MAY 2022-ENDSEM EXAM

T.Y. B. TECH. (MECHANICAL) (SEMESTER - II)

COURSE NAME: REFRIGERATION AND AIR-CONDITIONING

COURSE CODE: MEUA32181A

(PATTERN 2020)

Time: [1 Hr] [Max. Marks: 30]

Q.1	a) When dehumidification of air necessary	[1]
	How it is achieved.	[1]
	Represent on psychometric chart	[2]
	b)ma = 11.33 kg/min	[1]
	mw =0.13 kg/min	[1]
	Heat Removal rate = 8.9 kW	[2]
	Representation on psychrometric chart	[2]
	OR	
	b) W3= 0.0106 kg/kg of air	[2]
	h3 = 48.5 kJ/kg	[2]
	T3=22.5 C RH= 60%	[2]
Q2	a) Five points	[4]
	b) 1. Room sensible heat factor: 0.714	[2]
	2. The condition of air entering the auditorium.	[3]
	DBT=23 C,WBT=19.5C,RH=72	
	3. Show the processes on the psychrometric chart.	[1]
	OR	
	b) ma =27.56 kg/mim	[1]
	Qs1 = 5.42 kW	[1]
	Ql1 =5.6 kW	[1]
	RSH= 51.92kW	[1]
	RLH=23.1 kW	[1]
	RSHF=.692	[1]
Q.3	a) Neat lay out	[2]
	Central Air Conditioning system	[2]
	b) D=0.46m,	
	D=0.412m,	[1]
	m=0.103 m	[1]
	Pf=2.9 mmWC	[2]
	OR	[2]
	b) Velocity of main duct =11.90 m/s	[1]
	Velocity of smaller duct v=12.8 m/s	[1]
	Pv main =8.67 mmwc	[2]
	Pv smaller =10.03 mmwc	[2]