

GROUND CLASS - SYLLABUS BLOCK (T1)						
Cat 1 [VLOS]		Micro, Small, Medium				
Category		Rotorcraft, Hybrid & Aeroplane				
Limits		VLOS, <400 ft				
Code No	Day No	Number of Classes	Hours	Title of the subject	Sub-titles of the subject	Subject Code
T1.1	Day 01	1	1:30	Stakeholders & their laws [Basic] Drone Rules 2021	International Rules, Regulations, Standards & Practices	T1.1.1
					Civil Aviation Requirements, AIPs, NOTAM	T1.1.5
					Classification & Categorization of drones	T1.1.10
					Type Certification of Drones	T1.1.15
					Registration, Sale & De-Registration of Drones	T1.1.20
					Operations of Drones	T1.1.25
					Dos and Donts	T1.1.30
					Remote Pilot Certificate	1.1.35
					Drone Insurance	1.1.45
T1.2	Day 01	1	1:00	Basic principles of flight	Fundamentals of flight	T1.2.1
					Aerodynamics	T1.2.5
					Take-off, flight, and landing	T1.2.10
					Maneuvers, turns and circuit pattern	T1.2.15
T1.3	Day 01	1	1:15	ATC procedures & Radio Telephony (non FRTOL)	Understanding ATC operations	T1.3.1
					Airspace structure and Airspace	T1.3.5
					Restrictions with knowledge of no drone zones Flight regulations and procedures in Yellow Zone	T1.3.10
					RT Phraseology & Communicating with ATC including Position and Altitude Reporting ;	T1.3.15
					Flight Planning Procedures including Altimeter setting procedures	T1.3.20
					Collision avoidance	T1.3.25
					Radio Telephony (RT) techniques	T1.3.30

T1.4	Day 01	1	1:15	Fixed-wing Operations and Aerodynamics	Types of fixed wing drones, make, parts, terminology	T1.4.1
					Operation and maneuvers of fixed wing drones, Flight Performance	T1.4.5
					Intro to Mission Planning, Instrument Flying & Navigation (GCS)	T1.4.10
					Applications of fixed-wing UAVs	T1.4.15
					Pros and Cons of Fixed Wing Drones	T1.4.20
T1.5	Day 01	1	1:30	Rotorcraft Operations and Aerodynamics	Basic drone terminology & parts	T1.5.1
					Types of drones, material used and size of drones	T1.5.5
					Drone Anatomy: Different parts of drones	T1.5.10
					Avionics & C2 Link	T1.5.15
					Intro to Mission Planning, Instrument Flying & Navigation (GCS)	T1.5.20
					Applications and operations of Multirotor, Flight Performance	T1.5.25
					Pros and Cons of Rotorcraft Drones	T1.5.30
T1.6	Day 01	1	0:30	Hybrid Operations and Aerodynamics	Principles of Aerodynamics	T1.6.1
					Types of Hybrid Drones & Parts	T1.6.5
					Intro to Mission Planning, Instrument Flying & Navigation (GCS)	T1.6.10
					Applications of Hybrid UAVs	T1.6.15
					Comparison with Rotorcraft & Aeroplane	T1.6.20
			7:00			
T1.7	Day 02	1	1:15	Weather and Meteorology	The standard atmosphere	T1.7.1
					Measuring air pressure	T1.7.5
					Heat and temperature	T1.7.10
					Wind	T1.7.15
					Moisture, cloud formation, icing and its effects	T1.7.20
					Effect of atmosphere on RPAS operation & hazardous weather avoidance	1.7.25
					Met Terminal Aviation Routine Weather Report (METAR)	1.7.30
T1.8	Day 02	1	1:30	Drone Equipment Maintenance	Maintenance of drone, flight control box, ground station	T1.8.1

					Maintenance of ground equipment, batteries and payloads	T1.8.5
					Scheduled servicing	T1.8.10
					Repair of equipment	T1.8.15
					Fault finding and rectification	T1.8.20
T1.9	Day 02	1	1:30	Risk Assessment & Analysis - Safety Management / TEM	Drone Emergency & Handling	T1.9.1
					Loss of C2-link	T1.9.5
					Fly-aways (Straying)	T1.9.10
					Loss of power	T1.9.15
					Other Emergencies	T1.9.20
					Control surface failures	T1.9.25
					Human Performance & Pilot Incapacitation	T1.9.30
					Fail-Safe Features	T1.9.35
T1.10	Day 02	1	1:15	Payload, Installation and Utilization	Types of payloads - What to carry , what not to carry	T1.10.1
					Parts of payloads	T1.10.5
					Installation	T1.10.10
					Features of payloads	T1.10.15
					Utilization	T1.10.20
T1.11	Day 02	1	1:30	Intro to Drone Data & Analysis	Principles of Observation	T1.11.1
					Elements of Image & Video Interpretation	T1.11.5
					Introduction to Photogrammetry	T1.11.10
					Types of Image & Video Data	T1.11.15
					Analysis	T1.11.20
			7:00			
T1.12.T	Day 03	1	0:40	Final test - Theory	Written Test (Based on Type of Drone)	

FLYING CLASS - SYLLABUS BLOCK (R1/R2)						
Cat 1 [VLOS]		Micro, Small, Medium				
Category		Rotorcraft				
Limits		VLOS, <400 ft				
Code No	Day No	Number of Exercise	Hours	Title of the subject	Sub-titles of the subject	Subject Code
R1.S, R2.S	Day 03	11	2:45	Flight Simulator Training	Introduction to Flight Simulator	R1.S.1
					Sim familiarization, Controls check	R1.S.2
					Pre-flight checks, Take off, Cruise	R1.S.3
					Approach. Go-around & Landing, Post-Flight Checks	R1.S.4
					Cruise and Turns, Climbing and Climbing Turns	R1.S.5
					Descend & Descending Turns	R1.S.6
					Disorientation & Recovery	R1.S.7
					Circuit Flying – Rectangle/ Square/ Circle / Orbit, Flying – Figure of 8	R1.S.8
					Gimbal Controls (Pan, tilt & zoom)	R1.S.9
					Night Flying	R1.S.10
					Abnormal / Emergency Procedures	R1.S.11
R1.S.T, R2.S.T	Day 03	1	0:15	Flight Simulator Training	Simulator Test	
R1.A, R2.A	Day 03	1	2:00	Basic Assembly & Maintenance	Assembling of drone	R1.A.1
					De-assembling	R1.A.2
					Integration of sub-sections/ modules	R1.A.3
					Integration of engine/propulsion system	R1.A.4
					Fault finding and rectification	R1.A.5
					Repair maintenance and documentation	R1.A.6
R1.F, R2.F	Day 03, 04 & 05	1	4:10	Practical Flying with Instructor/ Solo Flying	Intro to Digital Sky platform	R1.F.1
					RPAS familiarization & Safety briefing	R1.F.2
					Introductory flight where the student experiences sensitivity of controls and learning the orientation of the RPA	R1.F.3
					Take-off, Climbing, descending and maintaining height	R1.F.4
					Basic Controls: Pitch, Roll and Yaw	R1.F.5

					Disorientation & Recovery	R1.F.8
					Progress Check - Multirotor	R1.F.9
					Level turns in both directions	R1.F.10
					Climbing and descending turns	R1.F.11
					Left and right square circuits patterns	R1.F.12
					Flying in circles	R1.F.13
					Flying in figure of 8	R1.F.14
					Mission Planning & Instrument Flying	R1.F.15
					Auto Mission & Flight	R1.F.16
					Night Flying	R1.F.17
					Abnormal/ Emergency procedures	R1.F.18
R1.F.T, R2.F.T	Day 05		0:20		Final Test - Multirotor	