

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN

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Discipline :		Semester: 3rd Sem		Name of the Teaching Faculty : Arabinda Nayak
Subject : FR		No. of Days / per week class allotted : 04		Semester From date : 15.09.2022 To Date : 21.01.2023
MONTH	Week	Day	Unit	Topics
SEPTEMBER	3rd	4th	UNIT-1	Fuels :
		1st		Define the Fuel
	4th	4th		Classify the types of fuel
		3rd		State the importance of Solid, Liquid and Gaseous fuels
		4th		Describe different fuels and resources of india
		1st	UNIT-2	Solid Fuels :
	5th	4th		COAL :
		3rd		Explain the origin of coal
		4th		State the composition of coal
		1st		Discuss the characteristics and significance of constituents
BER	2nd			Durga Puja holiday
	3rd	4th		Distinguish between proximate and ultimate analysis
		3rd		Define the calorific value of coal
		4th		Describe coking properties and swelling index of coal
		1st		Discuss the criteria of selection of metallurgical coal.
		4th		COKE :
		3rd		Discuss the scope and objectives of carbonization of coal

OCTO	4th	4th		Explain the carbonization of coal
		1st		Differentiate between high temperature carbonization and low temperature carbonization
	5th	4th		State the merits and demerits of H.T.C and L.T.C
		3rd		Diwali (holiday)
		4th		Discuss different tests carried out for coke (Shatter and Micum index)
		1st	UNIT-3	Liquid Fuels
NOVEMBER	6th	4th		Explain origin and constitution of petroleum
	1st	4th		Discuss the properties of petroleum products
		3rd		Discuss the distillation process of crude petroleum
		1st		Explain the production and uses of coal tar.
		4th		Testing of liquid Fuels:
	2nd	3rd		Define specific gravity, viscosity, flash point, cloud point & pour point, aniline point, octane number and cetane number.
		4th		Rash purnima(holiday)
		1st		Discuss the methods of testing of following properties:
		4th		Specific gravity, viscosity, flash point, cloud point and pour point
	3rd	3rd	UNIT-4	Gaseous Fuels
		4th		Explain the production and utilization of following gaseous fuels:
		1st		Methane, water gas,
		4th		Internal assesment
	4th	3rd		Internal assesment
		4th		producer gas, carbureted water gas,
		1st		coke oven gas, blast furnace gas,
		4th		natural gas, mixed gas.
	5th	3rd	UNIT-5	Combustion
		4th		Discuss the elementary principle of combustion
	1st	3rd		Hess's law of constant heat summation
		1st		Kirchoff's law.

DECEMBER	2nd	4th		Work out simple combustion calculation.
		3rd	UNIT-6	Refractories :
		4th		CLASS TEST-1
	3rd	4th		Define and Classify Refractories
		3rd		Explain the desirable properties of Refractories in details
		4th		Discuss the raw – materials, methods of manufacturing and properties of silica,
		1st		Explain the principle of magnetic separator with their application to mineral dressing
	4th	4th		fire clay, magnesia, dolomite, chrome magnesite, graphite and magnesia carbon bricks.
		3rd		1. Special Refractories
		4th		Discuss about the special refractories like high alumina, mullite, SIC, Zirconia
JANUARY	1ST	3rd		2. Give criteria for selection and types of refractories selected for blast furnace, L.D.,
		4th		open hearth, arc furnace, ladle, soaking pit, coke oven, reheating
		1st		furnaces, copper smelting flash and reverberatory furnaces.
	2nd	4th		Revision
		3rd		Revision
		4th		Revision
	3rd	4th		Revision
		3rd		Previous year question discussion
		1st		Previous year question discussion
	4th	4th		Previous year question discussion
		3rd		Previous year question discussion
		1st		Previous year question discussion