2. **Each question carry TWENTY marks.**

Q1. What is combustion? What are applications of combustion? Explain different types of fuels and oxidizers.

Q2. Explain chain reactions and multistep reactions with the help of examples.

Q3. What is burning velocity? Explain the effect of chemical and physical variables on burning velocity.

Q4. Explain laminar and turbulent type, premixed and non-premixed flames.

Q5. Explain how does the combustion is responsible for environmental degradation. Also explain different emission control methods.

Q6. Explain fundamental laws of transport phenomenon.

Q7. a) What is thermochemistry? Explain its importance.

b) Methane is burned with 18% excess air in respect of volume. Determine the carbon dioxide percentage in the flue gas dry basis.

Q8. a) Explain conservation equations that govern the behavior of combustion system.

b) Write a note on flame stabilization.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.