

Mid-Term-Exam MSE-411

- Q.1 Explain Thixomoulding Process and list the advantages and the disadvantages of this method.
- Q.2 Explain ESR process (Electro-Slag-Remelting).
- Q.3 Explain Ceramic Filters and their advantages.
- Q.4 Explain Maximum Fluidity Length for Binary Alloys as a function of their compositions.
- Q.5 Calculate the solidification time when you cast pure aluminum in a sand mould. (the size of casting is (cross section) 3000x1000x120 mm)

$$T_L = 660 \text{ C} \quad \rho = 2.7 \text{ g/cm}^3 \quad \Delta H = -95 \text{ cal/g}$$

$$k_{\text{mould}} = 14.5 \cdot 10^{-1} \text{ cal/cm Cs} \quad \rho_{\text{mould}} = 1.5 \text{ g/cm}^3 \quad C_{p-\text{mould}} = 0.27 \text{ cal/g C}$$

