THERMAL PROPERTIES OF FLUIDS

***General Instructions*:** Answer all the questions. If you are unable to answer any question, go through the page number that is given against that particular question in the text book. You can find the answer.

Test Paper-IV

MAX MARKS: 30 **TIME: 90Mts**

1	`Name the process of heat transfer in which actual motion of matter takes place.	P289	1
2	What is the difference between natural convection and forced convection? Explain with examples	P289	3
3	Explain how convection cycles are formed in the atmosphere?	P289	3
4	What are trade winds? How they are formed?	P289	2
5	What is meant by Radiation? Name the type of waves involved in the heat transfer by radiation. Give any two properties of these waves. Give the factors on which radiation depends upon.	P290	3
6	Which coloured clothes will be comfortable to wear during summer and winter? Why?	P290	2
7	Why the bottoms of the utensils are blackened?	P290	1
8	Name the device that is used to minimize the heat losses between the contents and outside. Also explain how does it work	P290	2
9	State Newton's law of cooling. Derive an expression to find the time of cooling of a body through a particular range of temperature. Also plot the graph showing the cooling of hot water with time.	P291	3
10	Explain how you will verify Newton's law of cooling experimentally.	P291	3
11	A pan filled with hot food cools from 94^oC to 86^oC in 2 minutes when the room temperature is at 20^oC. How long will it take to cool from 71^oC to 69^oC?	P292	3

12 Match the following

P293 2

Group-A	Group-B
1. Thermal Conductivity	a. $[ML^2T^{-2}]$
2. Specific heat	b. $[MLT^{-3}K^{-1}]$
3. Coefficient of volume expansion	c. $[K^{-1}]$
4. Heat supplied to a system	d. $[L^2T^{-2}K^{-1}]$

13 Match the following

P293 2

Group-A	Group-B
1. Coefficient of linear expansion	a. $Js^{-1}K^{-1}$
2. Heat supplied to a system	b. K^{-1}
3. Specific heat	c. $J\ kg^{-1}\ K^{-1}$
4. Thermal conductivity	d. J