

SUBJECT CODE NO:- P-333
FACULTY OF ENGINEERING AND TECHNOLOGY
F.E. Examination MAY/JUNE-2016
Elements of Mechanical Engineering
(Revised)

[Time: Two Hours]

[Max Marks:40]

“Please check whether you have got the right question paper.”

- N.B
- 1) Q.No.1 is compulsory.
 - 2) Attempt any two questions from remaining.
 - 3) Assume suitable data wherever necessary.
 - 4) Figures to the right indicate full marks.
 - 5) Use of non-programmable calculator is allowed.
- Q.1 Solve any five of the following. 10
- a) What is meant by steady flow energy equation?
 - b) What is function of carburetor in I.C. engines?
 - c) Represent isentropic process on P-V and T-S planes.
 - d) State any four advantages of renewable energy sources.
 - e) Diesel engines are heavy as compared to petrol engines explain in brief.
 - f) Define specific heat of a substance.
 - g) Define entropy of a substance.
 - h) What is function of economizer in case of thermal power plant?
- Q.2 07
- a) Explain the difference between heat and work.
 - b) Explain two stage reciprocating air compressor with the help of neat sketch. 08
- Q.3 05
- a) Differentiate between renewable and non-renewable energy sources.
 - b) 0.12m^3 of an air has a pressure of 150KN/m^2 , it is compressed to 700KN/m^2 , according to the law $PV^{1.4} = C$ Determine work done of the process. 10
- Q.4 07
- a) Work is called as path function, explain?
 - b) Explain the advantages and disadvantages of thermal power plant. 08
- Q.5 05
- a) What is $\int_1^2 P dv$ work? Explain 05
 - b) Compare S.I and C.I engines. 05
 - c) Explain the principle and operation of steam turbine. 05