SCHEME FOR
FIFTH SEMESTER (AIRCRAFT MAINTENANCE ENGINEERING)

Sr. No	Subject	STUDY SCHEME Hrs/week L	T	P	EVALUATION SCHEME						Total Marks
					Internal Assessment		External Assessment (Examination)				
					Theory	Practical	Written Paper		Practical		
					Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
Industrial Training		-	-	-	-	50	-	-	50	3	100
5.1	Aircraft Material and Material Science - II	4	-	2	25	25	100	3	50	3	200
5.2	Aircraft Maintenance Practices	4	-	2	25	25	100	3	50	3	200
5.3	Aircraft Systems	4	-	2	25	25	100	3	50	3	200
5.4 *	Employability Skills – I	-	-	2	-	25	-	-	50	3	75
5.5	Turbo Propeller and Turbo Jet Engine - I	5	-	4	25	25	100	3	50	3	200
5.6	Aircraft Electrical Systems	4	-	2	25	25	100	3	50	3	200
Student Centred Activities#		-	-	5	-	25	-	-	-	-	25
	Total	**21**	**-**	**19**	**125**	**225**	**500**	**-**	**350**	**-**	**1200**

* Common with other diploma programmes

\# Student Centred Activities will comprise of co-curricular activities like extension lectures, library studies, games, hobby clubs e.g. photography, painting, singing, seminars, declamation contests, educational field visits, N.C.C., NSS, Cultural Activities, Civil Defence/Disaster Management activities etc.

SYLLABUS: Polytechnic (AME)

Department: Aircraft Maintenance Engineering-5th Semester

Subject: Aircraft Materials and Material Science-II (Theory) **Subject Code:**

DETAILED CONTENTS

Unit No.1 Composite Material

Topic No.1: Composite, advantages & uses of composite material.
Topic No.2: Reinforcing fibers, type & uses
Topic No.3: Terms: warp, waft, unidirectional, bidirectional, mats, fnroc weaves, satin weaves, hybrids, intraply hybrid, interplay hybrid.
Topic No.4: Matrix material, system, thermosets, thermoplastic, epoxy resin, system, working with resin & catalysis, adhesive pre-impregnated materials, fillers, metal matrix composites
Topic No.5: Core material, boney-comb, foams Styrofoam, urethane, PVC, strux
Topic No.6: Factors considered for manufacturing cost of composite
Topic No.7: Manufacturing methods, compression moulding
Topic No.8: vacuum bagging, filament winding
Topic No.9: way lay-up, lightening protection & painting of composite part.
Topic No.10: Safety precautions in the use of composite material
Topic No.11: Curing method of curing composite material in brief autoclave, heating blankets, machining cured composites.
Topic No.12: Detection of defects/deterioration in composite and non-metallic materials

Unit No.2 Air-craft Hardware

Topic No.13: Detailed knowledge of identification, terminology
Topic No.14: Correct use and inspection of Aircraft, nuts, bolts, Studs, Screws, Washers, Locking devices
Topic No.15: Acrylic and Cellulose their use.
Topic No.16: Types of threading of nuts and bolts, Knowledge of their Indian, British and American standards
Topic No.17: Spring materials: Characteristics and application

Unit No.3 Corrosion and its Prevention

Topic No.18: Factors in the choice of materials in various parts of aircraft
Topic No.19: Detection of corrosion, special coating, chemical films
Topic No.20: Special paints like Abrasive Resistant Paint
Topic No.21: Heat and corrosive resistive paints and electroplating.

Unit No.4 High Temperature Materials

Topic No.22: Sensors materials like Heat sensing
Topic No.23: Signal sensing

Unit No. 5 Metal Joining Processes

Topic No.24: Welding of light alloys
Topic No.25: Aircraft steels and high temperature materials
Topic No.26: Defects in welding, NDT techniques

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
4	-	-	25	-	100	3	-	-	125

INSTRUCTIONAL STRATEGY

Teacher should correlate the topics with the latest discoveries in the field; carryout experimental tests to determine mechanical properties of composites. They should give assignments after every session to make student understand pros and cons of using composites in various fields.

REFERENCE BOOKS:

1. Advanced Composites by Cindy Foreman Jeppesen; 2nd edition (2002)
2. Mechanics of Composite Materials by Daniel Ishai; Ooxford University Press, 1994
3. Mechanics of Composite Materials by Autar K Kaw; CRC Press, 1997.
4. Mechanics of Composite Materials and Structures by Madhuji Mukhapadhyay; University Press,2004
5. Analysis and Performance of Fibre Composites by Agarwal, B.D., and Broutman, L.J.; John Wiley and sons. Inc., New York, 1995.
6. Handbook on Advanced Plastics and Fibre Glass by Lubin, G.; Von-Nostrand Reinhold Co., New York, 1989.
7. The Analysis of laminated Composite Structures by Calcote, L R.; Von-Nostrand Reinhold Company, New York 1998.
8. Composite Materials for Aircraft Structures by Allen Baker; AIAA Series, II Edition, 1999.

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	20	30
2	16	24
3	12	20
4	12	20
5	04	06
Total	**64**	**100**

Subject: Aircraft Materials and Material Science-II (Practical) **Subject Code:**

LIST OF PRACTICALS

1. Crack detection using dye-penetrant test.
2. Joining Materials using resistance welding.
3. Joining Materials using gas welding.
4. Carry out riveting on thick and thin aluminum sheets.
5. Making specimen of FRP for given drawing

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
-	-	2	-	25	-	-	50	3	75

Subject: Aircraft Maintenance Practices (Theory) **Subject Code:**

DETAILED CONTENTS

Unit No.1 Maintenance Schedules

Topic No.1: Types of maintenance schedules
Topic No.2: Mandatory schedules, inspection of aircraft
Topic No.3: Components: types of inspections, various aircraft manuals, service letter and service bulleting
Topic No.4: Advisory circulars, repair, modifications
Topic No.5: Alteration, reconditioning, history record sheet.

Unit No.2 Maintenance of Radio and Communication Systems

Topic No.6: Basics application and identification of electrical cables used in Aircraft radio installation
Topic No.7: Crimping and soldering techniques
Topic No.8: Bonding continuity and insulation tests.
Topic No.9: Composition, performance (stability and tolerance) and limitations of the fixed resistors
Topic No.10: Varistors (carbon composition, carbon film, wire wound and metallic film)
Topic No.11: AC and DC measuring instruments

Unit No. 3 Engine Maintenance

Topic No.12: Piston/Gas Turbines: Periodical servicing procedures
Topic No.13: Engine installation checks, control rigging
Topic No.14: Ground running checks, bleeding and performance checks
Topic No.15: Engine on condition maintenance
Topic No.16: Trouble shooting and rectification
Topic No.17: Inspection aftershock landing, Crack detection
Topic No.18: Procedure for long and short terms storage of engine and accessories
Topic No.19: Engine preservation and depreservation.

Unit No. 4 Maintenance of Airframe and Systems

Topic No.29: Various types of structures in airframe construction
Topic No.21: Braced monocoque, semimonocoque, etc
Topic No.22: longerons, stringers, formers, bulkhead, spars and ribs
Topic No.23: Honeycomb construction, airplane controls surfaces
Topic No.24: Flying controls including power operated controls, hydraulic, pneumatic
Topic No.25: Landing gear various types, shock struts, nose wheel steering
Topic No.26: Ice and rain protection, fire detection warning and extinguishing
Topic No.27: Oxygen, air -conditioning and pressurization systems, wheels, tyres, brakes, antiskid system

Unit No. 5 Maintenance of Electrical and Instrument Systems

Topic No.28: Airspeed indicator, altimeter
Topic No.29: Mach meter, gyroscope, turn and bank indicator
Topic No.30: Rate of climb and descent indicators, battery
Topic No.31: Basic elements of DC system, basic elements of AC systems.

Unit No. 6 Quality and Airworthiness Assurance

Topic No.32: Zero defect analogy, FMECA
Topic No.33: Fault tree analysis, bench marking, quality circles
Topic No.34: Quality audit. Quality standards: ISO 9000, AS9100
Topic No.35: TQM, CMM, Six sigma
Topic No.1: Quality organizational set up in production/repair/operational set up.

Unit No.7 Civil aviation regulations

Topic No.35: DGCA (Directorate general of civil aviation)
Topic No.36: FAA regulation: Licensing regulations, general regulations, operations regulations
Topic No.37: Aaviation safety regulations
Topic No.38: Air navigation regulations, aerodromes regulations

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
4	-	-	25	-	100	3	-	-	125

INSTRUCTIONAL STRATEGY

Teacher should use experimental based learning for effective teaching-learning. They should be expose students to real life problems. Teacher should plan assignments so as to promote problem-solving abilities and develop continued learning skills among the students.

REFERENCE BOOKS:

1. Aircraft Maintenance and Repair by Michael J. Kores and William A. Watkins; MGraw Hill.
2. Aircraft Instruments by E H J Pallet; Himalayan Book, New Delhi 1981.
3. Aircraft Instruments by C A Williams; Galgotia Publications, New Delhi 1973.
4. Instruments by R W Sloley and Coulthard.
5. Civil Aircraft Inspection Procedures (CAP 459) Pt II Aircraft; Himalayan Books
6. Airframe and Power Plant Mechanic (AC 65-15A) Airframe Hand Book; Himalayan Books.

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (hrs)	Marks Allotted (%)
1.	08	14
2.	10	16
3.	12	18
4.	10	16
5.	08	12
6.	08	12
7.	08	12
Total	**64**	**100**

Subject: Aircraft Maintenance Practices (Practical) **Subject Code:**

LIST OF PRACTICALS

Aircraft maintenance and overhaul lab experiments:

1. Marshalling signals/ground handling of aircraft.
2. Drawing of typical aircraft parts:
   - Drawing of various aircraft and engine parts like wings, fuselage, control surfaces, piston, crank shaft and valve mechanism etc.
   - Study of machine drawing and blue prints.
3. Maintenance of landing gear, removal and installation of tyres.
4. Maintenance of spark plugs.
5. Fueling, fuel sampling and testing.
6. Daily inspection of aircraft.
7. Identify Leakage in hydraulic system and its maintenance.
8. Calibration of pressure and temperature in hydraulic system.

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
-	-	2	-	25	-	-	50	3	75

Subject: Aircraft Systems (Theory) **Subject Code:**

DETAILED CONTENTS

Unit No.1 Hydraulic system

Topic No.1: Advantages and disadvantages
Topic No.2: Types of circuit, flow through pipes
Topic No.3: Pumps and motors, static performance, actuators
Topic No.4: Seals and backup rings, reservoirs, accumulators
Topic No.5: Contamination control filters, tubings and hose pipes
Topic No.6: Indicating and warning systems, emergency and redundant systems valves
Topic No.7: Flow dividers and integraters, cooling systems

Unit No. 2 Servo-Control System

Topic No.8: Stability and response
Topic No.9: Electro-hydraulic servo systems
Topic No.10: Position and force feedback
Topic No.11: Frequency response, principles of automatic control

Unit No. 3 Pneumatic Systems

Topic No.12: Air-conditioning and pressurization systems
Topic No.13: De-icing systems, heat loads, plumbing
Topic No.14: Cold air units, compact heat exchangers, valves, filters, air bottles
Topic No.15: Capsules and bellows, indication and warnings

Unit No. 4 Oxygen Systems

Topic No.16: Gaseous and liquid oxygen systems
Topic No.17: Breathing masks, oxygen regulators
Topic No.18: Oxygen bottles, liquid to gas converters
Topic No.19: Emergency systems, pressure suits
Topic No.20: Indication and warnings

Unit No. 5 Landing Gear Systems

Topic No.21: Types of landing gears and their design principles
Topic No.22: Shock absorbing devices, retracting mechanisms
Topic No.23: Wheels and brakes, antiskid system
Topic No.24: Steering systems, indications and warnings.

Unit No. 6 Fuel Systems

Topic No.25: Types of fuels, their properties and testing
Topic No.26: Color codes, fuel requirements, pumps
Topic No.27: fuel transfer systems, fuel tanks
Topic No.28: plumbing, valves, indications and warnings

Unit No. 7 Lubrication Systems

Topic No.29: Types of lubrication systems
Topic No.30: Lubricants, cleaning agents

Unit No. 8 Fire Protection Systems

Topic No.31: Types of systems, Flame proofing
Topic No.32: Fire walls, Fire detection systems
Topic No.33: Fire extinguishing systems.

Unit No. 9 Seat Safety Systems

Topic No.34: Ejection seats, Survival packs
Topic No.35: Parachutes, Pilot's personal equipment
Topic No.36: life rafts, Doors, Windows and Emergency exits, Seat belts.

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
4	-	-	25	-	100	3	-	-	125

INSTRUCTIONAL STRATEGY

Teacher should take the students to industry and explain the details of hydraulic system and air-conditioning systems and their components. While imparting instructions, focus should be on conceptual understanding. Training slides of "Carrier Fundamentals of Refrigeration Air Conditioning" to be shown to students.

REFERENCE BOOKS:

1. Jet Aircraft Power Systems by J V Casamassa and RD Bent; McGraw Hill.
2. Automatic Flight Control by E H J Pallet; BSP Profession Books.1993
3. Hydraulic System by Dr. Lalit Gupta
4. Pneumatic System by Dr. Lalit Gupta

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	10	16
2	08	12
3	08	12
4	08	12
5	08	12
6	06	10
7	04	06
8	06	10
9	06	10
Total	**64**	**100**

Subject: Aircraft Systems (Practical) **Subject Code:**

LIST OF PRACTICALS

Study and demonstration of the following aircraft systems:

1. Study and demonstration of hydraulic system
2. Study and demonstration of Pneumatic system
3. Study and demonstration of Electrical system
4. Study and demonstration of basic control system
5. Study and demonstration of Fuel system

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
-	-	2	-	25	-	-	50	3	75

Subject: Employability Skills-I (Practical) **Subject Code:**

DETAILED CONTENTS

1. Writing skills
- i) Official and business correspondence
- ii) Job application - covering letter and resume
- iii) Report writing - key features and kinds

2. Oral Communication Skills
- i) Giving advice
- ii) Making comparisons
- iii) Agreeing and disagreeing
- iv) Taking turns in conversation
- v) Fixing and cancelling appointments

3. Generic Skills
- i) Stress management
- ii) Time management
- iii) Negotiations and conflict resolution
- iv) Team work and leadership qualities

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
-	-	2	-	25	-	-	50	3	75

Subject: Turbo Propeller and Jet Engine-I (Theory) **Subject Code:**

DETAILED CONTENTS

Unit No.1 Introduction to Jet Engines: Brayton cycle, comparative study between piston Engine & Turbine engine
Unit No. 2 Theory of Jet Propulsion
Unit No. 3

Topic No.1: Introduction to aviation gas turbines: Turbo prop, Turbo shaft
Topic No.2: Turbo jet, Turbo fan including by pass engine.
Topic No.3: Major components of turbine engine

Unit No.4

Topic No.5: Construction features of various types of turbine engines air inlet
Topic No.6: Compressor design and construction and various types
Topic No.7: Advantages and disadvantages of each type of compressors
Topic No.8: combustion chambers, construction and types
Topic No.9: Advantages of each type, exhaust system, Construction and type
Topic No.10: Accessory gear section-construction, reduction gear system.

Unit No.5 Air system of turbine engine including cooling, seeling of bearing and bleed valve operation.
Unit No.6.Materials for gas turbine engines.

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
5	-	4	25	-	100	3	-	-	125

INSTRUCTIONAL STRATEGY

Introduce basic concepts and salient features of engine components of turbo and jet propelled engines which are operated in atmosphere to students. Familiarize students with advanced jet propulsion methods like hypersonic propulsion. Use simulation methods to demonstrate actual working of an engine. Discuss actual jet engine problems and their impact on engine performance.

TEXT BOOKS:

1. General Hand Books of Airframe and Power Plant Mechanics, U.S. Dept. of Transportation, Federal Aviation Administration, The English Book Store, New Delhi, 1995.
2. Aircraft Power Plants by Mekinley, J.L. and Bent, R.D; McGraw-Hill, 1993.
3. Gas Turbine Technology by Treager, S.; McGraw-Hill, 1997.
4. Airframe and Power Plant Mechanics (EA-AC 65-9A)-General Hand Book.
5. Mechanics & Thermodynamics of Propulsion by Hill, P.G. & Peterson, C.R.; Addison – Wesley Longman INC, 1999.

REFERENCE BOOKS:

1. Aerospace Propulsion System by James Award
2. Gas Turbine Theory by Cohen, H. Rogers, G.F.C. and Saravana muttoo, H.I.H.; Longman, 1989.
3. Aero thermodynamics of Aircraft Engine Components by Oates, G.C.; AIAA Education Series, New York, 1985.
4. Jet Engine, 5th Edition by Rolls Royce; Rolls Royce Technical Publications, 2005.
5. Gas Turbine, Jet and Rocket Propulsion by Mathur, M.L. and Sharma, R.P.; Standard Publishers & Distributors, Delhi, 1999.
6. Aerospace Propulsion System by James Award.

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	10	12
2	10	12
3	16	20
4	22	28
5	08	10
6	14	18
Total	**80**	**100**

Subject: Turbo Propeller and Jet Engine-I (Practical) **Subject Code:**

LIST OF PRACTICALS

1. Compressor washing procedures.
2. Internal inspection of an engine by endoscope/boroscope.
3. Hot section inspection, stripping of engine, inspection of combustion chamber, nozzle guide vane and turbine, inspection of turbine tip clearance, inspection of hot section using modern non-destructive testing techniques.
4. Engine removal and installation.
5. Engine ground testing procedure.
6. Engine preservation (Long term and short term).

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
-	-	4	-	25	-	-	50	3	75

Subject: Aircraft Electrical Systems (Theory) **Subject Code:**

DETAILED CONTENTS

Unit No.1 Electrical Measuring Instruments

Topic No.1: General description and types of measuring instruments.
Topic No.2: Requirement of indicating instrument.
Topic No.3: Different type of instruments - Moving coil type, Moving Iron type dynamometer type, construction and working.
Topic No.4: A meter, voltmeter, wattmeter, frequency meter.

Unit No.2 Electrical, Cables and wires and terminals : Nomenclature

Topic No.5: Current Capacity; Lacing
Topic No.6: Clamping and Routing of wire bundles
Topic No.7: Various terminals and constructions
Topic No.8: Different types of connectors; Switches

Unit No.3 Protective devices

Topic No.9: Fuses; Relays; Circuit breaker
Topic No.10: Over voltage; Under voltage; Reverse current breaker,Current limiter

Unit No.4 Static electricity in aircraft

Topic No.11: Coronna threshold
Topic No.12: P- static-cause and prevention, Bonding
Topic No.13: Static discharge wick and null discharges; Shielding

Unit No.5 D. C. generators

Topic No.14: Different parts; Theory different types and types of armature winding
Topic No.15: Armature reaction, magnetic neutral axis angle of lead types of generator and their uses
Topic No.16: Inter poles, voltage regulators, vibrating type
Topic No.17: Carbon pile, three unit control panel
Topic No.18: Paralleling of generators
Topic No.19: Static generator and contraction, repair and maintenance

Unit No.6 A. C. generators

Topic No.20: Theory, construction
Topic No.21: Single phase, multi-phase generator
Topic No.22: Static inverter, types voltage regulation
Topic No.23: Magnetic amplifier regulator, transistorized voltage regulator
Topic No.24: Parallel operation maintenance
Topic No.25: Operation and construction of revolving armature and revolving field type of AC generators.

Unit No.7 Motors

Topic No.26: D. C. motors, Theory, Types
Topic No.27: A. C. motor; Theory, multi-phase, Induction motor
Topic No.28: Starters, Different types of A.C. motors
Topic No.29: Induction motors (Single Phase) split phase motor
Topic No.30: Repulsion motors, Series motors, Starter motors

Unit No.8 Transformers

Topic No.31: Types of transformers
Topic No.32: Principles of operation construction-Transformer ratio cooling device uses and efficiency
Topic No.33: Rectifiers, current transformer, potential xmer, auto xmer.

Unit No.9 Aircraft typical electrical system

Topic No.34: Aircraft wiring system, Various circuits of aircraft electrical system.
Topic No.35: Landing gear circuits, Generator circuit
Topic No.36: Battery and starter circuits, Flap circuits
Topic No.37: Landing light circuits, CHT circuit
Topic No.38: O/T circuit, Fuel content
Topic No.39: Electrical gauges circuits.

Unit No.10 Batteries

Topic No.40: General description and general precaution lead Nickel-Cadmium batteries (Aircraft batteries).
Topic No.41: Construction of lead acid batteries.
Topic No.42: Battery rating, Battery testing, Effect of temp. Thermal runaway, cold weather operation.
Topic No.43: Charging of lead acid battery.
Topic No.44: Construction of Nickel-Cadmium battery.
Topic No.45: Charging of Ni-Cd. Battery.
Topic No.46: Inspection and testing of Ni-Cd. Battery.
Topic No.47: Installation of lead acid and Ni-Cd. Battery.
Topic No.48: Maintenance of installed batteries.
Topic No.49: Battery record, storage & transportation procedure.

Unit NO.11 Filters: Application and uses of flow pass, high pass, bend pass and bend stop.

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
4	-	-	25	-	100	3	-	-	125

INSTRUCTIONAL STRATEGY

Teacher should use demonstration and discussion methods to explain various aspects of aircraft electrical systems to the students.

TEXT BOOKS:

Aircraft Systems by Ian Moir and Allan Seabridge; John Wiley & Sons

1. Electrical Measurements and Measuring Instruments by AK Sawhney; Dhanpatrai & sons
2. Aircraft Instruments by C.A. Williams; Galgotia publishing house
3. Civil, Aircraft Inspection Procedures (CAP459) Two Volumes, Himalayan Books
4. Electrical Technology by B L Threja

REFERENCE BOOKS:

1. Aircraft Electrical System by E.H.J. Pallett
2. Aircraft Electricity and electronics by Bent Mekinley
3. Aircraft Electrical Systems by J E Bygate

SUGGESTED DISTRIBUTION OF MARKS

Topic No.	Time Allotted (Hrs)	Marks Allotted (%)
1	08	10
2	06	10
3	06	10
4	06	10
5	06	10
6	06	10
7	06	10
8	06	10
9	06	10
10	04	06
11	04	04
Total	**64**	**100**

Subject: Aircraft Electrical Systems (Practical) **Subject Code:**

LIST OF PRACTICALS

1. Open lead acid battery and know the construction and assembly.
2. Transformer : Operation and Testing.
3. A. C. & D. C. Motors : Dismantle, Know the parts and service and reassemble.
4. Study Thermo-couple function.
5. Solonoid, Dismantling, inspecting and parts checking and its function.
6. Voltage regulator : Dismantle, inspecting the parts preparing wiring diagram and checking its function.
7. Straters: Dismantling, cleaning, inspection, know the parts, function of parts and assembly.
8. Reading and connecting the different circuit diagrams.
9. Wiring practice in double wire and single wire system of basic circuits.
10. Charging of batteries.

STUDY SCHEME			EVALUATION SCHEME						Total Marks
			Internal Assessment		External Assessment (Examination)				
Hrs/week			Theory	Practical	Written Paper		Practical		
L	T	P	Max. Marks	Max. Marks	Max. Marks	Hrs	Max. Marks	Hrs	
-	-	2	-	25	-	-	50	3	75