

# C.U.SHAH UNIVERSITY

## Summer Examination-2016

**Subject Name: Automobile Heat Transfer**

**Subject Code: 4TE05AHT1**

**Branch: B.Tech(Auto)**

**Semester: 5**

**Date: 21/04/2016**

**Time: 02:30 To 05:30**

**Marks: 70**

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
  - (2) Instructions written on main answer book are strictly to be obeyed.
  - (3) Draw neat diagrams and figures (if necessary) at right places.
  - (4) Assume suitable data if needed.
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**Q-1**

**Attempt the following questions:**

**(14)**

- a) Upto the critical radius of insulation,
  - A. Added insulation will increase heat loss
  - B. Added insulation will decrease heat loss
  - C. Convective heat loss will be less than conductive heat loss
  - D. Heat flux will decrease
- b) Unit of thermal diffusivity is
  - A.  $\text{m}^2/\text{hr}$
  - B.  $\text{m}^2/\text{hr } ^\circ\text{C}$
  - C.  $\text{kcal}/\text{m}^2 \text{ hr}$
  - D.  $\text{kcal}/\text{m. hr } ^\circ\text{C}$
- c) The rate of energy transferred by convection to that by conduction is called
  - A. Stanton number
  - B. Nusselt number
  - C. Biot number
  - D. Peclet number
- d) Thermal conductivity of wood depends on
  - A. Moisture
  - B. Density
  - C. Temperature
  - D. All of the above
- e) The unit of overall coefficient of heat transfer is
  - A.  $\text{W}/\text{m}^2\text{K}$
  - B.  $\text{W}/\text{m}^2$
  - C.  $\text{W}/\text{mK}$
  - D.  $\text{W}/\text{m}$
- f) LMTD in case of counter flow heat exchanger as compared to parallel flow heat exchanger is
  - A. Higher
  - B. Lower
  - C. Same
  - D. Depends on the area of heat exchanger
- g) The transfer of heat by molecular collision is smallest in
  - A. Solids
  - B. Liquids
  - C. Gases
  - D. None of these
- h) In heat exchangers, degree of approach is defined as the difference between temperatures of
  - A. Cold water inlet and outlet
  - B. Hot medium inlet and outlet
  - C. Hot medium outlet and cold water inlet
  - D. Hot medium outlet and cold water outlet





