

UNIT-1

S.No	Questions		BT	CO	PO
Part–A(Short Answer Questions)					
1	Define latent heat of ice?		1	2	1
2	What is a pure substance?		1	2	1
3	What is saturation temperature and saturation pressure?		1	3	1
4	What is wet steam and dry steam?		1	3	1
5	Define dryness fraction (quality of steam).		1	3	1
6	Draw the P–V–T surface for water and discuss the triple point and critical point.		1	3	1
7	Define critical point.		1	3	2
8	Explain Mollier chart.		1	3	2
9	What is superheated steam?		1	3	2
10	What is a Carnot engine?		1	3	2
Part– B(Long Answer Questions)					
11	a)	Explain :i) Sensible heat ii) Latent heat iii) Saturated liquid and saturated vapour iv) Dryness fraction v) Enthalpy of a wet steam vi) Enthalpy of a dry steam vii) Enthalpy of a super-heated steam	1	3	3
	b)	Write short notes on “Mollier diagram”. Why do isobars on the Mollier diagram diverge from one another	2	3	2,3
12	a)	What is the difference between critical point and triple point?	2	3	2,3
	b)	Explain neat sketch bucket calorimeter	3	3	3
13	a)	Draw P-V diagram for water and a pure substance other than water	3	3	3
	b)	Explain neat sketch throttling calorimeter	3	3	2,3
14	a)	Write the clapeyron equation and point out its utility	2	3	2
	b)	One kg of ice at -50C is exposed to the atmosphere which is at 200C. Ice melt and comes in to thermal equilibrium with the atmosphere. Determine the entropy increase of the universe.	3	3	2
15	a)	Draw the phase equilibrium diagram for a pure substance on T-s plot with relevant constant property lines.	3	3	2
	b)	Explain the terms, Degree of superheat, degree of sub-cooling	3	3	2
16	a)	Explain Dalton's law of partial pressure		3	2
	b)	Steam initially at 2 MPa, 300C expands reversibly and adiabatically in a steam turbine to 500C. Determine the ideal work output of the Turbine per kg of steam?	3	3	2