K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

	InSem Examination-IISummer2024		
	Exam Seat No.:		
	Academic Year: 2023-2024	Semester: II	
	Name of Programme: F.Y. B.Tech Electrical Engineering	Pattern: 2023	
	Name of Course: Power Generation Technologies	Course Code:2300118D	
	Max. Marks:30	Duration: 1 Hr	

Instructions: Candidates should read carefully the instructions printed on the Question Paper
and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains _02_page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Question No. 1 Attempt following Question

a)	Discuss on the MNRE's History, Aims and Roles?	(5)	CO4
	OR		
b)	Short note on review power ministry.	(5)	CO4
c)	Differentiate between fire tube and water tube boiler.	(5)	CO1
	OR		
d)	Differentiate between forced and induced draught.	(5)	CO1
e)	Explain air-preheater and economizer in thermal power plant and its location in Layout.	(5)	CO1
	OR		
f)	Explain with the help of neat diagram the main part of thermal power plant.	(5)	CO1

Question No. 2 Attempt following Question

a)	Explain the main component of diesel power plant.	(5)	CO1
	OR		
b)	Discuss the merits and demerits of gas turbine power plant.	(5)	CO1
c)	Explain different parts of a nuclear reactor with the help of suitable diagram.	(5)	CO1
	OR		

d) Explain with help of suitable diagram, the types of gas combustion chambers used in gas turbine power plant. (5) CO1

e) The following readings were taken during the test of a 7-cylinder 2 stroke oil engine: (5) CO4

Cylinder diameter = 1.5m

Stroke length = 400 mm

Total m.e.p. = 8 bar

Engine speed = 300 r.p.m.

Net load on the brake = 1110 N

Effective diameter of the brake = 500 mm

Calculate:(i) Indicated power (ii)Brake power(iii)Mechanical efficiency.

OR

f) The following readings were taken during the test of a 6-cylinder 4 stroke oil engine: (5) CO4

Cylinder diameter = 350 mm

Stroke length = 0.5 m

Gross m.e.p. = 9 bar and Pumping m.e.p.= 3 bar

Engine speed = 355 r.p.m.

Torque load on the brake = 1700 N

Fuel used per hour = 10 ltr

Calorific value of fuel = 44300 kJ/kg'k

Calculate:(i) Indicated power (ii)Brake power (iii)Indicated Thermal efficiency.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX