PVP 14

Code: CE1T6

I B.Tech - I Semester – Regular / Supplementary Examinations
November 2017

BASIC MECHANICAL ENGINEERING
(CIVIL ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22 M

1.

a) Explain the terms runners and risers in casting a metal.
b) Define principle of Arc welding.
c) List the main Components of IC engine.
d) Explain how the Mechanical efficiency is important for an engine?
e) Describe working principle of an IC engine.
f) List out the applications of refrigeration system.
g) Draw a simple layout of summer air conditioning system.
h) Show the stress strain graph for mild steel.
i) Define Young's modulus.
j) What are gear drives.
k) List different types of best drives.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2.a) Explain the general method in making a Casting. Also explain the properties of moulding sands used in casting. 8 M

b) Differentiate Gas welding and Arc welding using some examples. 8 M

3.a) Explain the working principle of 4-stroke engine with a neat sketch and explain difference between 4- stroke petrol and diesel engines. 8 M

b) Compare a 4 stroke engine and 2 stroke engine. 8 M

4.a) Discuss about vapour compression refrigeration system. 8 M

b) Describe the various applications of refrigeration system. 8 M

5.a) Explain basic three types of stresses with examples. 8 M

b) Differentiate between Lateral Strain and Volumetric strain. 8 M

6.a) Classify the different gear types and brief each with an example. 8 M

b) Explain how the power is generated from the tidal waves with a neat sketch. 8 M