

**SUBJECT CODE NO:- K-51**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**F. E. [Online +Theory Exam] Examination Oct/Nov 2016**  
**Elements of Mechanical Engineering**  
**(Old)**

**[Time:Two Hours]**

**[Max. Marks:40]**

Please check whether you have got the right question paper.

N.B

- i) Q.No.1 is compulsory.
- ii) Attempt any two questions from the remaining.
- iii) Assume suitable data wherever necessary
- iv) figure to right indicates full marks
- v) use of non programmable calculator is allowed

Q.1	Solve any five of the following	10
	a) Explain the zeroth law of thermodynamics	
	b) Define thermodynamics system with example	
	c) What is PMM-Ist kind?	
	d) State any four advantages of solar power plants	
	e) What is two stroke and four stroke engines?	
	f) State the function of spark plug and carburetor	
	g) What is ideal gas? Give its examples	
	h) What is steady flow energy equation	
Q.2	a) Differentiate between open system and closed system	07
	b) Explain with neat sketch the construction and working of two stroke petrol engine	08
Q.3	a) Write short on "Joules' experiment" for 1 <sup>st</sup> law of thermodynamics	08
	b) Explain difference between two stroke and four stroke engines	07
Q.4	a) Explain with neat sketch the construction and working of single acting reciprocating air compressor	10
	b) Differentiate between renewable and non renewable energy sources	05
Q.5	a) What is thermodynamics equilibrium? Explain	05
	b) What are limitations of nuclear power plants	05
	c) Explain PMM-I	05