SANT GADGE BABA AMRAVATI UNIVERSITY
BACHELOR OF ENGINEERING SEMESTER V (CGS) EXAMINATION OF S-2020

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H.V.P.Mandal's College of Engineering & Technology, Amravati
Department of Mechanical Engineering

Academic Session: 2019-20 **Semesters: V**
Unit- I ,II ,III, IV ,V,VI **Date: 27/10/2020**
Subject Name: Heat Transfer **Subject Code:**
Max Marks:

Note: Solve any 2 Questions out of 4 Question.
All question Carry equal marks

Ques 01

(a) What do you mean by thermal conductivity of a material **(3Marks)**

(b) Define and state the physical interpretation of the Biot number. **(3Marks)**

(c) What is the difference between diffusion and radiation heat transfer? **(1Marks)**

(d) How is natural convection different from forced convection? **(1Marks)**

(e) When evaporation takes place at the liquid-vapor interface, the heat transfer is solely due to free convection and the film coefficient follows the relation_____(**1Marks)**

(f) What is meant by LMTD? **(1Marks)**

Ques 02

(a) What is Conduction **(3Marks)**

(b) What is a lumped system? **(3Marks)**

(c) Define a black body concept **(1Marks)**

(d) If denser fluid is used what is the effect on convective heat transfer coefficient in laminar flow over a flat plate. **(1Marks)**

(e) The heat flux in nucleate boiling varies in accordance with what **(1Marks)**

(f) What is meant by Fouling factor? **(1Marks)**

Ques 03

(a) What do you mean by thermal resistance of a material **(3Marks)**

(b) What is the Fourier number? **(3Marks)**

(c) State the Kirchhoff's Law **(1Marks)**

(d) For laminar flow, Reynolds number must not be less than_____ **(1Marks)**

(e) In nucleate pool boiling, the heat flux depends on what **(1Marks)**

(f) Define Effectiveness. **(1Marks)**

Ques 04

(a) Thermal conductivity of a conducting solid material depends upon what **(3Marks)**

(b) State the common types of fins. **(3Marks)**

(c) What is the range of values for the emissivity of a surface ? **(1Marks)**

(d) For laminar flow, Prandtl number must be more than_____ **(1Marks)**

(e) In natural convection, the Nusselt number (Nu) depends on What **(1Marks)**

(f) Give the expression for NTU. **(1Marks)**