RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL
CREDIT BASED GRADING SYSTEM

PROGRAMME NAME : AIRCRAFT MAINTENANCE

Name of Scheme : **Implemented from Session :**

Scheme of Studies and Examinations for : **SIXTH SEMESTER**

COURSE CODE	COURSE TITLE	PAP ER CODE	THEORY COMPONENT								PRACTICAL COMPONENT						TOTAL CREDIT	GRAND TOTALOF MARKS
			LECTURES									CONTINUOUS EVALUATION	END OF THE TERM/ SEMESTER EVALUATION					
			Hrs. Per Week	TERM WORK QUIZ, ASSIGNMENT	MID TERM TEST (TWO) I	MID TERM TEST (TWO) II	THEORY PAPER NO.	THEORY PAPER MARKS	THEORY PAPER DURATION (Hrs)	THEORY CREDIT	PRACTICAL Hrs. Per Week	LAB. WORK QUIZ, ASSIGNMENT	PRACTICAL / ORAL EXAMINATION (VIVA) NO.	PRACTICAL / ORAL EXAMINATION (VIVA) MARKS	PRACTICAL / ORAL EXAMINATION (VIVA) DURATION (Hrs.)	PRACTCAL CREDIT		
601	TURBO PROPELLOR AND TURBOJET ENGINE -II	7309	03	**10**	**10**	**10**	**01**	**70**	**3**	**04**	02	**20**	**01**	**30**	**3**	**02**	**06**	**150**
602	AIRCRAFT AVIONICS	7310	06	**10**	**10**	**10**	**01**	**70**	**3**	**04**	02	**20**	**01**	**30**	**3**	**02**	**06**	**150**
603	AIRCRAFT MAINTENANCE PRACTICES	7311	06	**10**	**10**	**10**	**01**	**70**	**3**	**04**	02	**20**	**01**	**30**	**3**	**02**	**06**	**150**
604	PROJECT		07	**10**	**10**	**10**	**01**	**70**	**3**	**04**	02	**20**	**01**	**30**	**3**	**02**	**06**	**150**
605	TWO WEEK INDUSTRIAL TRAINING																	
606	PROFESSIONAL DEVELOPMENT -VI		04	**25**	**25**	**25**												**75**
	TOTAL		**26**	**65**	**65**	**65**	**04**	**280**			10	**80**		**120**		**6**	**26**	**675**

Theory Credits	: 16	Theory Marks	: 280
Practical Credits	: 08	Practical Marks	: 120
Total Credits	**:24**	Quiz, Mid Term, Lab. Work	: 275
		Total	**: 675**

Minimum Pass Grade in Theory & Practical 'D'

DIPLOMA WING

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

AIRCRAFT MAINTENANCE ENGG

SEMESTER -VI

COURSETITLE	:	TURBO PROPELLER AND TURBO JET ENGINE – II
PAPERCODE	:	7309
SUBJECTCODE	:	601
TREORYCREDITS	:	04
PRACTICALCREDITS	:	02

Unit 1. Gas turbine fuels, fuel system & controls, Starting and ignition system, Lubricants and lubricating system, Thrust augmentation including water methanol/power boosting system and after burner or reheat engines

Unit 2. Thrust reversal system, Dressing and installation of gas turbine engines, Operation, Maintenance and Overhaul of gas turbine engines, Ground running and power assessment procedure

Unit 3. Engine controls and rigging, Specific engine P & W PIGA series engine, Construction features, air system, fuel system, oil system, ignition system, starting system, exhaust system, propeller system, indication system

Unit 4. Fire protection system, anti- icing/de-icing system, engine installation procedure engine control and rigging procedures power assessment, engine trimming, Engine inspection procedure, Compressor inspection and maintenance.

Unit 5. Turbine, inspection of temperature indication system, inspection of exhaust system, Effects of sound and air pollutions on human beings due to light and heavy aircrafts.

RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

AIRCRAFT MAINTENANCE ENGG

SEMESTER -VI

COURSETITLE	:	AIRCRAFT AVIONICS
PAPERCODE	:	7310
SUBJECTCODE	:	602
TREORYCREDITS	:	04
PRACTICALCREDITS	:	02

UNIT 1. Introduction to Avionics Sub Systems and Electronic Circuits ,Typical avionics subsystems, amplifier, oscillator, aircraft communication system, transmitter, receiver, antenna.

UNIT 2. Avionics Technology, The nature of microelectronic devices: Processors , Memory devices , Digital data buses, Data bus examples – integration of aircraft systems , Regional aircraft/business jets, Fibre-optic buses , Avionics packaging – Line Replaceable Units ,Typical LRU architecture ,Environmental conditions , Integrated Modular Avionics

UNIT 3. Navigation System and Radar , Electrical diagram and identification scheme, circuit controlling devices, power utilisation-typical application to avionics, need for avionics in civil and military aircraft, gyroscopic versus inertial platform, structure of stable platform, inertial navigation units, inertial alignment, inertial interface system, importance of compass swing

UNIT 4. Electronic Flight Control System, Fly-by-wire system: - basic concept and features. Pitch and Roll rate: - command and response, control laws, frequency response of a typical Fly By Wire actuator, cooper harper scale, redundancy and failure survival, common mode of failures and effects analysis

UNIT 5. Flight Deck and Cockpits, Control and display technologies, Cathode Ray Tube, Light Emitting Diode and plasma panel - Touch screen - Direct voice input (DVI) – Civil cockpit and military cockpit: Multi function display, Head Up Display, Multi Function Keyboard

UNIT 6. Avionics Systems Integratio, Avionics equipment fit, Electrical data bus system, communication systems, navigation systems, flight control systems, radar, electronic warfare, and fire control system, avionics system architecture–data buses MIL–STD 1553 B.

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AIRCRAFT MAINTENANCE ENGG

SEMESTER -VI

COURSETITLE	:	AIRCRAFT MAINTENANCE PRACTICES
PAPERCODE	:	7311
SUBJECTCODE	:	603
TREORYCREDITS	:	04
PRACTICALCREDITS	:	02

UNIT 1. Maintenance Schedules, Types of maintenance schedules, mandatory schedules, inspection of aircraft and components: types of inspections, various aircraft manuals, service letter and service bulleting, advisory circulars, repair, modifications, alteration, reconditioning, history record sheet.

UNIT 2. Maintenance of Radio and Communication Systems, Basics application and identification of electrical cables used in Aircraft radio installation, crimping and soldering techniques, bonding continuity and insulation tests. Composition, performance (stability and tolerance) and limitations of the fixed resistors and varistors (carbon composition, carbon film, wire wound and metallic film), AC and DC measuring instruments

UNIT 3. Engine Maintenance, Piston/Gas Turbines: Periodical servicing procedures, engine installation checks, control rigging, ground running checks, bleeding and performance checks. Engine on condition maintenance, Trouble shooting and rectification, Inspection after shock landing, Crack detection, Procedure for long and short terms storage of engine and accessories, engine preservation and depreservation.

UNIT 4. Maintenance of Airframe and Systems, Various types of structures in airframe construction, tubular, braced monocoque, semimonocoque, etc, longerons, stringers, formers, bulkhead, spars and ribs, honeycomb construction, airplane controls surfaces, Flying controls including power operated controls, hydraulic, pneumatic, landing gear various types, shock struts, nose wheel steering, ice and rain protection, fire detection warning and extinguishing, oxygen, air -conditioning and pressurization systems, wheels, tyres, brakes, antiskid system.

UNIT 5. Maintenance of Electrical and Instrument Systems, Airspeed indicator, altimeter, mach meter, gyroscope, turn and bank indicator, rate of climb and descent indicators, battery, basic elements of DC system, basic elements of AC systems.

UNIT 6. Quality and Airworthiness Assurance , Zero defect analogy, FMECA, fault tree analysis, bench marking, quality circles, quality audit. Quality standards: ISO 9000, AS9100, TQM, CMM, Six sigma, quality organizational set up in production/repair/operational set up.

UNIT 7. Civil aviation regulations, DGCA(Directorate general of civil aviation) and FAA regulation: Licensing regulations, general regulations, operations regulations, airworthiness regulations, aviation safety regulations, air navigation regulations, aerodromes regulations