

Discipline: Metallurgical Engineering		Semester: 5th semester	Name of the Teaching Faculty: SOURAV ADHYA		
Subject: HTFF Sub code:		No of days /week class allotted: 04	Semester from Date: _____ to _____		
Month	week	Class Day	Theory topics	%covered	Remark
July	3rd	1 st	Discuss types of fluids Ideal & Real Fluids		
		2 nd	Discuss types of fluids Ideal & Real Fluids		
		3 rd	Discuss the types of flow: turbulent & streamline		
		4 th	Discuss the types of flow: turbulent & streamline		
	4th	1 st	State the Bernoulli's equation		
		2 nd	State the Bernoulli's equation		
		3 rd	Discuss the flow through orifice, pitot tube & venturimeter		
		4 th	Discuss the flow through orifice, pitot tube & venturimeter		
	5th	1 st	Discuss the flow through orifice, pitot tube & venturimeter		
		2 nd	Discuss the flow through orifice, pitot tube & venturimeter		
		3 rd	Discuss the flow through orifice, pitot tube & venturimeter		
		4 th			
Aug	2nd	1 st	Discuss the flow through orifice, pitot tube & venturimeter		
		2 nd	Define & calculate loss of head (friction loss) in straight pipe, in bend pipe & in bend with sudden enlargement & sudden contraction		
		3 rd	Define & calculate loss of head (friction loss) in straight pipe, in bend pipe & in bend with sudden enlargement & sudden contraction		
		4 th	Define & calculate loss of head (friction loss) in straight pipe, in bend pipe & in bend with sudden enlargement & sudden contraction		
	3rd	1 st	Define & calculate loss of head (friction loss) in straight pipe, in bend pipe & in bend with sudden enlargement & sudden contraction		
		2 nd	Discuss the elementary idea on different mode of heat transfer.		
	4th	1 st	Discuss the elementary idea on different mode of heat transfer		
		2 nd	Define & derive the Fourier's law		
		3 rd	Define & derive the Fourier's law		
		4 th	Explain & calculate the steady state heat conduction through flat wall.		
	5th	1 st	Explain & calculate the steady state heat conduction through flat wall.		
		2 nd	Define convection. Types of convection.		
		3 rd	Define & differentiate between natural & forced convection.		
		4 th	Define & differentiate between natural & forced convection.		
Sept	1st	1 st	State the natural & forced heat transfer coefficient		

		2 nd	State the natural & forced heat transfer co-efficient.		
	2nd	1 st	Define Radiation. State the stefen Boltzmann's law.		
		2 nd	Define Radiation. State the stefen Boltzmann;s law.		
		3 rd	Define emissivity of black bodies & grey bodies		
		4 th	Define emissivity of black bodies & grey bodies		
	3rd	1 st	Explain & calculate the steady state heat conduction through flat wall.		
		2 nd	Classify the furnaces based on use ,heat source ,& material movement.		
		3 rd	Classify the furnaces based on use ,heat source ,& material movement.		
		4 th	Classify the furnaces based on use ,heat source ,& material movement.		
	4th	1 st	Classify the furnaces based on use ,heat source ,& material movement.		
		2 nd	Classify the furnaces based on use ,heat source ,& material movement.		
		3 rd	Classify the furnaces based on use ,heat source ,& material movement.		
		4 th	Discuss the following metallurgical furnaces- Soaking pit, Reheating furnace, Heat treatment furnace, Melting furnace , smelting furnace, refining furnace.		
	5th	1 st	Discuss the following metallurgical furnaces- Soaking pit, Reheating furnace, Heat treatment furnace, Melting furnace , smelting furnace, refining furnace.		
		2 nd	Discuss the following metallurgical furnaces- Soaking pit, Reheating furnace, Heat treatment furnace, Melting furnace , smelting furnace, refining furnace.		
Oct	1st	1 st	Discuss the following metallurgical furnaces- Soaking pit, Reheating furnace, Heat treatment furnace, Melting furnace , smelting furnace, refining furnace.		
		2 nd	Discuss the following metallurgical furnaces- Soaking pit, Reheating furnace, Heat treatment furnace, Melting furnace , smelting furnace, refining furnace.		
	3rd	1 st	Discuss the following metallurgical furnaces- Soaking pit, Reheating furnace, Heat treatment furnace, Melting furnace , smelting furnace, refining furnace.		
		2 nd	State the principle of heat generation in Electric furnace such as- Arc, Resistance & Induction furnace.		
		3 rd	State the principle of heat generation in Electric furnace such as- Arc, Resistance & Induction furnace.		
		4 th	State the principle of heat generation in Electric furnace such as- Arc, Resistance & Induction furnace.		
	4th	1 st	State the principle of heat generation in Electric furnace such as- Arc, Resistance & Induction furnace.		
		2 nd	Discuss on heat losses, heat balance & furnace		

			efficiency.		
		3 rd	Discuss on heat losses, heat balance & furnace efficiency.		
		4 th	Discuss on heat losses, heat balance & furnace efficiency.		
NOV	2nd	1 st	Discuss on heat losses, heat balance & furnace efficiency.		
		2 nd	Discuss on heat losses, heat balance & furnace efficiency.		
		3 rd	Discuss on heat losses, heat balance & furnace efficiency.		
		4 th	Explain the types of waste heat recovery system such as regenerator & recuperates.		
	3rd	1 st	Explain the types of waste heat recovery system such as regenerator & recuperates.		
		2 nd	Explain the types of waste heat recovery system such as regenerator & recuperates.		
		3 rd	Explain the types of waste heat recovery system such as regenerator & recuperates.		
		4 th	Explain the types of waste heat recovery system such as regenerator & recuperates.		
	4th	1st	Explain the types of waste heat recovery system such as regenerator & recuperates		

