

Roll No. ....

**1988**

**B.E./B.Tech – 1st Sem.**

**Examination – December, 2013**

**ELEMENTS OF MECH. ENGG.**

**'E' Scheme**

**Paper : ME-101-E**

*Time : Three hours ]*

*[ Maximum Marks : 100*

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complain in this regard, will be entertained after examination.*

**Note :** All questions carry equal marks. Attempt any *five* questions.

1. What is a boiler? How do you classify the boilers? Explain in detail Constructional and operational details of Cochran boiler. 20
  
2. (a) What is the steam turbine? How do you classify of turbine. 10
  
- (b) What do you mean by Compounding of impulse turbine? Explain. 10

3. Explain in detail Working principle of gas turbine. And also explain Constant pressure gas turbine cycle. 20
4. Explain in detail Construction and Classification of water pumps with their working. 20
5. Explain In detail with neat sketch and mathematical derivation Single and double purchase winch crabs. 20
6. What is power transmission? Explain in detail Belt drive, Rope drive, Chain drive with their relative merits and de merits. 20
7. (a) Explain the Concept of various types of Stresses and strains. 10  
(b) Draw the stress-strain diagram for mild steel. 10
8. Explain in detail various important points which are to be kept in mind when you draw the shear force and bending moment diagram for the simple supported beam with udl and point loads. 20