Reg. No.



VII SEMESTER B.TECH (ELECTRICAL & ELECTRONICS ENGINEERING)

END SEMESTER EXAMINATIONS, NOVEMBER 2017

SUBJECT: BUILDING AUTOMATION SYSTEMS [ELE 4016]

REVISED CREDIT SYSTEM

Time: 3 HoursDate: 25 November 2017Max. Marks			Max. Marks: 50
Instructions to Candidates:			
	 Answer ALL the questions 	5.	
	 Missing data may be suita 	bly assumed.	
	 Phychrometric Chart is av 	ailable on the back side of this question paper	
1A.	What are the drawbacks of structure address them?	feedback control structure? How does feedforw	ard control (06)
1B.	Explain the concept of empiric	al tuning of control parameters.	(04)
2A.	What is relative humidity? Wh bulb temperature indicate rela	at is its importance? How does dry bulb temperate tive humidity?	are and wet (04)
2B.	What are the different technique	ues used to measure pH of a liquid?	(03)
2C.	What are the factors affecting	visual comfort in a building?	(03)
3A.	Draw the block diagram of chiller with cooling tower and explain vapour compression refrigeration system.		ompression (06)
3B.	Solve the following phychrometric numerical		
	 i. The air emerging from which is gradually coo surface when it is at 21 ii. An air mixture supplie withdrawn from the co room is maintained at 2 	a dryer, with an exit temperature of 30°C, passes ov led. It is found that the first traces of moisture app °C. Estimate the relative humidity of the air leaving d to a conditioned room consists of 40% by-passe onditioned room, and 60% chilled air at 13°C. The 25°C. Find the resulting dry bulb temperature of th	er a surface bear on this g the dryer d return air conditioned e mixture (04)
4A.	Explain different types of dayli	ghting matrices	(04)
4B.	Give technical reason for the following statements:		
	i. For buildings in southerii. During rainy season, inthe HVAC system to get	ern hemisphere of the earth windows facing south windows facing south windows facing south windows facing south I some places, it becomes necessary for a car drive t better visual of the road	vill be ideal r to turn on (02)
4C.	How does fire detectors work?	Explain the working of photo-electric smoke detec	tor (04)
5A.	Draw the architecture of building management system [1]		
5B.	What is direct digital control? How can DDC be beneficial over analog control? (0)		
5C.	Write a short note on DALI		(04)



DRY BULB TEMPERATURE °C