

Subject Code: XXXXX

Roll No:

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BTECH
(SEM-7) ENERGY CONSERVATION AND AUDITING 2021-22

TIME:3 HOUR

Total Marks: 100

Instruction: Attempt the questions as per the given instructions. Assume missing data suitably.

SECTION - A

Attempt *All Parts* in Brief

2*10 = 20

Q1	Questions	Marks
(a)	Describe the significance of Bureau of Energy Efficiency (BEE).	2
(b)	What do you mean by energy conservation legislation ?	2
(c)	Explain evolution of demand side management.	2
(d)	What is energy conservation planning ?	2
(e)	Draw flow chart of energy audit.	2
(f)	List four relevant instruments to carry out energy audit.	2
(g)	Define time off day tariff.	2
(h)	What are the factors that affect the cooling rate in air conditioning ?	2
(i)	What is mean by life cycle costing ?	2
(j)	What is the effect of load factor on energy conservation ?	2

SECTION - B

Attempt Any Three of the following

3*10 = 30

Q2	Questions	Marks
(a)	Why energy conservation is important. Explain different scheme/initiatives started by government to conserve energy.	10
(b)	What do you understand by national and international Ans, experiences with demand side management ? Explain in detail.	10
(c)	Explain in detail objectives of energy audit; give various types of energy audits. Give detailed explanation of each.	10
(d)	Write in detail different methods of saving energy and increasing the efficiency of Boiler/blowers/compressor/ pumps.	10
(e)	Describe the working principle of Automatic Power Factor controller. Its importance. What are the effects of poor power factor on energy efficiency ?	10

SECTION - C

Attempt Any One of the following

5*10 = 50

Q3	Questions	Marks
(a)	Write short note on-Energy conservation act 2001 and its features.	10
(b)	Explain the energy conservation in small scale and large scale industries.	10
Q4	Questions	Marks
(a)	Explain DSM strategy, its implementation and application.	10
(b)	What is the difference between DISCOMs, TRANSCO and GENCO ? How UDAY scheme is beneficial discusses ?	10
Q5	Questions	Marks
(a)	Explain the methodology for detailed energy audit process.	10
(b)	Distinguish between energy conservation and energy audit based on activities.	10
Q6	Questions	Marks
(a)	Explain in detail how conservation of energy is done in the following process : i. Space heating Energy audit ii. air-conditioning	10

(b)	What are the modes of transfer of heat ? Explain the different types of electric heating methods and method to measure its performance.	10
Q7	Questions	Marks
(a)	How energy efficiency improvement is achieved in energy efficiency motor for following power loss area : i. Iron ii. Stator and Rotor I ² R iii. Friction and windage	10
(b)	Demonstrate the energy conservation technique adopted in lighting system by using energy efficient luminaries and using light controlled gears.	10