



## **BRAINWARE UNIVERSITY**

## **Term End Examination 2023-2024** Programme - Dip.ME-2022 Course Name - Thermal Engineering-II **Course Code - DMEPC403** (Semester IV)

Full Marks: 60 Time: 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

## **Group-A**

1 x 15=15

- (Multiple Choice Type Question) Choose the correct alternative from the following: (i) Identify the device used for the production of natural draught . b) centrifugal fan a) Steam jet c) chimney d) None of the option (ii) Select the device used to generate the artificial draught. b) centrifugal fan a) Steam jet c) chimney d) Both a & b (iii) Select the law on which all steam engines work. a) Zeroth law of thermodynamicss b) first law of thermodynamics d) None of these c) Second law of thermodynamics (iv) Identify the maximum steam pressure in locomotive boiler a) 1 kg/cm2 b) 5 kg/cm2 c) 10 kg/cm2 d) 18 kg/cm2 (v) Select the High pressure boiler a) Bension boiler b) cochran boiler c) babcock & wilcox boiler d) none of the option (vi) Choose the water tube boiler a) Bension boiler b) cochran boiler c) babcock & wilcox boiler d) Both a & c (vii) Choose the internally fired type boiler
- a) Bension boiler b) cochran boiler c) babcock & wilcox boiler d) All of the option
- (viii) Identify the main function of the Boiler mountings
  - a) Proper functioning b) increases the compressor work c) increases the efficiency d) none of the option
- (ix) Select the correct option for the Economizer.

	<ul><li>a) Boiler mountings</li><li>c) none of the option</li></ul>	b) Boiler accessories d) All of the option	
(x)	Select the category of blow of cock .	a) All of the option	
	a) Boiler mountings	b) Boiler accessories	
(xi)	c) none of the option Select the discharge at critical pressure	d) All of the option	
	a) 0	b) minimum	
(xii)	c) maximum Blading efficiency is also identified as	d) none of the option	
	a) diagram efficiency	b) nozzle efficiency d) All of the option	
(xiii)	c) stage efficiency The ratio of the cumulative heat drop to the iser		
<b>(</b> ,	a) reheat factor	b) stage efficiency	
	c) rankine efficiency	d) internal efficiency	
(xiv)	The ratio of the isentropic heat drop to the heat		
	a) reheat factor c) rankine efficiency	b) stage efficiency d) internal efficiency	
(xv)	Choose the reheat factor	dy internal emelency	
	a) 1.02-1.06	b) 1.2-1.5	
	c) 1.6-2	d) none of the option	
	Group	о-В	
(Short Answer Type Questions)			3 x 5=15
2. De	efine Propulsive efficiency.		(3)
3. write the names of Boiler Accessories.			(3)
4. Discuss the various losses occuring in a steam turbine			(3)
5. Explain the term Reheat factor			(3)
6. Explain why mountings are essential in a boiler.  OR			(3)
Ex	plain the function of Fusible plug		(3)
	Group	n-C	
	(Long Answer Typ		5 x 6=30
7. Explain the term Boiler efficiency and Evaporation Ratio.			(5)
3. Explain the advantages of gas turbine over IC Engine.			(5)
9. Explain the important features of reaction turbine.			(5)
10. Explain the working procedure of a closed cycle gas turbine with a sketch. 11. State the advantages of closed cycle over open cycle.			(5)
12. Explain the important features of water tube boiler.			(5) (5)
OR			(3)
E	xplain the important features of fire tube boiler.		(5)