

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY (VSSUT), ODISHA			
Odd Mid Semester Examinationfor Academic Session 2024-25			
COURSE NAME:B. Tech.		SEMESTER:3rd. Sem.	
BRANCH NAME:Chemical Engineering			
SUBJECT NAME:Fuel & Combustion			
FULL MARKS: 30		TIME: 90 Minutes	
Answer All Questions.			
The figures in the right hand margin indicate Marks. <i>Symbols carry usual meaning.</i>			
Q1.	Answer all Questions.		[2 × 3]
	a) What do you mean by Caking and Coking of coal?		[2]
	b) Describe Carbide Theory with at least four examples?		[2]
	c) Explain two types of impurities present in coal?		[2]
Q2.			[8]
	What are the properties involved in Proximate and Ultimate analysis? Write down effects of components of these properties?		[3+5]
	OR		
	State briefly In situ theory and Drift theory with their advantages?		[4+4]
Q3.			[8]
	State important of coal washing and explain economics for coal washing? Draw the sketch of coal cleaning plant process flow diagram?		[3+5]
	OR		
	Write down advantage and disadvantages of dense medium process? Explain briefly dry beneficiation technologies with air dense media fluidized bed separation?		[3+5]
Q4.			[8]
	Classify the crude oils with at least two examples in each case? Draw the schematic and explain crude oil processing through atmospheric distillation unit and vacuum distillation unit?		[3+5]
	OR		
	How dehydration of coal tar is carried out? Explain briefly with block flow diagram of tar distillation plant?		[3+5]