METALLURGY DEPARTMENT

Name of the teacher-PARASMITA BISWAL

Semester-3rd -Session-2022-23

From-15/09/2022 to 22/12/2022

Subject-Theory-3(FUELS AND REFRACTORIES)

Wk no	Day	Subject to be covered	Remark
WK-1 15/09to 17/09/2022	Day-1 17/09/2022	Definition of the Fuel.	
WK-2 19/09 to 24/09/2022	Day-1 19/9/2022	Classification and types of fuel.	
	Day-2 20/9/2022	Discussion about importance of Solid, Liquid and Gaseous fuels	
	Day-3 21/9/2022	Discussion on different fuels and its resources of india	
	Day-4 24/9/2022	Explaining the origin of coal	
WK-3 26/9/2022 to 01/10/2022	Day-1 26/9/2022	Definition and the composition of coal	
	Day-2 27/9/2022	Discussion on characteristics and significance of constituents	
	Day-3 28/9/2022	Distinguish between proximate and ultimate analysis	
	Day-4 01/10/2022	calorific value of coal, its definition ,types , symbol and difference on GCV NCV	
WK-4 02/10/2022 to 08/10/2022		PUJA VACATION	
WK-5 10/10/2022 to 15/10/2022	Day-1 10/10/2022	Discussion on coking properties and swelling index of coal	
	Day-2 11/10/2022	Class test -01 doubt clearing class	
	Day-3 12/10/2022	Discussion on the scope and objectives of carbonization of coal	
	Day-4 15/10/2022	The carbonization of coal in detail its process.	
WK-5 17/10/2022 To 22/10/2022	Day-1 17/10/2022	Differentiate between high temperature carbonization and low temperature carbonization	
	Day-2 18/10/2022	State the merits and demerits of H.T.C and L.T.C	
	Day-3 19/10/2022	Discuss different tests carried out for coke(Shatter and Micum index)	

	Day-4 22/10/2022	Explain origin and constitution of petroleum	
WK-6 24/10/2022 to 29/10/2022	Day-1 25/10/2022	Discussion on the properties of petroleum products	
	Day-2 26/10/2022	Discussion on the distillation process of crude petroleum-01	
	Day-3 29/10/2022	Discussion on the distillation process of crude petroleum-02	
WK-7 31/10/2022 to 05/11/2022	Day-1 31/10/2022	Production and uses of coal tar in details.	
	Day-2 01/11/2022	Doubt clearing class ,Important question discussion	
	Day-3 02/11/2022	Explain the production and utilization of following gaseous fuels: Methane, water gas, producer gas	
	Day-4 05/11/2022	Explain the production and utilization of following gaseous fuels: carbureted water gas, coke oven gas	
WK-8 07/11/2022 to 12/11/2022	Day-1 07/11/2022	Explain the production and utilization of following gaseous fuels: blastfurnace gas, natural gas, mixed gas.	
	Day-2 09/11/2022	Discuss the elementary principle of combustion, Hess's law of constant heat summation, Kirchoff's law.	
	Day-3 12/11/2022	Work out simple combustion calculation.	
WK-9 14/11/2022 to 19/11/2022	Day-1 14/11/2022	Define and Classify Refractories	
	Day-2 15/11/2022	Explain the desirable properties of Refractories in details	
	Day-3 16/11/2022	Discuss the raw – materials, methods of manufacturing and properties of silica, fire clay, magnesia	
	Day-4 19/11/2022	Discuss the raw – dolomite, chrome magnesite	
WK-10 21/11/2022 to 26/11/2022	Day-1 21/11/2022	Discuss the raw – graphite and magnesia carbon bricks.	
	Day-2 22/11/2022	Discuss about the special refractories like high alumina	
	Day-3 23/11/2022	Discuss about the special refractories like mullite, SIC, Zirconia	
	Day-4 26/11/2022	Doubt clearing and revision	
WK-11 28/11/2022 to 03/12/2022	Day-1 28/11/2022	Criteria for selection and types of refractories selected for reheating furnaces	
	Day-2 29/11/2022	Criteria for selection and types of refractories selected for blast furnace, L.D., open hearth	
	Day-3 30/11/2022	Criteria for selection and types of refractories selected for arc furnace, ladle, soaking pit, coke oven	

	Day-4 03/12/2022	Criteria for selection and types of refractories selected for reheating furnaces, copper smelting flash and reverberatory furnaces.	
WK-12 05/12/2022 to 10/12/2022	Day-1 05/12/2022	Criteria for selection and types of refractories selected for flash smeltingand reverberatory furnaces.	
	Day-2 06/12/2022	Class test and revision about chapter -01,02,03,04	
	Day-3 07/12/2022	Discussion on the criteria of selection of metallurgical coal.	
	Day-4 10/12/2022	Define specific gravity, viscosity, flash point, cloud point	
WK-13 12/12/2022 to 17/12/2022	Day-1 12/12/2022	Define pour point, aniline point, octane number and cetane number	
	Day-2 13/12/2022	Discuss the methods of testing of following properties: Specific gravity	
	Day-3 14/12/2022	Discuss about viscosity, flash point, cloud point and pour point	
	Day-4 17/12/2022	Important question discussion	
WK-14 19/12/2022 to 24/12/2022	Day-1 19/12/2022	Practicing combustion calculation	
	Day-2 20/12/2022	Revision about chapter -05 and 06	
	Day-3 21/12/2022	Important question discussion	
	Day-4 24/12/2022	Class test on semester pattern	