

Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY

B.Tech Mid Semester Exam

Semester: 6th Sem

Date: (02/02/2024)

Subject Code: (203120381)

Time: (1hr: 30min)

Subject Name: (Energy Technology and Engineering)

Total Marks: 40

Sr. No.		Marks
Q.1	(A) Five One-line Questions	05
	1. Write down the name of secondary Fuels.	
	2. Write down the composition of crude oil.	
	3. Write down the name of two sides of Energy Management.	
	4. What is Energy audit (define in short)?	
	5. Write down the two Internal benefits of the Material Flow cost accounting (MFCA)?	
	(B) Five Fill in the blanks	05
	1. A useful method for analyzing a coal is the _____ process.	
	2. As the rank of a coal increases, its carbon content _____ and the hydrogen content _____ and the oxygen content _____ from. A. increase, increase, decrease B. decrease, increase, increase C. decrease, decrease, increase D. increase, decrease, decrease	
	3. _____ are those combustible or energy generating molecules that can be harnessed to create mechanical energy, usually producing kinetic energy. A. Solid fuels B. Liquid fuels C. Gas fuels D. Both A and B	
	4. _____ is deciding various activities in advance with reference to time frame and resources. A. Energy Strategies B. Energy Planning C. Energy Organization D. Energy Costing	
	5. Which one is not a flow measurement Instrument? A. Pitot tube B. Ultrasonic flowmeter C. Infrared pyrometer D. Lux meter	

Q.2	Attempt any four (Short Questions)	12
	(1) Explain Fluidized Bed Combustors (FBC) and write its advantages.	
	(2) Explain distillation process with diagram.	
	(3) Draw the Benchmark Roadmap.	
	(4) Explain the Asset and Workplace Management by flow chart?	
	(5) Explain the coal properties.	
Q.3	Attempt any two questions	08
	(1) Explain underground coal gasification and its benefits.	
	(2) Write down the Primary, Secondary and Tertiary Objectives of the Energy Management (3 objectives for each)?	
	(3) Explain the Energy Audit Instruments in details?	
Q.4	(A) Explain the 10 steps for the detailed Audit including Pre-audit phase, Audit phase and post-audit phase?	05
	(B) Explain the Energy monitoring and targeting in details?	05
	OR	
	(B) What is the difference between updraft gasifier and downdraft gasifier explain with diagram.	05