Roll No. .....

24356

B. Tech 6th Semester (ME) Examination – May, 2018

HEAT TRANSFER

Paper : ME-306-F

Time : Three Hours] *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. 1 is *compulsory*. Students have to attempt *one* question from each Section.

1. Write short notes on the following :
   (i) Modes of Heat transfer
   (ii) Fin effectiveness
   (iii) Stephen Boltzman law

SECTION – A

2. Derive a relation for steady state conduction for one dimensional condition.

3. Derive a conduction equation in cartesian for spherical co-ordinate system.

SECTION – B

4. Discuss the transient heat conduction equation for plane walls.

5. Derive a relation for steady state heat conduction with heat generation for 2-D.

SECTION – C

6. Discuss the emperical relation for free convection from vential cylinders.

7. Discuss the relation for hydro-dynamic boundary layer.

SECTION – D

8. Derive a relation for laminar film condensation on a vertical plate.

9. Discuss the analysis of a parallel flow heat exchanger.
