



Enrolment No. _____

HASMUKH GOSWAMI COLLEGE OF ENGINEERING, VAHELAL

MID SEMESTER EXAMINATION, SEPTEMBER-2016

Subject Code: 2151909

Date: 28/09/2016

Subject Name: Heat Transfer

Sem: 5TH ME/AE

Time: 10:00 TO 10:50 AM

Total Marks: 20

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q 1 A Why houses are painted white in hot country? 3
- Q 1 B Explain Fourier's law of heat conduction 3
- Q 2 A Define: (1) Total emissive power (2) Opaque body (3) Emissivity 3
- Q 2 B Write the most general heat conduction equation in, (a) Cartesian coordinate system (b) cylindrical coordinate system with notation 4
- OR**
- Q 2 B What is black body? How does it differ from gray body? Give examples of each. 4
- Q 3 A State Stefan boltzman law 3
- Q 3 B Derive an expression for LMTD for parallel flow heat exchanger. 4
- OR**
- Q 3 A Derive critical radius of insulation $r_c = k / h_o$. 3
- Q 3 B State and explain (i) Critical thickness of insulation (ii) efficiency of fins (iii) effectiveness of fins. 4

***** ALL THE BEST *****



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