

- 7.a) What are the limitations of LMTD method? How is ϵ -NTU method superior to LMTD method?
- b) The flow rates of hot and cold water streams running through a parallel flow heat exchanger are 0.2kg/s and 0.5kg/s respectively. The inlet temperature on the hot and cold sides are 75°C and 20°C respectively. The exit temperature of hot water is 45°C . If the individual heat transfer coefficient on both side are $650 \text{ W/m}^2 \text{ }^{\circ}\text{C}$, calculate the area of the heat exchanger. [7+8]
- 8.a) What do you mean by a radiation shield? Where is it used?
- b) Write short notes on radiation from gases, vapours and flames. [7+8]

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