

HARISH CHANDRA
(Please write your Roll No. immediately)

Harish

Roll No.....

Mid-Term Examination

First Semester [B.Tech.]

September & 2019

Paper Code: ETME – 105

Subject: Manufacturing Process

Time: 1 ½ Hrs.

Max. Marks: 30

Note: Attempt Q.No.1 which is compulsory and any two more questions from remaining.

Q1.

(2 x 5)

(a). Define Core and state its functions.

(b). What are the functions of Gating System?

(c). Which Mechanical properties are associated with the products made of Low Carbon Steel.

(d). What are the functions of Chills and Chaplets?

(e). What is Master Pattern?

Q2

(a). What are the objectives of Heat Treatment process. How Tempering operation is performed? (6)

(b). Design a Pattern for the Casting of size $(30 \times 30 \times 30 \text{ cm}^3)$ (cube) considering 1% Machining allowance, 0.8% Shrinkage allowance, 1.2° Draft allowance and 0.5 % Rapping allowance. (4)

Q3.

(a). Describe briefly about the different steps in Investment Casting. (6)

(b). Differentiate between Hot chamber and Cold chamber Die casting. (4)

Q4.

(a). Describe with the help of a neat sketch the working of a Cupola furnace while considering different temperature zones. (6)

(b). Define Upsetting and Drawing down operations in forging. (4)