

HALL TICKET NUMBER

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PACE INSTITUTE OF TECHNOLOGY & SCIENCES::ONGOLE
(AUTONOMOUS)

IV B.TECH I SEMESTER END REGULAR EXAMINATIONS, NOV-2022
POWER PLANT ENGINEERING
(ME Branch)

Time: 3 hours

Max. Marks: 60

Note: Question Paper consists of Two parts (Part-A and Part-B)

PART-AAnswer **all** the questions in Part-A (5X2=10M)

Q.No.	Questions	Marks	CO	KL
1.	a) Why thermal plants are not suitable for supplying fluctuating loads?	[2M]	1	1
	b) How does regeneration improve the thermal efficiency of the gas turbine cycle?	[2M]	2	1
	c) List the advantages of renewable sources of energy.	[2M]	3	1
	d) List the difficulties faced during removal of nuclear waste.	[2M]	4	1
	e) Define diversity factor.	[2M]	5	1

PART-BAnswer **One** Question from each UNIT (5X10=50M)

Q.No.	Questions	Marks	CO	KL
UNIT-I				
2.	a) Describe the types of Drought system.	[5M]	1	2
	b) Sketch and describe Fluidised Bed Combustion (FBC) system.	[5M]	1	4
OR				
3.	a) Discuss in detail about the types of energy audit.	[5M]	1	4
	b) Explain need for energy audit.	[5M]	1	2
UNIT-II				
4.	a) Discuss in detail about the methods to improve performance in gas turbine power plant	[5M]	2	2
	b) Draw a neat line diagram of a diesel power plant showing all the systems and explain the working.	[5M]	2	3
OR				
5.	a) Discuss in detail about the working principle of combined power plants	[5M]	2	2
	b) Explain about open cycle gas turbine power plant.	[5M]	2	2
UNIT-III				
6.	a) Discuss the working principle and construction details of wind turbine power plant	[5M]	3	4
	b) Discuss in detail about the working principle of fuel cell	[5M]	3	4
OR				
7.	a) What are surge tanks and why are they essential in hydroelectric power plant.	[5M]	3	1
	b) Explain the working principle of Solar Photo Voltaic (SPV),	[5M]	3	2
UNIT-IV				
8.	a) Discuss the advantages and disadvantages of nuclear power plants.	[5M]	4	2
	b) Discuss in detail about the working principle of liquid metal cooled reactors	[5M]	4	2

OR					
9.	a)	Explain briefly nuclear waste disposal.	[5M]	4	2
	b)	Enumerate and explain Nuclear fuels	[5M]	4	2
UNIT-V					
10.	a)	Discuss in detail about Capital & Operating Cost of coal based power plants.	[5M]	5	4
	b)	What do you understand by power plant economics? Explain the fixed and operating cost of a power station.	[5M]	5	1
OR					
11.	a)	Differentiate between fixed cost and running cost in an organization	[5M]	5	4
	b)	Explain the various load curves terms applied to power system.	[5M]	5	2
