Code No: Z – 159 – 2015

FACULTY OF ENGINEERING & TECHNOLOGY
B.E. (Mechanical) (Old) Examination
MAY/JUNE, 2015
(Elective-I)
Power Plant Engineering

Time: Three Hours Max. Marks: 100

"Please check whether you have got the right the question paper"

Note: i) *Attempt any three questions from each Section A & B respectively.*

ii) *Marks to right indicate full marks.*

iii) *Assume suitable data if necessary.*

SECTION-A

Q.1	(a)	Describe with a neat sketch the working of traveling grate stoker of a steam boiler.	**08**
	(b)	Draw the layout of modern thermal power plant. Explain the working.	**08**
Q.2	(a)	Draw a line diagram of hydraulic ash handling system used for modern capacity power plant. Discuss its merits with other systems.	**08**
	(b)	What points should be considered while selecting a right type of turbine for hydro-electric power plant.	**08**
Q.3	(a)	Explain governing of turbine in hydro electric power plant with neat sketch.	**08**
	(b)	What is a spillway? Explain any two types of spill ways.	**08**
Q.4	(a)	What are the advantages of supercharging? Explain the methods used for supercharging diesel engines.	**08**
	(b)	Explain the starting and stopping procedure in a diesel engine power plant.	**08**
Q.5	Write short note on (Any three) :		**6x3=18**
	(a)	Overfeed stoker	
	(b)	Future trend in power industry.	
	(c)	Selection of type of dam.	
	(d)	Mass curve.	

P.T.O.

SECTION-B

Q.6 (a) What are the various fuels that are usually used for running gas turbine. **06**

(b) What are the different components of a gas turbine plant? Explain them with the help of neat sketches. **10**

Q.7 (a) Describe with the help of neat sketch the construction working of a pressurized water reactor. What are its advantages and disadvantages? **08**

(b) Give a brief comparison between fission and fussion process. **08**

Q.8 (a) What is load curve and load duration curve? Explain significance of them. **08**

(b) The maximum demand of a power station is 96000 KW and daily load curve is describe as **08**

Time (hrs.)	0-6	6-8	8-12	12-14	14-18	18-22	22-24
Load (MW)	48	60	72	60	84	96	48

(i) Determine the load factor of power station.
(ii) What is the load factor of standby equipment rated at 30 MW that takes up all load in excess of 72 MW? Also calculate its use factor.

Q.9 (a) What are the different types of tariffs for electrical energy? **10**

(b) Define and explain diversity factor and demand factor. **06**

Q.10 Write short note on (Any three) : **6x3=18**

(a) Plant layout of gas turbine power plant.

(b) Breeder reactor.

(c) Advantages and disadvantages of Nuclear power plant.

(d) Boiling water reactor (BWR).

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