A **Reg. No. :** | | | | | | | | | | | | |

Question Paper Code: U9371

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Open elective

Civil Engineering

21UEE971 - DRONE TECHNOLOGIES

(Common to CSE, ECE, MECH, IT, Chemical, Agri, BME,CSBS & Biotech branches)

(Regulations 2021)

Duration: Three hours Maximum: 100 Marks

Answer All Questions

PART – A (5 x 20 = 100 Marks)

1.	(a)	Write short notes on categories of systems based upon air vehicle types.	CO1- U	(20)
		Or		
	(b)	Discuss about the 'Air vehicle' in UAV system functional structure (system composition).	CO1- U	(20)
2.	(a)	Explain 'Rotary -wing Aerodynamics'.	CO2- U	(20)
		Or		
	(b)	Explain the role of electric motors for UAVs.	CO2- U	(20)
3.	(a)	Discuss (i) Low aerodynamic drag, (ii) High disposable load fraction, and for Long-endurance, Long-range Role UAV designer.	CO3- U	(20)
		Or		
	(b)	Discuss about the Medium-range, Tactical fixed wing UAVs	CO3-U	(20)
4.	(a)	Discuss the different communication media between UAV and control station.	CO4-U	(20)
		Or		
	(b)	Write short notes on (i) Inertial navigation and (ii) Radio Tracking systems.	CO4-U	(20)
5.	(a)	Discuss the control and stability aspects of Single-main- rotor helicopter with AFCS diagram.	CO5-U	(20)
		Or		
	(b)	Write a brief notes on 'Symmetrical air frame coaxial-rotor helicopter.	CO5-U	(20)