

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)**

**CLASS: B.TECH  
BRANCH: MECHANICAL ENGG.**

**SEMESTER : VI  
SESSION : SP/2025**

**SUBJECT: ME359 POWER PLANT ENGINEERING**

**TIME: 3 HOURS**

**FULL MARKS: 50**

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Before attempting the question paper, be sure that you have got the correct question paper.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	Discuss briefly the main elements of modern power station.	[5] 1	L2
Q.1(b)	List the advantages and disadvantages of thermal power plant.	[5] 2	L1
Q.2(a)	Discuss the fuel handling and dust collection.	[5] 2	L2
Q.2(b)	Explain briefly any two of the following methods of feed water treatment: (i)Sedimentation (ii)Coagulation (iii)Filtration(iv)Deaeration	[5] 2	L2
Q.3(a)	Describe the diesel power plant and simple gas turbine power plant.	[5] 3	L1
Q.3(b)	Explain with neat sketch combined gas turbine and steam power plant using heating feed water with exhaust gases.	[5] 3	L2
Q.4(a)	Explain with neat sketch working of a gas- cooled reactor.	[5] 4	L2
Q.4(b)	Describe with neat sketch working of a geothermal power plant.	[5] 4	L1
Q.5(a)	Define base load and peak load plant. Also discuss the hydro-electric (storage type) plant in combination with steam plant.	[5] 5	L1
Q.5(b)	Discuss the tariff for electrical energy and what are the objective of tariff.	[5] 5	L2

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