

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Power plant Engineering**Subject Code: 4TE05PPE1****Branch: B.Tech (Mechanical)****Semester: 5****Date: 28/03/2017****Time: 02:30 To 05:30****Marks: 70**

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
-

Q-1	Attempt the following questions:	(14)
	a) Write the definition of Draught.	1
	b) Define load factor	1
	c) Draw the figure of gravitational separator.	1
	d) Write the purposes of steam condenser.	1
	e) What is the temperature of steam in Lamont boiler?	1
	f) What is the function of draft tube?	1
	g) Define supercritical boiler.	1
	h) Which Fluid is used as moderator?	1
	i) What is the drawback of force draught?	1
	j) State the application of diesel power plant	1
	k) List the components of modern TPP.	1
	l) Define plant capacity factor	1
	m) Draw the line diagram HPP.	1
	n) List the impurities of feed water.	1

Attempt any four questions from Q-2 to Q-8

Q-2	Attempt all questions	(14)
	a) With neat sketch briefly explain essential elements of Hydroelectric power plant.	7
	b) Describe with neat sketch the construction working of a PWR reactor. What are its advantages & disadvantages?	7
Q-3	Attempt all questions	(14)
	a) With neat sketch explain about Deaeration feed water treatment.	5
	b) With neat sketch, advantages & disadvantages explain about Electrostatic precipitators	5
	c) With neat sketch explain principle of operation of Underfeed feeder.	4
Q-4	Attempt all questions	(14)
	a) With neat sketch explain in detail general layout of TPP.	7
	b) With neat sketch explain working, advantages and drawback of ejector condenser.	7



Q-5	Attempt all questions	(14)
a)	Calculate the mass of flue gasses flowing through the chimney when the draught produced is 1.9 cm of water. Temperature of flue gases is 290c and ambient temp. is 20c. The flue gasses formed per kg of fuel burnt are 23kg. Neglect the losses and take the diameter of chimney as 1.8m.	5
b)	With neat sketch explain working of traveling grate stoker and also write advantages & disadvantages.	5
c)	With neat sketch explain about pneumatic or vacuum ash handling system.	4
Q-6	Attempt all questions	(14)
a)	With the help of neat sketch explain about any one lubrication system.	7
b)	With neat sketch explain detail working of Loffler boiler.	7
Q-7	Attempt all questions	(14)
a)	What do you understand by term tariff? Discuss the various methods for calculation of tariff in detail.	7
b)	With neat sketch explain in detail about pulverized coal handling unit system.	7
Q-8	Attempt all questions	(14)
a)	With neat sketch explain working of evaporative condenser. Also write the advantages and disadvantages.	7
b)	With neat sketch explain detail working of economizer.	7

