

**B.B.A. AVIATION MANAGEMENT****CHOICE BASED CREDIT SYSTEM – LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (CBCS - LOCF)****(Applicable to the candidates admitted from the academic year 2026-2027 onwards)****Eligibility : +2 (any Stream)**

Sem.	Part	Name of the Courses	Title of Course	Ins. Hrs	Credits	Exam. Hours	Maximum Marks		
							Int.	Ext.	Total
I	I	Ability Enhancement Course – I (AEC - I)	(Tamil \$ / Other Languages +, #)	6	3	3	30	70	100
	II	Ability Enhancement Course – II (AEC - II)	English Course - I	6	3	3	30	70	100
	III	Core Course – 1 (CC-1)	Introduction To Airport Management	4	4	3	30	70	100
		Core Course-2 (CC-2)	Business Management	4	4	3	30	70	100
		Allied Course – 1 (AC - 1)	Introduction To Accounting	3	3	3	30	70	100
		Allied Course – 2 (AC - 2)	Familiarization Of Airport And Aircraft	3	3	3	30	70	100
	IV	Value Education		2	2	3	30	70	100
		Interdisciplinary Course – 1 (IDC - 1) #	One Course from Outside Department	2	2	3	30	70	100
		Total		30	24				800
II	I	Ability Enhancement Course – III (AEC - III)	(Tamil \$/Other Languages +, #)	6	3	3	30	70	100
	II	Ability Enhancement Course – IV (AEC - IV)	English Course – II	6	3	3	30	70	100
	III	Core Course – 3 (CC-3)	Organizational Behaviour	4	4	3	30	70	100
		Core Course- 4 (CC-4)	Airport Ground Handling Management	4	4	3	30	70	100
		Allied Course – 3 (AC -3)	General Air Navigation Management	3	3	3	30	70	100
		Allied Course – 4 (AC -4)	Aviation Meterology	3	3	3	30	70	100
		Skill Enhancement Course -1 (SEC-1) ##	Introduction to Airport	2	2	3	30	70	100
		Interdisciplinary Course – 2 (IDC - 2) #	One Course from Outside Department	2	2	3	30	70	100
		Total		30	24				800

III	I	Ability Enhancement Course – V (AEC - V)	(Tamil \$/Other Languages +,#)	6	3	3	30	70	100
	II	Ability Enhancement Course – VI (AEC - VI)	English Course - III	6	3	3	30	70	100
	III	Core Course –5 (CC-5)	Flight Operations Management	4	4	3	30	70	100
		Core Course- 6 (CC-6)	Air Regulation And Air Traffic Management	4	4	3	30	70	100
		Allied Course – 5 (AC - 5)	Aviation Law	3	3	3	30	70	100
		Allied Course – 6 (AC - 6)	Airport Infrastructure Management	3	3	3	30	70	100
	IV	Skill Enhancement Course- 2 (SEC- 2) ##	Aviation Logistics	2	2	3	30	70	100
		Interdisciplinary Course – 3 (IDC - 3) \$\$	One Course from Outside Department	2	2	3	30	70	100
		Health & Wellness @		--	1	--			100
		Total			30	25			
IV	I	Ability Enhancement Course – VII (AEC - VII)	(Tamil \$/Other Languages +,#)	6	3	3	30	70	100
	II	Ability Enhancement Course – VIII (AEC - VIII)	English Course – IV	6	3	3	30	70	100
	III	Core Course – 7 (CC-7)	Dangerous Goods And Cargo Management	4	4	3	30	70	100
		Core Course - 8 (CC-8)	Air Passenger Handling And Ramp Service	4	4	3	30	70	100
		Allied Course – 7 (AC - 7)	PC Software (MS OFFICE)	3	3	3	30	70	100
		Allied Course – 8 (AC - 8)	Customer Relationship Management	3	3	3	30	70	100
	IV	Skill Enhancement Course -3 (SEC- 3)##	Aircraft Search and Rescue Management	2	2	3	30	70	100
		Interdisciplinary Course – 4 (IDC - 4) \$\$	One Course from Outside Department	2	2	3	30	70	100
		Total			30	24			
	Summer Internship / Industrial Activity during the Summer Vacation after II Year								

V	III	Core Course - 9 (CC-9)	Air Hostess And Hospitality Management	5	4	3	30	70	100
		Core Course - 10 (CC-10)	Air Safety And Security Services	5	4	3	30	70	100
		Core Course – 11 (CC-11)	Customer Service Management	4	4	3	30	70	100
		Core Course - 12 (CC-12)	Human Factors and Crew Management	5	4	3	30	70	100
		Core Course – 13 (CC-13)	Entrepreneurship Management	5	4	3	30	70	100
	IV	Skill Enhancement Course - 4 (SEC-4) ##	Radio Communication	2	2	3	30	70	100
		Skill Enhancement Course – 5 (SEC-5) ##	Passenger Facilitation	2	2	3	30	70	100
		Introduction to Disaster Management		2	2	3	30	70	100
		Summer Internship / Industrial Activity @@	(With Viva-Voce)	--	2	--	20	80	100
	Total			30	28				900
VI	III	Core Course – 14 (CC-14)	Principles Of Travel And Tourism Operations	5	4	3	30	70	100
		Core Course - 15 (CC-15)	Airline Marketing Management	5	4	3	30	70	100
		Core Course - 16 (CC-16)	Aviation Security	5	4	3	30	70	100
		Core Project Work - 17 (CPW-17) @@	Project (With Viva Voce)	5	3	4	20	80	100
	IV	Value Added Course	General Studies For Competitive Examinations	2	2	3	30	70	100
		Skill Enhancement Course - 6 (SEC-6) ##	Travel Agency Operation	2	2	3	30	70	100
		Skill Enhancement Course - 7 (SEC-7) ##	Planning and Crew Scheduling	2	2	3	30	70	100
		Environmental Science		2	2	3	30	70	100
		Gender Studies		2	1	3	30	70	100
		Extension Activities *		--	1	--	--	--	--
	Total			30	25				900
Grand Total				180	150				5100

SKILL ENHANCEMENT COURSE			
Sl. No.	Title of Courses	Sl. No.	MANDATORY Naan Mudhalvan Course ##
1.	Introduction to Airport	1.	2 nd Semester:
2.	Aviation Logistics		
3.	Aircraft Search and Rescue Management	2.	3 rd Semester:
4.	Radio Communication		
5.	Passenger Facilitation	3.	4 th Semester:
6.	Travel Agency Operation		
7.	Planning and Crew Scheduling	4.	5 th Semester:
	--	5.	6 th Semester:

INTERDISCIPLINARY COURSE (IDC) FOR WHO HAVE OPT TAMIL AS PART – I (for other Department Students only)	
1 st Semester	Introduction To Aviation
2 nd Semester	Air Ticketing
3 rd Semester	Introduction To Airlines
4 th Semester	Air Safety Regulation

INTERDISCIPLINARY COURSE (IDC) # FOR WHO HAVE NOT OPT TAMIL AS PART - I		
Those who have studied Tamil upto 10 th +2 but opt for other languages in degree	1 st Semester	Special Tamil - I
	2 nd Semester	Special Tamil - II
Those who have not studied Tamil in school level	1 st Semester	Basic Tamil - I
	2 nd Semester	Basic Tamil – II
Those students who opt for either special Tamil (or) Basic Tamil as IDCs, have to choose 2 more IDCs courses in their 3 rd and 4 th Semester from Outside his/her department.		

INTERDISCIPLINARY COURSE (IDC) \$\$ FOR NCC CADETS ONLY	
NCC Course is a Compulsory Course for the NCC Cadets in the 3 rd Semester:	NCC Course is a Compulsory Course for the NCC Cadets in the 4 th Semester:
Introduction to NCC (Existing Syllabus)	1. Special Subject Army (or) 2. Special Subject Navy (or) 3. Special Subject Air force
Those students who opt for NCC Courses as IDCs, have to choose 2 more IDCs courses in their 1 st and 2 nd Semester from Outside his/her department.	

SUMMARY OF CURRICULUM STRUCTURE OF UG PROGRAMMES- BBA - AVIATION

Sl. No.	Part	Types of the Courses	No. of Courses	Credits for Each Course	Total Credits	Maarks
1.	I	Ability Enhancement Course	4	3	12	400
2.	II	Ability Enhancement Course	4	3	12	400
3.	III	Core Courses	16	4	64	1600
4.		Minor Course (MC)	8	3	24	800
5.		Core Project Work (CPW)	1	3	03	100
6.	IV	Skill Enhancement Courses (SEC)	7	2	14	700
7.		Interdisciplinary Course (IDC)	4	2	08	400
8.		Value Education	1	2	02	100
9.		Health and Wellness	1	1	01	100
10.		Introduction to Disaster Management	1	2	02	100
11.		Summer Internship/ Industrial Activity	1	1	02	100
12.		Value Added Course	1	2	02	100
13.		Environmental Studies	1	2	02	100
14.		Gender Studies	1	1	01	100
15.		Extension Activities (NCC/NSS/SPORTS/ANTI DRUG CELL/YRC& Any Other Activities	--	1	01	--
	Total		51		150	5100

\$	For those who have studied Tamil upto 10 th +2 (Regular Stream)															
+	Syllabus for other Languages should be on par with Tamil at degree level															
#	Those who have studied Tamil upto 10 th +2 but opt for other languages in degree level under Part - I should study special Tamil and those who have not studied Tamil in the school level should study Basic Tamil in Part – IV under the Ability Enhancement Course.															
##	Naan Mudhalvan Scheme: As per the Naan Mudhalvan Scheme instructions 5 courses from 2 nd to 6 th semester should be studied under Skill Enhancement Course.															
\$\$	NCC Course is one of the Choices in the Ability Enhancement Course. Only the NCC Cadets are eligible to choose this course. However, NCC Course is a Compulsory Course for the NCC Cadets.															
@	Health and Wellness: Assessments: • Use self-reflective worksheets to assess their understanding • submit the worksheets to internal audit / external audit • Every student’s activity report should be documented and the same have to be assessed by the Physical Director with Mentor. The evaluation should be for 100 marks. No examination is required. Scheme of Evaluation: <table><tr><th>Part</th><th>Description</th><th>Marks</th></tr><tr><td>A</td><td>Report</td><td>40</td></tr><tr><td>B</td><td>Attendance</td><td>20</td></tr><tr><td>C</td><td>Activities (Observation During Practice)</td><td>40</td></tr><tr><td colspan="2">Total</td><td>100</td></tr></table>	Part	Description	Marks	A	Report	40	B	Attendance	20	C	Activities (Observation During Practice)	40	Total		100
Part	Description	Marks														
A	Report	40														
B	Attendance	20														
C	Activities (Observation During Practice)	40														
Total		100														
@@	Summer Internship / Industrial Activity Summer Internship will be carried out during the summer vacation after the second year. Viva Voce will be conducted by the college and Marks shall be sent to the University and the same will be included in the 5th semester Mark Statement. Summer Internship / Industrial Activity & Project Scheme of Evaluation: <table><tr><th>Description</th><th>Marks</th></tr><tr><td>Report</td><td>80</td></tr><tr><td>Viva-Voce</td><td>20</td></tr><tr><td>Total</td><td>100</td></tr></table>	Description	Marks	Report	80	Viva-Voce	20	Total	100							
Description	Marks															
Report	80															
Viva-Voce	20															
Total	100															
*	Extension Activities shall be outside instruction hours.															

PROGRAM OUTCOMES – B.B.A. – AVIATION MANAGEMENT

On Successful completion of the Program the undergraduate of aviation will be able to,

KNOWLEDGE

- PO1** Exhibit knowledge on difference element used together for safe conduct of flight.
- PO2** Comprehend knowledge on working principles of aviation tools, instruments and equipment's.
- PO3** Exhibit advanced knowledge of functions and importance of various aviation department such as meteorology department and air traffic service department in streamlined flow of air line business

SKILLS

- PO4** Demonstrate skill in hand ling & operating various aviation tools, instruments & equipment's.
- PO5** Exhibit intra and inter personal skills including wide knowledge of Indian and international air law.
- PO6** Demonstrates soft communication skill that uplift passenger handling.

ATTITUDES

- PO7** Demonstrate importance teamwork decision making and crew coordination.

ETHICAL AND SOCIAL VALUES

- PO8** Practice airman ship and work together for the safety and well - being of coworker, uphold ethical and social values in personal and in work environment
- PO9** Practice and exhibit time management and quick decision making thereby reducing unwanted delays as a byproduct reducing carbon emission and helping to make a green environment

LEARNING OUTCOMES (LO):

- LO1: Disciplinary Knowledge
- LO2: Communication Skills
- LO3: Critical thinking
- LO4: Problem Solving
- LO5: Analytical Reasoning
- LO6: Research-related Skills
- LO7: Cooperation/ Team Work
- LO8: Scientific Reasoning
- LO9: Reflective Thinking
- LO10: Information/ digital literacy
- LO11: Self-directed learning
- LO12: Multicultural competence
- LO13: Moral and ethical awareness/reasoning
- LO14: Leadership readiness/qualities
- LO15: Life-long learning

FIRST YEAR	INTRODUCTION TO AIRPORTMANAGEMENT	SEMESTER: I
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- To provide comprehensive knowledge of airport infrastructure, including buildings, installations, markings, lighting systems, and operational facilities.
- To develop an understanding of air traffic control systems, navigational aids and the roles of major aviation organizations

UNIT - I BUILDINGS & INSTALLATIONS:

Terminals, Security, Apron, Hangar, Taxiway, Runway, Fire Station, Airport Vehicles, Fuel depot.

UNIT - II MARKINGS & LIGHTINGS :

RWY & TWY markings, Lightings, Signboards, Declared distances, PCN, Lighting system, Aerodrome Beacon, Obstacle Lighting & Marking

UNIT - III FACILITIES & EQUIPMENTS :

Navigational facilities: VOR, NDB ,DME; Surveillance equipments: Primary Radar, SSR, Surface Movement Radar, ADS; GPS, VHF antennae, ILS

UNIT - IV AIR TRAFFIC CONTROL:

ATC Units, Concept of FIR, Role of FIC, Roles of Tower & SMC Controllers, Flight Plan, Flight Dispatch, ATC briefing

UNIT-V IMPORTANTORGANIZATIONS:

Ministry of Civil Aviation, ICAO, DGCA, AAI & its wings, BCAS, CISF, MLU

UNIT – VI CURRENT CONTOURS (Self – directed learning activities for Continuous Internal Assessments Only):

- 1) Case Study on Modern Airports - Analyze the infrastructure, facilities, and operations of major international airports
- 2) Presentation on Aviation Regulatory Bodies
- 3) Airport Layout Design Activity.

TEXTBOOKS:

1. ICAO Annex 14 Volume1 Aerodrome Design and Operations
2. Civil Aviation Requirements Section - 4, Aerodrome Standards; Air Traffic Services.

REFERENCEBOOKS:

1. Airport planning and design
2. Airline and airport operation
3. Planning and designing of airport

E-RESOURCES:

[1.https://www.google.com/url?sa=t&source=web&rct=j&url=https://catsr.vse.gmu.edu/SYST460/IntroAirportsWorkbook.pdf&ved=2ahUKewivm7ihb74AhVJt1YBHbpOAMQFnoECAQQAQ&usg=AOvVaw0jfVZoucHvonyoUnSNV9wl](https://www.google.com/url?sa=t&source=web&rct=j&url=https://catsr.vse.gmu.edu/SYST460/IntroAirportsWorkbook.pdf&ved=2ahUKewivm7ihb74AhVJt1YBHbpOAMQFnoECAQQAQ&usg=AOvVaw0jfVZoucHvonyoUnSNV9wl)

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Explain the layout and functions of airport infrastructure	LO1
CO2	Interpret runway and taxiway markings, lighting systems	LO6
CO3	Describe the working principles of navigational aids like VOR, NDB, DME, GPS, and landing systems such as ILS, along with surveillance equipment.	LO3
CO4	Understand the structure and functioning of Air Traffic Control (ATC), including FIR concepts, flight planning, and controller roles.	LO2
CO5	Identify and explain the roles and responsibilities of key aviation organizations	LO1
CO6	Understand the basic structure, functions, and operations of airport management, including terminal operations, airside activities, and passenger services.	LO3

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	L		L	H	M	L		M	M		L	L	L
CO2	H		H	M	M		M	H	L			L			
CO3		M	L			M			M	M	L		M	L	L
CO4	H	L		M				M		H		L			
CO5	M		L		L	M	L	H	L	M	L		M		
CO6	H	M	M	L		H		L		L		M	L		M

L – Low M- Medium H-High

FIRST YEAR	CORE COURSE BUSINESS MANAGEMENT	SEMESTER: I
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- To develop a fundamental understanding of business, forms of business organization, and their role in the economy.
- Understand basics about a business organization and its various forms
- Understand the nature and principles and functions of management process

UNIT-I FUNDAMENTALS OF BUSINESS

Business - Meaning - Business and profession, requirements of a successful business - Organization-meaning-importanceofbusinessorganization. Formsofbusiness Organization -Sole traders, partnership, Joint Hindu family firm - Joint Stock Companies – Cooperative Organizations – Public Utilities and Public Enterprises.

UNIT-II PRINCIPLES AND EVOLUTION OF MANAGEMENT

Nature and Scope of Management process – Definitions of Management – Management: A science or an art?- Scientific Management – Managerial functions and roles –Theevolution of Management Theory.

UNIT – III PLANNING AND DECISION-MAKING PROCESS

Planning: Meaning and purpose of planning- Steps in planning - types of planning – Objectives and Policies –Decision making - Process of Decision making –Types of Decisions.

UNIT-IV ORGANIZATIONAL STRUCTURE

Organizing: Types of organization –Organizational structure - span of control - use of staff units and committees. Delegation: Delegation and Centralization - Line and Staff relationship Staffing: Sources of recruitment-Selection process-training.

UNIT-V DIRECTING AND CONTROLLING

Directing: Nature and purpose of Directing. Controlling: Need for co-ordination - meaning and importance of controls – control process – Budgetary and non-Budgetary controls – Modern trends in Management Process - case studies.

UNIT-VI CURRENT CONTOURS (Self – directed learning activities for Continuous Internal Assessments Only):

1. Business Plan Preparation - Develop a basic business plan including objectives, strategies, and organizational structure for a startup idea.
2. Decision - Making Simulation - Conduct a role-play activity where students solve real - world business problems using decision - making models.

TEXTBOOKS:

1. Dinkar Pagare, Principles of Management, Sultan Chand & Sons, 23 Daryaganj, New Delhi, (fifth thoroughly Revised Edition 2013).
2. L.M. Prasad, Principles and Practice of Management, Sultan Chand & Sons, 23 Daryaganj, New Delhi, edition

REFERENCEBOOKS:

1. P.C. Tripathi & P.N.Reddy, Principles of Management, Tata McGraw – Hill Publishing Company Ltd, 7 West Patel Nagar, New Delhi.(2008)/
2. C.B Gupta, Business Organisation, Sultan Chand & Sons, 23 Daryaganj, New Delhi, (Thoroughly Revised Edition) (2008).
3. Mitra, J.K, 2017, Principles of Management, Oxford University Press, New Delhi.

E-RESOURCES:

1. <https://www.mbaknol.com/management-concepts/planning-definition-and-its-features/>
2. <https://www.lucidchart.com/blog/types-of-organizational-structures>
3. <https://theinvestorsbook.com/techniques-of-controlling.html/>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Discuss and communicate the management evolution and how it will affect future managers.	LO3
CO2	Observe and evaluate the influence of historical force on the current practice of management.	LO6
CO3	Analyze and apply planning and decision-making processes in business situations.	LO3
CO4	Explain how organization adopts to an uncertain environment and identify techniques managers use to influence and control the present scenario.	LO1
CO5	Evaluate controlling techniques and practice the process of management functions.	LO14
CO6	Understand the fundamental principles and functions of business management, including planning, organizing, leading, and controlling organizational activities.	LO10

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	L		L	H	M	L		M	M		L	L	L
CO2	H		H	M	M		M	H	L			L		M	
CO3		M	L			M			M	M	L		M	L	L
CO4	L	L		L			M	M		L		L		M	
CO5	M		L		L	M	L	H	L	M	L		M	M	
CO6	H	M	L	L		H		L		L		M	L	M	M

L – Low

M- Medium

H-High

FIRST YEAR	ALLIED COURSE INTRODUCTION TO ACCOUNTING	SEMESTER: I
CODE	(THEORY)	CREDITS:3

COURSE OBJECTIVES:

- Explain the concept and role of accounting and financial reporting.
- Explain the regulatory frame work for the operation of accounting activities.
- To enhance problem-solving skills in accounting, including error rectification, reconciliation, and incomplete records.

UNIT – I FUNDAMENTALS OF ACCOUNTING

Basic Accounting concepts –Kinds of Accounts – Financial Accounting vs. Cost Accounting - Financial Accounting vs. Management Accounting - Double Entry Book Keeping –Rules of Double Entry System – Preparation of Journal and Ledger Accounts - problems - Subsidiary books - cash book – types of cash book - problems - purchase book - sales book - sales return and purchase return books.

UNIT – II TRIAL BALANCE AND ERRORS

Trial balance - Errors – types of errors - Rectification of errors – problems – Bank reconciliation statement– problems.

UNIT – III FINAL ACCOUNTS PREPARATION

Manufacturing - Trading - Profit & Loss Account - Balance sheet. – Problems with simple adjustments.

UNIT - IV ACCOUNTING AND DEPRECIATION METHODS

Accounting for non – trading institutions – Income & Expenditure Account – Receipt sand Payment Account sand Balance sheet – Accounting for depreciation – methods of depreciation – problems (straight line method and written down value method only)

UNIT - V

Preparation of accounts from in complete records.

(Theory and problems may be in the ratio of 20% and 80% respectively).

UNIT – VI CURRENT CONTOURS (Self – directed learning activities for Continuous Internal Assessments Only):

Cotemporary development related to acquaint students with the accounting concepts, tools and techniques influencing business organizations.

TEXTBOOKS:

1. Shukla, M.C., Grewal, T.S., & Gupta, S.C., 2014, Advanced accounts Volume I, Revised Edition, S.Chand, New Delhi.
2. Reddy, T.S., Murthy, A., 2012, Financial Accounting, Seventh Edition, Margham Publications, Chennai.

REFERENCE BOOKS:

1. Jain, S.P., Narang, K.L., 2014, Financial Accounting, Twelfth Edition, Kalyani Publishers, Ludhiana.
2. Maheswari S.N., & Maheswari S.K., 2012, Financial Accounting, Fifth Edition, Vikas Publishing House Pvt Ltd., New Delhi.
3. Financial accounting - R.L Gupta and V.K Gupta, Sultanchand & Sons, New Delhi.

E-RESOURCES:

1. https://www.tutorialspoint.com/financial_accounting/financial_nontrading_accounts.htm
2. <https://cbseworld.weebly.com/uploads/2/8/1/5/28152469/lesson8.pdf>
3. <http://gbpssi.in/admin/coursepack/MBR517Lect02.pdf>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	The students should have understood The basic accounting concepts Double entry book keeping system and various books of accounts Preparation of final accounts	LO1
CO2	The students develop conceptual understanding of the basic accounts system through book – keeping mechanism and to prepare financial statement	LO4
CO3	Recollect them earning of various accounting concept sand prepare Ledgers, Trial Balance, and Balance Sheets.	LO10
CO4	Recognize circumstances providing for increased exposure to errors and frauds.	LO13
CO5	To make the students to acquire the skill to prepare the trial balance and final accounts.	LO3
CO6	Understand the basic principles of accounting, including recording, classifying, and summarizing financial transactions.	LO6

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	L		L	H	M	L		M	M		L	L	L
CO2	M	L	H		M		M		L			L			
CO3		M	L		L	M			M	M	L				L
CO4	L			L				M				L			
CO5	M		L		M		M	M	L	M	L		M	L	
CO6	H	M	M	L		H		L		L	H	M	L	L	M

L – Low

M- Medium

H-High

FIRST YEAR	MINORCOURSE– 2 FAMILIARIZATION OF AIRPORT AND AIRCRAFT	SEMESTER: II
CODE	(THEORY)	CREDITS:3

COURSE OBJECTIVES:

- To introduce students to the fundamental concepts and terminology of aviation, including aircraft structure and flight principles.
- Understand the basic about the aviation regulations, safety procedures, and the role of organizations
- To familiarize students with aircraft systems, navigation facilities, and basic mechanical principles relevant to aviation operations.

UNIT- I THE BASICS OF AVIATION

Introduction – The Basics of Aviation - Early scientific theories -The theory of Flight – Parts of an Aircraft – General Aviation terms – Terms relating to flights and schedules – Government departments and Civil Aviation Organizations.

UNIT - II AIR REGULATIONS & AVIATION SAFETY

Introduction to Air Regulations, ICAO & DGCA rules (basic understanding), Rules of the Air, Aviation Safety & Security, Airport safety procedures, Emergency procedures: Firesafety, Evacuation, Dangerous goods awareness Human factors in aviation

UNIT - III FACILITIES&EQUIPMENTS

Navigational facilities: VOR, NDB, DME; Surveillance equipment: Primary Radar, SSR, Surface Movement, Radar, ADS; GPS, VHF antennae, ILS

UNIT - IV AIRCRAFT PARTS AND THEIR FUNCTIONS

Fuselage - Types of fuselages - Types of wings - Wing configurations – Empennage - Types of landing gear - Fixed vs retractable gear - Power plant (Engines) - Types of engines - Flight Control Surfaces (primary, secondary)

UNIT - V UNDERSTANDINGOFBASICMECHANICS

Speed, Velocity, Newton's laws of motion, Friction, Centre of Mass, Centre of Gravity, Work, Energy, Power, Pressure, Stress, Elasticity of Material, Pascal's law & its application in Hydraulic press, Hydraulic and Pneumatic system, Bernoulli's Theorem, Venturi's tube theory, Streamline, Laminar and turbulent flow.

UNIT - VI CURRENTCONTOURS (For Continuous Internal Assessment Only):

- 1) Review DGCA/ICAO guidelines and prepare a short report on aviation safety standards
- 2) Create a glossary of common aviation terms and abbreviations used in flight operations.
- 3) Study the structure and functions of aircraft parts and prepare labeled diagrams.

TEXTBOOKS:

- 1) ICAO Annex14Volume1Aerodrome Design and Operations
- 2) Civil Aviation Requirements Section-4
- 3) Anderson, J.D. – Introduction to Flight, McGraw-Hill Education.

REFERENCEBOOKS:

- 1) Introduction to Aviation – Aviation Supplies & Academics
- 2) Aircraft Systems – McGraw-Hill
- 3) Aviation Maintenance Technician Handbook – Federal Aviation Administration

E-RESOURCES:

<https://www.google.com/url?sa=t&source=web&rct=j&url=https://catsr.vse.gmu.edu/SYST460/IntroAirportsWorkbook.pdf&ved=2ahUKEwivm7-ihb74AhVJt1YBHbpOA-MOFnoECAQAAQ&usg=AOvVaw0jfVZoueHvonvoUnSNV9wl>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Explain the history, basic principles of flight, and general aviation terminology.	LO3
CO2	Interpret fundamental aviation regulations, safety protocols, and emergency procedures	LO1
CO3	Identify and describe navigation and surveillance equipment used in aviation systems.	LO9
CO4	Analyze aircraft components and explain their functions in flight operations.	LO5
CO5	Apply basic mechanical and physical principles (like Bernoulli's Theorem and Newton's Laws of Motion) to aviation-related scenarios.	LO6
CO6	Understand the basic components of airports and aircraft, including their structure, functions, and operations in the aviation industry.	LO9

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H		H	M	L	L	M	M	M	M	M	L	L		
CO2	L		L			H		H		M		M			
CO3	H			M	L	M			L	M	M			L	
CO4	L	L	M		M		L		H		L				
CO5	H		L	L		H	L	M	L	H		H	L		L
CO6	L		M		L	H		H	M	H	L	M			

L – Low**M- Medium****H-High**

FIRST YEAR	INTERDISCIPLINARY COURSE-1 INTRODUCTION TO AVIATION	SEMESTER: I
CODE	(THEORY)	CREDITS:2

COURSE OBJECTIVES:

- To provide fundamental knowledge of aviation, aircraft systems, and the development of the aviation industry.
- To develop understanding of flight principles, air navigation basics, and meteorological concepts relevant to aviation.

UNIT - I BASICS OF AVIATION & AIRCRAFT KNOWLEDGE

Introduction to Aviation Industry, History of Aviation (World & India), Types of Aircraft: Fixed wing Rotary wing, Basic Parts of Aircraft: Fuselage, Wings, Empennage, Landing gear, Aircraft systems overview, Role of aviation authorities (DGCA, ICAO basics)

UNIT - II AIR REGULATIONS & AVIATION SAFETY

Introduction to Air Regulations, ICAO & DGCA rules (basic understanding) Rules of the Air, Aviation Safety & Security, Airport safety procedures Emergency procedures: Firesafety, Evacuation, Dangerous goods awareness Human factors in aviation

UNIT - III THEORY OF FLIGHT

Four forces of flight: Lift, Weight, Thrust, Drag, Principles of lift generation (Bernoulli's theorem), Drag types (parasite, induced), Glide ratio, Steady and unsteady flight, Theory of turn, Load factor and stall, Flight envelope and limitations, Lift augmentation (flaps, slats)

UNIT – IV AIR NAVIGATION

Time – Midnight – Time Zones – Daylight Saving Time – Indian Standard Time, Understanding The Earth, Distance and Speed, Unit Conversions

UNIT – V AVIATION METEOROLOGY (BASICS)

Atmosphere structure, Temperature, pressure, and density, Wind: Types and measurement, Clouds: Types and formation Visibility and fog, Thunderstorms and hazards, Air masses and fronts, Basic weather charts and METAR introduction

UNIT – VI CURRENT CONTOURS (Self – directed learning activities for Continuous Internal Assessment Only):

- 1) Prepare a comparison chart Fixed-wing vs Rotary-wing aircraft
- 2) Write about human errors in aviation and their impact
- 3) Explain steady vs unsteady flight with diagrams
- 4) Convert between IST, GMT, Local Time
- 5) Draw and label layers of the atmosphere.

REFERENCEBOOKS:

- 1) R.K. Bali- Air Regulation
- 2) Oxford – Navigation
- 3) Oxford–Aircraft general knowledge

E-RESOURCES:

1. <https://www.aopa.org/training-and-safety/online-learning/safety-spotlights/pinch-hitter/the-basics-of-flight>
2. <https://iclg.com/practice-areas/aviation-laws-and-regulations/india>
3. https://www.faa.gov/air_traffic/publications/atpubs/aim_html/chap1_section_1.html

COURSEOUTCOMES :

At the end of the course, the students will have the ability to		
CO1	Understanding Basics of Aviation & Aircraft Knowledge	LO1
CO2	Understand the basic of Air Regulations & Aviation Safety	LO13
CO3	Demonstrate the knowledge of Lift, Weight, Thrust, Drag, Principles of flight.	LO1
CO4	Understand basic air navigation calculations involving time, speed, and distance.	LO4
CO5	Interpret fundamental meteorological concepts and weather information relevant to aviation operations.	LO10
CO6	Understand the fundamental concepts of aviation, including aircraft operations, aviation regulations, and basic air transport systems.	LO7

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		M	H	M	M		M	M	L	M	L		
CO2	M		L	H			L	H	L	M	H		M	M	L
CO3	H	L	M	M	L		H		H	H	L	L	L		
CO4	H		L		M	L	M	M		M			M		
CO5	H		H	M		M	M		H	M	L		M		M
CO6	H	M	M	L	L	H	L	H	L	H	M	M	H		

L – Low

M- Medium

H-High

FIRST YEAR	CORECOURSE - 3 ORGANIZATIONALBEHAVIOUR	SEMESTER: II
CODE	(THEORY)	CREDITS:4

COURSEOBJECTIVES:

- Organizational behavior Special is tsneed a fundamental understanding of the interactions that occur among people in the work place.
- Organizational behavior provides the student with the tools to understand and evaluate individual, group and organizational processes.
- The student will also gain an appreciation of there levance of the study of organizational behavior to the practice of human resource management.
- On successful completion o f this course, the students should have understood Personality, Perception, Motivation, Job - satisfaction, morale, Group dynamics, Leadership traits, Counselling and guidance, etc
- To know Organizational Behavior, Nature, Contributing Disciplines of Organizational Behavior.

UNIT - I ORGANIZATIONAL PSYCHOLOGY

Importance and scope of organizational psychology – Individual differences – Intelligence tests – Measurement of intelligence – Personality tests -nature, types and uses.

UNIT – II PERCEPTION AND BEHAVIORAL TECHNIQUES

Perception - Factors affecting perception - Motivation - theories - financial and non - financial motivation - techniques of motivation - Transactional Analysis - Brainstorming.

UNIT – III JOB SATISFACTION

Job satisfaction - meaning - factors – theories - Management of job satisfaction – Morale – importance – Employee attitude and behavior and their significance to employee productivity - job enrichment - job enlargement.

UNIT – IV ORGANIZATIONAL BEHAVIOUR

Hawthorne Experiment - importance - Group Dynamics - Cohesiveness – Co-operation competition – conflict - Types of Conflict – Resolution of conflict - Sociometry - Group norms -Role-Status – supervision style – Training for supervisions.

UNIT – V LEADERSHIP AND ORGANIZATIONAL DEVELOPMENT

Leadership-types-theories - Trait, Managerial Grid, Fiedder scontingency – Organisational culture, Organisational change - organisational effectiveness – Organisational development - Counselling and guidance Importance of counselor - Types of counselling – Merits of counselling.

UNIT – VI CURRENT CONTOURS (Self – directed learning activities for Continuous Internal Assessments Only):

Contemporary Developments related to this Course Role Play, Group Discussion, case studies and seminars.

TEXTBOOKS:

1. Organizational Behaviour–L.M.PRASAD,5th Edition,SULTANCHAND&SONS.
2. Organization Theory and Behaviour – V.S.P. RAO & D.S. Narayana, 2nd Edition, Konark Publishers Private Limited

REFERENCESBOOKS:

1. Elements of Organizational Behaviour – S.S.KHANKA, 2006 Edition, S.Chand & Company Ltd.
2. OrganizationalBehaviour–GuptaCB,2014,S.Chand
3. OrganizationalBehaviour-K.ASWATHAPPA,12th Edition,HimalayaPublishing House

E-RESOURCES:

<https://ocw.mit.edu/>

<https://coursera.org/>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Analyze the behavior of individual and group in organization in terms of the key factors that influence organizational behavior.	LO1
CO2	Assess the potential effects of organizational-level factors (such as structure, culture and change) on organizational behavior.	LO3
CO3	Analyze job satisfaction, morale, and employee attitudes to enhance productivity.	LO13
CO4	Analyze organizational behavioral issues in the context of organizational behavior theories, models and concepts.	LO1
CO5	Demonstrate knowledge of leadership theories and organizational development concepts	LO14
CO6	Understand individual and group behavior within organizations, including motivation, perception, and leadership, to improve workplace effectiveness.	LO2

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	H		L	H	L	H	M	M	H	L	H	M	M
CO2	H	L	L	L		H	L	H			L		L	L	M
CO3	M	M	M		M		M		L	M		L	L	M	
CO4	H	L	H	L		L		L			L	M	H	L	
CO5	H		M		L		H		M	M		L	L	M	L
CO6	H	M	M	M		H	L		L	H	M		M	M	

L – Low**M- Medium****H-High**

FIRST YEAR	CORE COURSE – 4 AIRPORT GROUND HANDLING MANAGEMENT	SEMESTER: II
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- Have good knowledge about the arrival and departure services, transfer counters, customer service counters and airline lounge.
- Train students to handle different phenol men on like parking, towing, lavatory, luggage handling, refueling etc.,
- Learn about cargo term sand procedures.

UNIT – I TERMINAL:

Providing check in counter services - Providing gate arrival and departure services – Staffing the transfer counter - Customer service counter - Airline lounge.

UNIT – II APRON:

Guiding aircraft for parking - Towing Lavatory - Air Conditioning - Luggage Handling - Catering trucks – Refueling- Ground power - Passenger stairs - wheel chair lifts - Hydraulic moles.

UNIT – III CARGO:

Introduction to Air Transportation - Air Cargo Acceptance - Air Cargo Documents - Diplomatic mail -Post Office Mail - Company Mail -Dangerous Goods Handling.

UNIT – IV SECURITYCHECK&RESTRICTEDARTICLESAND SUBSTANCES:

Bureau of Civil Aviation – Central Industrial Security Force – Airport Security Group - Airport Security Unit - Airlines security group - Passenger Customs and Cargo Customs. Definition - Categories of Restricted Articles - Improvised Explosive Devices - Places of concealment of Explosives - Types of Explosive Detectors. Manifest in Aviation - Flight Schedule

UNIT – V RAMP OPERATION & ADVANCE IN AIRCRAFT WEIGHT AND BALANCE:

Types of aeroplane - Ground operation - Working environment - Human Factors - Standard Ramp operation - Basic security for efficient operation - Procedure for key aircraft - Ground servicing task – Airport Markings – Airport Lighting. Basic theory of flight – Aircraft weight and indexes at different flight stage - Initial aircraft weight and indexes - Aircraft limiting weight - Theory of balance - Balance theory applied to aircraft - Drop line trim chart and its functions - Fuel trim effects - Last minute changes - load planning effects on ramp handling - Refreshing load control processes.

UNIT – VI CURRENT CONTOURS (Self – directed learning activities for Continuous Internal Assessment Only):

1. Analyze a recent airport operational challenge (delay, congestion, safety issue).
2. Airport Visit / Virtual Tour - Observe terminal, apron, and ramp operations (physically or via videos).
3. News Review Activity- Track aviation news for 1 week and summarize key developments.

TEXTBOOKS:

1. Airline Operations and Management – Gerald N. Cook & Bruce Billig
2. Airport Operations – Norman Ashford, Saleh Mumayiz, Paul Wright
3. Introduction to Air Transport Economics – IATA Training Manuals

REFERENCEBOOKS:

1. Aircraft Ground Handling – Peter J. Bruce
2. Airport Planning and Management – Alexander T. Wells

E-RESOURCE:

https://s3.amazonaws.com/training.iata.org/Ground_Operations_Management_3rdEdition_2015_TALP-52.pdf

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Acquire sufficient knowledge about the arrival and departure services, transfer counters, customer service counters and airline lounge.	LO1
CO2	Explain apron operations, ground handling services, and coordination required for aircraft movement and servicing.	LO7
CO3	Understand the cargo term sand procedures. Adequate understanding of security check in	LO2
CO4	Analyze aviation security procedures, restricted articles, and safety protocols in airport operations.	LO13
CO5	Understand principles of ramp operations and aircraft weight & balance	LO4
CO6	Understand the key functions of airport ground handling, including passenger services, baggage handling, ramp operations, and safety procedures.	LO12

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H		H		L	H	L	H	M	M	H	L	H		M
CO2	H	L	L	L		H	L	H	L		L	M	L	L	M
CO3	M		L	M	M		M		L	M	M	L	H		
CO4	H	L	H	L		L	M	L	M		L	M	H	L	
CO5	H		M	M	L	H	H		M	M		L	L		L
CO6	H		M	M	H	H	L	H	L	H	M	M	M	M	

L – Low

M- Medium

H-High

FIRST YEAR	ALLIED COURSE – 3 GENERAL AIR NAVIGATION MANAGEMENT	SEMESTER: II
CODE	(THEORY)	CREDITS:3

COURSE OBJECTIVES:

- To learn the art of navigating an aircraft from any given points, understand the geographical positions, their relation and effects in navigation.
- To learn how to read map and chart
- To build computational skills in speed conversions, triangle of velocities, and flight planning calculations

UNIT – I THE EARTH:

The cardinal Points, The Earth Graticule, Great Circles, Meridians and Anti Meridians, Small Circles, The Equator, Latitude, Longitude, The Prime Meridian, Difference in Latitude and Longitude, Great Circle Tracks, Rhumb Line Tracks, 360 degree notation, True Direction, Magnetic Direction and Variation, Isogonals, Magnetic Direction, Compass Direction and Deviation, Convergence, Grid Direction and Variation, Isogrivs.

UNIT – II SPEED CONVERSIONS:

Statute Mile, Nautical Mile, Kilometre, Conversion between Units, Departure, Metres and Feet, Basic principles of Circular Slide Rule, units of Speed, Knots, Miles per Hour, Kilometers per Hour, Indicated Airspeed, Rectified Airspeed, True Airspeed, Equivalent Airspeed, Ground Speed, Mach Number, Calibrated Airspeed, Correct Outside Air Temperature, Conversion of Rectified Airspeed to True Airspeed, Conversion of Mach number to True Airspeed, Speed, Distance and Time; Relationships and Calculations.

UNIT – III TRIANGLE OF VELOCITIES:

The Three basic velocity vectors- Drift- The Basic Vector Triangle Problems, Geometrical Solution and Solution on the Navigation Computer, Finding the wind Velocity at turning point, Head and Crosswind on a Runway, 1 in 60 Rule.

UNIT – IV MAPS AND CHARTS:

Mercator projection, Lambert Conical, Polar stereographic projection, Orthomorphism, Scale, The Reduced Earth, Topographical Maps

UNIT – V FUEL AND NAVIGATIONAL EMERGENCY DATA:

Imperial Gallons and US Gall, Conversion factors, specific gravity, fuel flow and fuel consumption, selecting the most economical cruising level, Payload.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

1. Practice on Slide Rules
2. Fuel Planning Exercise - Calculate complete fuel requirement for a route.
3. Case studies on Flight Levels
4. Study modern navigation systems (GPS, RNAV).

TEXTBOOKS:

1. Ground Studies for Pilots (General Navigation)
2. General Navigation by R. K. Bali

REFERENCEBOOKS:

1. Aviation Mathematics, Oxford Publications
2. Oxford General Navigation.
3. Navigation for pilots by J.E. Hitchcock.

E-RESOURCES:

1. <https://www.pilot18.com/wp-content/uploads/2018/01/Air-Navigation-textbook.pdf>
2. <https://www.mcgill.ca/iasl/files/iasl/ASPL633-Air-Navigation.pdf>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand the basic composition and arrangements of layers of earth's atmosphere	LO1
CO2	Apply speed conversions and airspeed concepts in aviation calculations.	LO4
CO3	Solve navigation problems using triangle of velocities and wind correction techniques.	LO4
CO4	Interpret aviation maps and charts for route planning and navigation.	LO10
CO5	Calculate fuel requirements and apply navigation principles	LO4
CO6	Understand the basic principles of air navigation, including navigation methods, airspace structure, and flight planning procedures.	LO5

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		M	H	M			M	M	L	M			
CO2	M		L	H	M		L	H	L	M	H			M	L
CO3	H	L	M	M	L				H	H	L	L			
CO4	H		L	H	M	L		M		M			M		
CO5	H		H	M	M	M			H	M	L				M
CO6	H	M	M	L	L	H	L	H	L	H	M	M			

L – Low**M- Medium****H-High**

FIRST YEAR	ALLIED COURSE – 4	SEMESTER: II
CODE	AVIATIONMETEOROLOGY (THEORY)	CREDITS:3

COURSEOBJECTIVES:

- To understand the various aspect s of eather in aviation.
- To decode the aviation weather report
- To develop fundamental knowledge of the atmosphere and its composition

UNIT – I THEATMOSPHERE:

Composition, extent, vertical division, physical properties of air, atmosphere, pressure, temperature, density, humidity, Newton law of motion, Bernoulli's principles.

UNIT – II TEMPERATURE:

Vertical distribution of temperature, Transfer of heat, solar and terrestrial Radiation, Conduction, convection, Advection and Turbulence, Lapse rate, stability and instability, Development of inversions, type of inversions, temperature near the earth's surface, Surface effects, Diurnal variation, Effect of clouds, Effect of wind.

UNIT - III WEATHER:

Types of weather, Types of clouds, the danger of thunderstorm, The dangers of icing, the formation of ice, super-cooled water drops, clear ice, Rime ice, cloudy ice, hoar frost, structural icing.

UNIT – IV WEATHERFORECASTANDREPORTS:

Dissemination of weather information, AIR MET service, types of weather information, meteorological forecast, special forecast, aerodrome forecast, TAF, METAR, TRENDS, Cloud base, VFR- in flight weather report, ATIS.

UNIT – V SYMBOLSANDABBREVIATIONS:

Symbols for significant weather on MET charts, weather abbreviations (Cloud Type), Cloud amount, CB amount, common MET abbreviations, CAVOK, TEMPO, lasting change, Synoptic charts, wind symbols, visibility.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

- 1) Draw layers of the atmosphere and label their characteristics.
- 2) Observe clouds for a week and classify them (cumulus, stratus, cirrus).
- 3) Weather prediction
- 4) Decoding of Symbols - METAR & TAF Practice
- 5) Analyze how weather affects a flight (delay/diversion scenario)

TEXTBOOK:

1. Aviation meteorology by I.C Joshi
2. Ground studies for pilots–Aviation Meteorology

REFERENCEBOOK:

1. Oxford Aviation Meteorology – Trevor Thom
2. TheAirPilot’sManual, Vol2, Peter.D.Godwin
3. Aviation Weather Handbook – FAA

E-RESOURCES:

1. https://mausam.imd.gov.in/imd_latest/contents/pdf/aviation_sop.pdf
2. <https://groundschool.weebly.com/uploads/2/3/6/7/2367787/2-aviationweather.pdf>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand atmospheric structure and physical properties influencing aviation weather.	LO1
CO2	Explain temperature variations, heat transfer processes, and atmospheric stability.	LO1
CO3	Identify weather phenomena such as clouds, thunderstorms, and icing and their effects on flight safety.	LO6
CO4	Interpret aviation weather reports such as METAR, TAF, and ATIS.	LO10
CO5	Analyze meteorological charts and weather abbreviations	LO5
CO6	Understand the fundamental principles of aviation meteorology, including weather elements, atmospheric conditions, and their impact on flight operations.	LO8

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		M	H	M		L	M	M	L		L		
CO2	H		L	H	M	M	L	H	L	M	H			M	M
CO3	H	L			L	M		L	H	H	L	L			
CO4	H		L	H	M	L		M		H	M		M		
CO5	H				M	L		L	H	L	L		L		L
CO6	H	M	M	L	L	H	L	H	L	H	M	M		L	

L – Low

M- Medium

H-High

FIRST YEAR	SKILL ENHANCEMENT COURSE - 1INTRODUCTION TO AIRPORT	SEMESTER: II
CODE	(THEORY)	CREDITS:2

COURSE OBJECTIVE:

To understand the structure, functions, operations, and management of airports, including facilities, services, and safety procedures.

UNIT – I INTRODUCTION TO AIRPORT:

Definition of airport; Types of airports (domestic, international, military, private); History and development of airports; Basic components of an airport; Role and importance of airports in aviation.

UNIT – II AIRPORT FACILITIES & SERVICES:

Terminal building; Passenger facilities; Cargo facilities; Airport services (check-in, boarding, baggage handling); Airport support services; Fire and rescue services; Airport vehicles and equipment.

UNIT – III AIRSIDE & LANDSIDE OPERATIONS:

Airside operations; Landside operations; Runway, taxiway, apron; Aircraft stand; Hangar; Air Traffic Control (basic understanding); Ground handling services; Passenger flow.

UNIT – IV AIRPORT SAFETY & SECURITY:

Airport safety procedures; Security systems; Access control; Screening of passengers and baggage; Emergency procedures; Role of security agencies; Safety regulations.

UNIT – V AIRPORT MANAGEMENT & GROUND HANDLING:

Airport management structure; Role of airport authority; Ground handling operations; Airline services at airport; Coordination between departments; Customer service at airport.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment Only):

Smart airports; Use of technology in airports; Automation and self-check-in; Case studies of major airports; Sustainable airport development; Future trends in airport management.

REFERENCE BOOKS:

1. Airport Management – Ashford & Wright
2. Introduction to Air Transport Economics – IATA
3. Airport Operations – Norman Ashford

E – REROURCES:

1. <https://www.icao.int/>
2. <https://skybrary.aero/>
3. <https://www.aai.aero/>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand basic airport structure and components	LO1
CO2	Explain airport facilities and services	LO1
CO3	Identify airside and landside operations	LO8
CO4	Understand airport security and safety systems	LO1
CO5	Analyze airport management and ground handling services	LO10
CO6	Understand current trends in airport operations	LO6

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H					M		H	H	H	H	H		L	
CO2	M		M		M	L	L	M		M		H	H		L
CO3	M	L		L		H	M	H	H	L	H	L			
CO4	M		M		H	L		M		H	L				L
CO5	L		L	L		M	M	M		M		H		L	
CO6	H	M		M	M	M		L	L	H	H		M		M

L – Low**M- Medium****H-High**

FIRST YEAR	INTERDISCIPLINARY COURSE - 2	SEMESTER: III
CODE	AIR TICKETING (THEORY)	CREDITS:2

COURSE OBJECTIVES:

- To understand the fundamentals of air ticketing and airline industry structure
- To develop an understanding of flight scheduling concepts, time calculations, and operational timing differences (STA, STD, ETA, ETD).
- To learn the fundamental aerodynamics and flight planning concepts essential for safe and efficient flight operations.

UNIT – I INTRODUCTION TO AIR TICKETING

Basic concepts and definitions in air ticketing-Overview of Airline Industry- Types of air tickets (e-tickets, paper tickets, open tickets)-The role of a travel agent in air ticketing Key terminology in air ticketing (PNR, fare basis, ticketing designator- Ticketing rules and conditions.

UNIT – II INTRODUCTION TO SCHEDULING TERM

Definition of Scheduling in Aviation- Key Terminologies in Scheduling: STA (Scheduled Time of Arrival), STD (Scheduled Time of Departure), ETA (Estimated Time of Arrival), ETD (Estimated Time of Departure)-Differences Between Scheduled and Estimated Times

UNIT – III TICKETING PROCEDURES AND DOCUMENTATION

E-ticketing vs. Paper tickets – Steps involved in booking a flight – Understanding and interpreting the ticket (ticket number, routing, baggage allowance)- Handling changes, cancellations, and rebooking-Baggage policies and excess baggage fees -Travel documents required for international travel (passport, visa)

UNIT – IV TIME ZONES AND DELAY

Time Zones, Time Zone Offsets -Impact of Daylight Saving Time (DST) -The International Date Line and Time Zones ,Real-Life Scenarios Requiring Time Zone Calculations - Time Zone Tools and Converter -Delays in aviation - Delay Management in Aviation, Tools and Technologies to Minimize Delays, Regulations and Policies on Delays, Examples of Major Delays in History, Passenger Rights During Delays, Future Trends in Delay Mitigation

UNIT – V CUSTOMER SERVICE IN AIR TICKETING

Handling customer inquiries and requests - Managing flight delays, cancellations, and rebooking - Dealing with over bookings and denied boarding - Providing accurate and timely information to passengers -Ethics and professionalism in customer service

UNIT - VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

- 1) Create a sample flight booking and generate a mock Passenger Name Record (PNR).
- 2) Compare different types of air tickets (e-ticket, paper, open ticket).
- 3) Role-play customer service scenarios involving cancellations, delays, and overbooking.
- 4) Explore airline websites or reservation systems to understand booking workflows.

TEXTBOOKS:

1. Introduction to Airline Industry - Suzanne K. Kearns
2. IATA Manuals and Publications (International Air Transport Association)

REFERENCEBOOKS:

- 1) Airline Reservation Systems – Aviation Training Publications
- 2) Managing Customer Service in Aviation – Aviation Industry Press

E-RESOURCES:

1. <https://www.iata.org>
2. <https://www.iatatravelcentre.com>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand the fundamentals of air ticketing and airline industry terminology	LO1
CO2	Interpret the scheduling concepts including STA, STD, ETA, and ETD.	LO12
CO3	Understand ticketing procedures such as booking, cancellation, and rebooking.	LO14
CO4	Understand delay management in aviation and time zone calculations.	LO10
CO5	Demonstrate effective customer service and problem-solving skills in airline operations..	LO2
CO6	Demonstrate the ability to understand airline and airport codes, interpret flight schedules, perform reservations, fare calculations, ticket issuance, reissuance, and cancellations	LO3

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	H	H	M	L	L	M	M	M	M	M	L	L	M	
CO2	H	M	L		H			H		M		M		H	
CO3	H	H	M		L	M		M	L	M	M	H		L	
CO4	M	L	M				L	H		M	L	H		M	
CO5	H	H	L	L			L	M	L	H		H	L	L	L
CO6	M	M	M		L	H	M	H		H	L	M		H	
L – Low M- Medium H-High															

SECOND YEAR	CORECOURSE - 5 FLIGHTOPERATIONSMANAGEMENT	SEMESTER: III
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- Familiarize the student about flight operations officer, airline operational structure and flight operational process.
- To know about the various duties and responsibilities of flight operations officer.
- To learn the fundamental aerodynamics and flight planning concepts essential for safe and efficient flight operations.

UNIT – I FLIGHT OPERATION SOFFICER:

Flight Operations Officer – Operations Control Office- Associated Duties and Responsibilities- Airline Company Structure- Operations Department- Flight Operational process description.

UNIT – II TAKE OFF & LANDING:

Take off performance and Limitations - Take off distance available - Take off run available – Accelerated stop distance available – Takeoff segments – Climb – Obstacle – Use of Runway Take off tables - Determination of maximum allowed take off mass - Landing performance and limitation – Landing Distance – Approach – Climb Limits – Phases of flight (climb, cruise, descent, effects of airplane mass on performance in different phases of flight) - Brake energy - Tire Speed limits - Drift down.

UNIT – III BASIC AERODYNAMICS:

Aero dynamic laws – Forces acting on an Aircraft - Bernoulli's Theorem – Primary Flight Controls – Secondary Flight Controls – Principles of Flight – Drag – Lift – L/D relation – Stability – Longitudinal Stability – Lateral Stability – Directional Stability – Centre of Gravity - C.G movement effects – Centre of Pressure.

UNIT – IV BASIC FLIGHT PLANNING:

Introduction to flight planning – Route and profile planning - Time, Speed And Fuel calculations - Weather considerations – Aircraft technical status considerations.

UNIT – V DISPATCHRE SOURCE MANAGEMENT:

Dispatch Resources – Error Management Techniques in dispatch environment - Communication, Leadership and conflict resolution - Decision making - Workload and stress management - Automation in Flight Dispatch Environment.

UNIT - VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

1. Analyze takeoff and landing performance charts and interpret parameters like runway length and aircraft weight.
2. Prepare a report on the duties of a Flight Operations Officer and compare them with pilots' responsibilities.
3. Log Book Entry Practice
4. Filing of Flight Plan.

TEXTBOOKS:

1. Aircraft Performance and Design – Mc Graw - Hill Education.
2. Ground studies for pilots – flight planning

REFERENCEBOOKS:

1. Oxford – Flight performance and planning
2. Airline Operations and Management – Ashgate Publishing.
3. Flight Dispatch Manual – Jeppesen.

E-RESOURCE:

[1.https://www.rainierflightservice.com/businessdocs/flight-operations-manual.pdf](https://www.rainierflightservice.com/businessdocs/flight-operations-manual.pdf)

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand the basic roles and responsibilities of flight operations officer.	LO1
CO2	Analyze aircraft performance parameters related to takeoff, landing, and flight phases.	LO4
CO3	Understand basic aerodynamic principles	LO1
CO4	Perform fundamental flight planning calculations including route, fuel, and timing.	LO3
CO5	Demonstrate decision-making, communication, and resource management skills in dispatch operations.	LO2
CO6	Understand the principles and procedures of flight operations management	LO13

COURSE ARTICULATION MATRIX (CAM) FOR DEFINED COS

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H		M	H		H		H		M					L
CO2	H		M	H	M	H					H				
CO3	H		L	M	L		L		L			L			
CO4	M		H	H		H		M	L						
CO5	M	L	H	H							H		L		
CO6	H		M	M	L	H	L	H		M					

L – Low

M- Medium

H-High

SECOND YEAR	CORECOURSE – 6 AIR REGULATION AND AIR TRAFFIC MANAGEMENT	SEMESTER: III
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- To familiarize students with aviation legal procedures, documentation, and emergency response systems in aviation operations.
- Impart about the important documents and operations manual required.
- Understand about air traffic control and its services.

UNIT – I AIR LAW:

General - International Bodies - ICAO – FAA – EASA – IATA – DGCA – CAA - CHICAGO Convention and establishment of ICAO - WARSAW Convention - Freedom of the Air

UNIT – II AIR TRAFFIC CONTROL:

ATC Services (ATC,AIS/ARO, Segments and MODULEs, CLR, GRD, TWR, APP/DEP, ACC), Airspaces (airways, special use of airspace, airspace classification, flight rules) – ICAO - ATS flight plan - NOTAMS - Euro Control.

UNIT – III AIRTRAFFICMANAGEMENT:

Air Traffic Management – ATC slots - Capacity Management - Airports - RVSM - Oceanic Control – RNAV.

UNIT – IV IMPORTANTDOCUMENTS:

ICAO Annexes - Controlling States Roles, Regulations, Sovereignty, Power of Authority - European Union EASA - Operations and Standard - EU- OPSI- 1045 - OPERATIONS MANNUALPARTS A, B, C, D.

UNIT – V EMERGENCY PROCEDURES:

Introduction - Definitions of occurrence, incident and accident - Occurrence of Reporting - Operation procedures related to handling of emergencies - Role of flight dispatch/operations control handling of emergencies, incidents and accidents.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

1. ATC visit
2. Interpret a sample ATS flight plan and identify its components.
3. Create a presentation on emergency handling procedures followed by flight dispatch teams.
4. Case studies about Air Laws.

TEXTBOOKS:

1. Understanding Air Traffic Control by Dieudonne Ndayizera
2. Aviation Law and Regulation – Rout ledge

REFERENCEBOOKS:

1. ICAO Annex11
2. A Study About Aviation Paper back by Rishiraj Singh Rathore –18 August 2021
3. Indian Aviation Act 1934 by Ministry of Civil Aviation, Govt. of India
4. Introduction to Air Law – McGill University Press

E-RESOURCES:

1. <https://apcae.files.wordpress.com/2009/05/doc-4444.pdf>
2. https://www.researchgate.net/publication/356715116_DOMESTIC_AIR_LAWS_IN_INDIA

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Explain international aviation laws, conventions, and regulatory bodies governing civil aviation.	LO1
CO2	Describe the structure and functions of air traffic control and airspace classification systems.	LO2
CO3	Analyze air traffic management techniques	LO8
CO4	Interpret aviation documents such as ICAO Annexes, flight plans, and operational manuals.	LO10
CO5	Demonstrate knowledge of emergency procedures and legal reporting requirements in aviation.	LO3
CO6	Understand the basic principles of air regulations and air traffic management, including airspace rules, air traffic control procedures, and aviation safety standards.	LO9

COURSE ARTICULATION MATRIX (CAM) FOR DEFINED COS

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	M	H		M		L	H		H	H		L	
CO2	L	M	M		M		L	M		M		H	H		L
CO3	M	L	H	L		H	M		H	L	H	L	L	H	L
CO4	M	M	M		H	L		M		M	L		M		L
CO5	L		L	L			M	M		M		H	L	L	
CO6	H	M		M	M	M		L	L		H		M		M

L – Low M- Medium H-High

SECOND YEAR	ALLIED COURSE - 5 AVIATION LAW	SEMESTER: III
CODE	(THEORY)	CREDITS: 3

COURSE OBJECTIVES:

- Demonstrate knowledge of Indian and International aviation law and regulations.
- Describe the role of the federal, state, and local governments under the U.S. Constitution in formation and enforcement of aviation rules and regulations
- Evaluate how tort, liability, & negligence law affect aviation manufacturing and operations.

UNIT – I AVIATION REGULATORY AUTHORITIES

Civil Aviation Regulations Authority – DGCA – Introduction to Directorate General of Civil Aviation - DGCA functions - DGCA Organization - DGCA as Regulatory Authority

UNIT – II AIRCRAFT LAWS

Aircraft Rules-Aircraft Act 1934-The Aircraft Rules 1937

UNIT– III AVIATION LEGISLATIONS

National Legislation-The Air Corporations Act, 1953 (27 of 1953)-The Air Corporations (Transfer of Undertakings and Repeal) Ordinance, 1994 (4 of 1994)-The Air Corporations (Transfer of Undertakings and Repeal) Act, 1994 (13 of 1994)-The International Airports Authority of India Act, 1971 (43 of 1971)- The National Airports Authority of India, 1985 (64 of 1985)-The Airports Authority of India Act 1994 (55 of 1994)-The Carriage by Air Act, 1972 (69 of 1972)

UNIT – IV CIVIL AVIATION REQUIREMENTS

Civil Aviation Requirements (CAR) Section 1 – General – Section 2 – Airworthiness – Section 3 - Air Transport

UNIT – V INTERNATIONAL AVIATION CONVENTIONS

International Conventions - The Chicago conventions, 1944 - The International Air Services Transit Agreement, 1944-The International Air Transport Agreement, 1944 – The Warsaw Conventions, 1920 The Geneva Convention, 1948 - The Rome Convention, 1952 - The Tokyo Convention, 1963.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

1. Study the Aircraft Act 1934 and summarize its key provisions
2. Create a timeline of international aviation conventions

TEXTBOOKS:

- 1) Introduction to Air Law – McGill University Press
- 2) Indian Aviation Act 1934 by Ministry of Civil Aviation, Govt. of India

REFERENCEBOOKS:

1. International Aviation Law A Practical Guide by Ronbartsch
2. Fundamentals of Air Law – Aviation Publications

E-RESOURCE:

Directorate General of Civil Aviation – <https://dgca.gov.in>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Define legal terms, describe and distinguish between method sof legal systems.	LO1
CO2	Identify and explain various characteristics of legal structure and legal relationships, and the purpose and processes of key legal organisations underpinning the Aviation industry.	LO6
CO3	Describe key are a s of regulation affecting aviation.	LO1
CO4	Demonstrate an understanding of the characteristics, requirements and legal responsibilities of Aviation organisations and their personnel.	LO10
CO5	To develop the knowledge legal frameworks governing aviation safety and operations.	LO1
CO6	Understand the fundamental principles of aviation law, including international conventions, regulatory frameworks, and legal responsibilities in aviation.	LO13

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	L	H		M	L		H	M	H	H		L	
CO2	L		M		M	M	L	M		M			H		L
CO3		L		L		H	M		H	L	H	L	L	H	L
CO4	M	M	M		H	L	L	M		M	L		M		L
CO5	L		L	L		M	M	M		M	L	H		L	
CO6	H	M	M	M		M		L	L	L	H		M	L	M

L – Low**M- Medium****H-High**

SECOND YEAR	ALLIED COURSE - 6 AIRPORT INFRASTRUCTURE MANAGEMENT	SEMESTER: III
CODE	(THEORY)	CREDITS: 3

COURSE OBJECTIVES:

- Demonstrate a clear understanding of the process of airport capacity planning within the context of changing airline industry structure, national airport policy goals and planning constraints.
- Identify the key components involved in approving airport development projects and be able to appraise the arguments for and against expansion.
- Compare, analyze and assess different location options for new airports and understanding the interaction of key variables in the decision-making process.

UNIT – I INTRODUCTION TO AIR TRANSPORT AND AIRPORT SYSTEMS

Introduction – Growth of Air Transport, -Airport Organization and Associations, Classification of Airports Airfield Components, - Air Traffic Zones and Approach Areas. Context of Airport System Planning–Development of Airport Planning Process – Ultimate Consumers – Airline Decision – Other Airport Operations.

UNIT – II AIRPORT CHARACTERISTICS

AIRPORT CHARACTERISTIC RELATED TO AIRPORT DESIGN – Components Size, Turning Radius, Speed, Airport Characteristics.- CAPACITY AND DELAY: Factors Affecting Capacity,- Determination of Runway Capacity related to Delay,-Gate Capacity, and Taxiway Capacity.

UNIT – III AIRPORT PLANNING

AIRPORT PLANNING AND SURVEYS:- Runway Length and Width, Sight Distances, Longitudinal And Transverse, Runway Intersections,-Taxiways, Clearances, Aprons, Numbering, Holding Apron.

UNIT – IV PLANNING AND DESIGN OF THE TERMINAL AREA

PLANNING AND DESIGN OF THE TERMINAL AREA:- operational Concepts, Space Relationships and Area Requirements,-Noise Control, Vehicular Traffic and Parking at Airports.

UNIT – V AIR TRAFFIC CONTROL AND AIDS

AIR TRAFFIC CONTROL AND AIDS:- Runways and Taxi ways markings, Day& Night Landing Aids, Airport Lighting and other Associated Aids.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

- (i) Case Studies on Airport Infrastructure (ii) Analyze aircraft characteristics (e.g., Boeing 747 vs Airbus A320) and their impact on runway design. (iii) Discussion on Airport Runway, Taxiway and etc (iv) Field visit to a nearby airport and observe terminal operations and traffic flow

TEXTBOOKS:

1. Strategic Airport Planning –Robert E. Caves &Geoffrey D. Gosling – Elsevier Science Ltd
2. Airport Marketing – David Jarach – Ashgate Publishing Limited

REFERENCEBOOKS:

1. Aviation Safety Programs A Management Hand Book-Richard H.Wood – Jeppesen Sanderson
2. Marketing Management – RAJANSAXENA – Tata Mc Graw Hill
3. Khanna, S.K., Arora, M.G., Jain, S.S. – Airport Planning and Design

E-RESOURCE:

https://www.collectionscanada.gc.ca/obj/s4/f2/dsk1/tape4/PQDD_0028/MQ51698.pdf

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Explain the fundamentals of air transport systems and airport organization.	LO1
CO2	Analyze airport characteristics affecting design and capacity	LO4
CO3	Design basic runway, taxiway, and apron layouts	LO3
CO4	Evaluate terminal planning, traffic flow, and parking systems.	LO1
CO5	Understand air traffic control systems, airport lighting, and navigation aids.	LO2
CO6	Understand the planning, design, and management of airport infrastructure, including runways, terminals, and support facilities.	LO6

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		H		M			H		H	H		L	
CO2	L	M	M	L	M	H	L	M					H		L
CO3		L		L		M	M		H	L	M	L	L	H	L
CO4	M	H	M		H	L		M			L		M		L
CO5	L		L	M		H	M	M		M	M	H		L	
CO6	H	M		M		M		L	L		H		M		M

L – Low

M- Medium

H-High

SECOND YEAR	SKILL ENHANCEMENT COURSE - 2 AVIATION LOGISTICS	SEMESTER : III
CODE	(THEORY)	CREDITS:2

COURSE OBJECTIVE:

To understand the principles, processes, and management of logistics in the aviation industry, including cargo handling, supply chain operations, and regulatory requirements.

UNIT – II INTRODUCTION TO AVIATION LOGISTICS:

Definition of logistics; Importance of logistics in aviation; Types of logistics (inbound, outbound, reverse logistics); Role of logistics in airline and airport operations; Overview of air cargo industry; Supply chain concept in aviation.

UNIT – II AIR CARGO OPERATIONS:

Introduction to air cargo; Types of cargo (general, perishable, dangerous goods, live animals); Cargo terminals and facilities; Cargo handling procedures; Packaging and labeling; Air Waybill (AWB); Role of freight forwarders and cargo agents.

UNIT – III WAREHOUSING & INVENTORY MANAGEMENT:

Warehouse functions in aviation; Storage systems; Handling equipment; Inventory control techniques; Cold storage for perishable goods; Safety and security in warehouses; Documentation and record keeping.

UNIT – IV TRANSPORTATION & DISTRIBUTION:

Modes of transport in logistics; Multimodal transport system; Cargo loading and unloading procedures; Unit Load Devices (ULDs); Route planning and scheduling; Distribution network; Last-mile delivery in aviation logistics.

UNIT – V REGULATIONS & SAFETY IN LOGISTICS:

Introduction to aviation regulations; Role of international bodies (ICAO, IATA); Dangerous Goods Regulations (DGR); Safety procedures in cargo handling; Customs procedures and clearance; Security screening of cargo; Risk management.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment Only):

E-logistics and digitalization; Use of automation in cargo handling; Smart warehousing; Drone logistics; Sustainable logistics practices; Case studies of major cargo airlines; Future trends in aviation logistics.

REFERENCE BOOKS:

1. Air Cargo Management – Michael Sales
2. Logistics and Supply Chain Management – Martin Christopher
3. IATA Cargo Handling Manual

E – REFERENCES:

<https://www.icao.int/>

<https://www.iata.org/>

<https://skybrary.aero/>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand basic concepts of aviation logistics	LO1
CO2	Explain air cargo operations and procedures	LO1
CO3	Understand warehousing and inventory systems	LO10
CO4	Analyze transportation and distribution in logistics	LO7
CO5	Understand regulations and safety in aviation logistics	LO5
CO6	Understand current trends in aviation logistics	LO6

SECOND YEAR	INTERDISCIPLINARY COURSE-3 INTRODUCTION TO AIRLINES	SEMESTER : III
CODE	(THEORY)	CREDITS : 2

COURSE OBJECTIVES:

- Identify roles and functions of airline ground, flight, maintenance, and management departments.
- Understand the national air transportation system and airline organizational structure

UNIT – I FUNDAMENTALS OF FLIGHT

History and Evolution of flying – Basic principles of Flying-Atmosphere and its properties, Standard atmosphere

UNIT – II CLASSIFICATION OF AIRCRAFT

Classification of Aircraft/Airlines-Narrow Body-Widebody-Propeller Aircraft-Jet Aircraft-Supersonic-Scheduled -Non-Scheduled-Charter Flights

UNIT – III COMPONENTS OF AN AIRCRAFT

Major Components of an Aircraft-Engine-Propeller-Fuselage Tail-Rudder-Landing Gear

UNIT – IV AIRLINE ORGANIZATIONAL STRUCTURE

Airline Organizational structure–Corporate Office–Regional Office–City office-Ticketing Agents

UNIT – V AIRLINE FUNCTIONAL DEPARTMENTS

Airline Functional Structures - Engineering- Operation – Finance –Administration - Marketing-Customer relation

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

- Prepare a timeline on the evolution of aviation from the Wright Brothers to modern jets.
- Compare narrow-body vs wide-body aircraft with diagrams and examples.
- Practice of Check-in
- Allocation of seating arrangement.

TEXTBOOKS:

1. Airline Operations and Scheduling 2nd Edition by Massoud Bazargan
2. Airline Operations and Management : A Management Textbook 1st Edition by Gerald N. Cook, Bruce Billig.

REFERENCEBOOKS:

1. Airline Operations: A Practical Guide 1st Edition by Peter J. Bruce, Yi Gao, John M. C. King
2. Airline and Airport Operations – 1 January 2016 by Edissa Uwayo
3. Airline Operations And Management A Management Text book by Gerald N. Cook, Bruce G. Billig

E-RESOURCE:

<https://www.himpub.com/documents/Chapter4975.pdf>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand about the commercial foundation of the air line industry and principles of flight.	LO1
CO2	Classify different types of aircraft and airline operations	LO8
CO3	Identify and describe major components of an aircraft.	LO1
CO4	Understand how successful airline executives develop broad strategic plans using real - life examples	LO14
CO5	Analyze the functions of various airline departments.	LO6
CO6	Understand the basic structure and functioning of airline operations	LO1

SECOND YEAR	CORE COURSE-7 DANGEROUS GOODS AND CARGO MANAGEMENT	SEMESTER : IV
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- Understand the ICAO requirements, government of India requirements and Aircraft Act 1934, the Aircraft Rules 2003.
- Have basic understanding about the definition of dangerous goods.
- Acquire good knowledge in division of dangerous goods.

UNIT – I CARRIAGE OF DANGEROUS GOODS:

ICAO requirements – Government of India requirements – Aircraft Act 1934 – The aircraft (Carriage of dangerous goods) Rules, 2003.

UNIT – II DANGEROUS GOODS DEFINITIONS:

Definition of dangerous goods – Dangerous goods categories.

UNIT – III CLASSIFICATION OF DANGEROUS GOODS:

Name of the class – Divisions – Identification – Packing – Marking and labeling.

UNIT – IV AIRCARGO CONCEPT:

Introduction – Operations and Industry Regulations – Service Function, Organisation and Liability – SLI, Types of cargo - Handling of Perishable, Valuable Cargo and Special Cargo .- Air cargo Tariff, Rates & Charges – Valuation charges and Disbursement - Airway Bill, Function, Purpose and Validation

UNIT – V HANDLING FACILITY:

Airport Cargo Activity & Cargo Zone. - Aircraft Handling with Cargo. - Cargo Terminals and Facilities . - Emerging trend in Cargo & Cargo Carriers.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous

Internal Assessment Only):

- Group Discussion about different types of Dangerous Goods
- Case Studies fire
- Cargo Loading
- Cargo Visit.

TEXTBOOKS:

1. R. K. Bali – Regulation
2. The handling of dangerous goods – Phillips H Joshua

REFERENCEBOOKS:

1. Annex19 Docs
2. Oxford–Air Law
3. John F Magee & William C Copalino, - Modern Logistics Management, John Wiley & Sons

E-RESOURCES:

1. <https://www.icao.int/safety/dangerousgoods/working%20group%20of%20the%20whole/wp.50.appb.pdf>
2. <https://skybrary.aero/sites/default/files/bookshelf/1178.pdf>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Learn the ICAO requirements, government of India requirements and Aircraft Act1934, the aircraft Rules 2003.	LO1
CO2	Understand about the various definitions regarding dangerous goods.	LO1
CO3	Perceive good knowledge in division sin dangerous goods.	LO1
CO4	Knowhow to tackle dangerous good sand to proceed with precautionary actions.	LO3
CO5	Maintain emergency response drill sin air crafts	LO3
CO6	Understand the classification, handling, and transportation of dangerous goods and cargo in accordance with aviation safety regulations.	LO1

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	M		H		M	M		H		M				L	L
CO2	M	M		L	H		M		L	M		M	M		
CO3	M		L		M		L	H			L		H		M
CO4	M	H	H		L	H			L		M			L	
CO5	M	M	L		M		M	M	M	H			M		L
CO6	M		H		L	M		H		M		M	H	M	

L – Low**M- Medium****H-High**

SECOND YEAR	CORE COURSE-8 PCSOFTWARE (MSOFFICE)	SEMESTER : IV
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- Give students an in-depth understanding of why computers are essential components in business, education and society.
- Introduce the fundamentals of computing devices and reinforce computer vocabulary, particularly with respect to personal use of computer hardware and software, the Internet, networking and mobile computing.
- Provide hands-on use of Microsoft Office 2013 applications Word, Excel, Access and PowerPoint. Completion of the assignments will result in MS Office applications knowledge and skills.
- Provide foundational or – computer literacy | curriculum that prepares
- Students for life – long learning of computer concept sand skills.

UNIT-I: Introduction to Computers and MS Word

Meaning of computer – Characteristics – components – Hardware and Software - operation system – Creations of files and folders. Windows explorer. Introduction to MS word - Short cut for MS word–Creating word documents – Business letters using wizards – Editing, inserting objects and formatting documents – Spelling and grammar check – Word count – Thesaurus - Auto correct - Working with tables – Saving, opening and closing documents.

UNIT-II: MS EXCEL: SPREADSHEETS AND DATA MANAGEMENT

Introduction to MS Excel and its features –Building worksheets – Entering data, editing and formatting worksheets – Creating and formatting different types of charts – Application of financial and statistical function – Organising data using Automatic rule saving, opening and closing of work books.

UNIT – III MS POWERPOINT: PRESENTATIONS

MS Power point – Creating a simple presentation – Creating, in serting and deleting slides – Saving a Presentation – Slide Show – Templates – Charts – Graphs.

UNIT – IV INTERNET FUNDAMENTALS

Internetbasics–InternetAddress–Domainnames–Browsers–searchEngine–Connecting to the internet – installing and configuring a modem – creating a connection profile – changing the default connection.

UNIT – V EMAIL AND ONLINE COMMUNICATION

Working with E - Mail – running an email program–sending, reading, replying deleting and exiting mail – sending files via email - attaching a signature – managing an address book.

UNIT – VI CURRENT CONTOURS (Self – directed learning activities for Continuous Internal Assessment Only):

- 1) Create a professional resume using Microsoft Word.
- 2) Design a presentation on aviation topics using Microsoft PowerPoint.
- 3) Prepare a monthly budget sheet using Microsoft Excel with formulas

TEXTBOOKS:

1. Management Information System – Gordon B Davis.
2. PC Software for window made simplex by R.K Taxali –Tata Mc Graw Hill Publishers Pvt. Ltd.,
3. Quick Course in Microsoft Office Joyce Cox ,Polly urban – Galgottia Publications.
4. PC Software for Office – Automation by T.Karthikeyan and Dr.C Muthu – Sultan Chandand Company.

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand the basic concepts of computers, including hardware, software, and operating systems.	LO1
CO2	Create, edit, and format documents using MS Word efficiently.	LO6
CO3	Develop and manage spreadsheets using MS Excel with formulas and charts.	LO4
CO4	Demonstrate knowledge of internet fundamentals, browsers, and connectivity.	LO10
CO5	Use email effectively for communication, including sending attachments and managing contacts.	LO2
CO6	Understand and apply the basic functions of MS Office tools (Word, Excel, and PowerPoint) for documentation, data analysis, and presentations.	LO10

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	M	H		L		L	M		M	H	L	M	L	H	L
CO2	M	M	H	L	H	H		L	L	M		L	H		
CO3			L		M	L	M		M			M		M	H
CO4		M		M	H			M		H	M		H		
CO5			H			M	L	M	L			M		L	
CO6	M	M		L	M	H		H	H	H		M	H	M	L

L – Low

M- Medium

H-High

SECOND YEAR	ALLIED COURSE - 7 AIR PASSENGER HANDLING AND RAMP SERVICES	SEMESTER : IV
CODE	(THEORY)	CREDITS : 3

COURSE OBJECTIVES:

- To know about the roles and responsibilities of Customer Service Agents (CSA) in airport operations.
- To understand the ramp services and airport procedures

UNIT – I ROLES OF CSA:

Passenger reception at checking desk – luggage at ticket checking – delay and irregularity management – airline services management – passenger boarding and disembark at the gate – management of passenger with difficulty – escort service for unaccompanied minors.

UNIT – II CHECK IN PROCEDURE:

Why passenger has to check in? – where to check in? – passenger identity registration – baggage registration – seating arrangements.

UNIT – III IMMIGRATION:

Understanding of immigration – purpose of immigration – laws and ethics – impact of undocumented immigrants – impact on the sending countries.

UNIT – IV BAGGAGE AND TICKETING:

Responsibilities – duties of ticketing officer – how does ticketing work? – checking baggage inside airport – baggage sorting – oversize baggage

UNIT – V RAMP SERVICES:

Connecting and Disconnecting Ground Services – Baggage and Freight handling – Aircraft towing – High Pressure Air – Push back – De icing / Anti icing.

UNIT - VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

- Visit an airport and observe the duties of a Customer Service Agent (CSA).
- Case Studies on immigration
- Practice ticket verification, baggage check-in, and seat allocation.
- Draw a flowchart showing baggage movement from check-in to aircraft loading

TEXTBOOKS:

1. Art of Customer Service by Eddy Merrick
2. Define and deliver exceptional customer service by Kelly Hendry

REFERENCE BOOKS:

1. Customer service by Cliff Robison
2. Exceptional customer service by Lisa Ford
3. Customer service by Anne M. Bacal

E-RESOURCE:

http://colbournecollege.weebly.com/uploads/2/3/7/9/23793496/unit_19_lo_12_handling_air_passengers_score_sheet.pdf

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Describe the roles and responsibilities of Customer Service Agents in airport operations.	LO2
CO2	Demonstrate understanding of passenger check-in procedures and documentation.	LO7
CO3	Explain immigration processes, laws, and their impact on society.	LO2
CO4	Understand baggage handling, ticketing procedures, and airport logistics	LO3
CO5	Identify and explain various ramp services involved in aircraft ground operations.	LO1
CO6	Understand the procedures involved in passenger handling and ramp services, including check-in, boarding, baggage handling, and aircraft ground operations.	LO14

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		H		M			H		H	H		L	
CO2	L		M		M		L	M		M		H	H		L
CO3	M	L		L		H	M		H	L	H	L	L	H	L
CO4	M	M	M		H	L		M			L		M		L
CO5	L		L	L			M	M		M		H	L	L	
CO6	H	M		M	M	M		L	L		H		M		M

L – Low

M- Medium

H-High

SECOND YEAR	ALLIED COURSE - 8 CUSTOMER RELATIONSHIP MANAGEMENT	SEMESTER : IV
CODE	(THEORY)	CREDITS : 3

COURSE OBJECTIVES:

- Understood Relationship Marketing Learnt Sales Force Automation Learnt Database Marketing
- To understand your role in achieving good customer relationship management with a customer and /or stake holders
- To understand the key skills needed to carry out successful customer relationship management, in order to build more productive & mutually rewarding relationships with customers and/or stakeholders

UNIT – I FUNDAMENTALS OF RELATIONSHIP MARKETING

Overview of Relationship marketing – Basis of building relationship – Types of relationship marketing – Customer life cycle

UNIT – II CUSTOMER RELATIONSHIP MANAGEMENT

CRM – Overview and evolution of the concept – CRM and Relationship marketing – CRM strategy – Importance of customer divisibility in CRM.

UNIT – III CRM TOOLS AND SALES FORCE AUTOMATION

Sales Force Automation – Contact management – concept – Enterprise Marketing Management – core beliefs – CRM in India.

UNIT – IV VALUE CHAIN AND BUSINESS INTEGRATION

Value Chain – Concept – Integration Business Management – Benchmark sand Metrics – culture change – alignment with customer eco system – Vendor selection

UNIT – V DATABASE MARKETING AND TECHNOLOGY IN CRM

Database Marketing – Prospect database – Data warehouse and Data Mining – analysis of customer relationship technologies – Best practices in marketing Technology – Indian scenario.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

(i) Practice on Customer Handling (ii) Basis of Building Relationship to Customer (iii) Business management case Studies. (iv) Enterprise Marketing Management Practice

TEXTBOOKS:

1. Art of Customer Service by Eddy Merrick
2. Define and deliver exceptional customer service by Kelly Hendry

REFERENCEBOOKS:

1. Customer service by cliff Robison
2. Exceptional customer service by Lisa Ford
3. S.Shajahan – Relationship Marketing – Mc Graw Hill, 1997 Paul Green Berg –CRM Tata Mc Graw Hill, 2002 Philip Kotler, Marketing Management, Prentice Hall, 2005
4. BarryBermanandJoelREvans–RetailManagement–AStrategicApproach-PrenticeHallof India, Tenth Edition, 2006

E-REFERENCE:

https://www.researchgate.net/publication/290447911_Customer_Relationship_Management_Concepts_and_Technologies

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand the fundamentals of relationship marketing	LO7
CO2	Explain the concepts and evolution of CRM	LO2
CO3	Apply CRM tools and sales force automation.	LO1
CO4	To equip students with both a conceptual understanding and the knowledge pertaining to practical application of critical skills necessary for building and managing partnering relationships with customers and suppliers.	LO4
CO5	Utilize database marketing and CRM technologies for data-driven decision-making.	LO5
CO6	Understand the principles and practices of customer relationship management	LO14

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	M	M	H	H		M	L		M	M	H	M		M	
CO2	H	L	M		H			H	M	M			M	L	M
CO3			M	H		M	L					H	L		L
CO4	M	M	L	M	H		L	H	H	M				L	
CO5		M	M			H					L	L	L	M	
CO6	M		L	L	M	H	H	H	M	M		M		L	

L – Low

M- Medium

H-High

SECOND YEAR	SKILL ENHANCEMENT COURSE-3 AIRCRAFT SEARCH AND RESCUE MANAGEMENT	SEMESTER : IV
CODE	(THEORY)	CREDITS : 2

COURSE OBJECTIVES:

1. To understand the concept and importance of search and rescue (SAR) in aviation.
2. To learn the organization and functioning of SAR services.
3. To develop knowledge of search techniques and rescue operations.
4. To understand communication systems used in SAR missions.
5. To gain knowledge of safety procedures and emergency response planning.
6. To familiarize with modern technologies and global SAR practices.

UNIT – II INTRODUCTION TO SEARCH AND RESCUE:

Definition of Search and Rescue (SAR); Importance of SAR in aviation; History and development of SAR; Types of emergencies; Role of SAR in aviation safety; Basic terminology used in SAR operations.

UNIT – II SAR ORGANIZATION & SERVICES:

SAR organization structure; Role of Rescue Coordination Centre (RCC); Rescue Sub-Centres (RSC); Duties and responsibilities of SAR personnel; Coordination between agencies; National and international SAR services.

UNIT – III SEARCH OPERATIONS:

Search planning; Types of search methods (visual, electronic); Search patterns (parallel, creeping line, sector search); Factors affecting search operations; Use of aircraft and helicopters in search missions.

UNIT – IV RESCUE OPERATIONS:

Rescue techniques; Survival and first aid basics; Evacuation procedures; Use of rescue equipment; Handling injured persons; Role of medical teams in rescue operations.

UNIT – V COMMUNICATION & SAFETY IN SAR:

Communication systems in SAR; Emergency locator transmitters (ELT); Radio communication procedures; Safety measures during SAR operations; Risk management; Coordination with Air Traffic Control.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment Only):

Use of drones in SAR; Satellite-based search systems; Global SAR case studies; Technological advancements; Disaster management integration; Future trends in SAR operations.

REFERENCE BOOKS:

1. International Aeronautical and Maritime Search and Rescue Manual (IAMSAR)
2. Aviation Safety and Security – John F. O’Connell
3. Search and Rescue Operations – ICAO Guidelines

E – RESOURCES:

1. <https://www.icao.int/>
2. <https://www.imo.org/>
3. <https://www.skybrary.aero/>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand the basic concepts, importance, and terminology of Search and Rescue (SAR) operations in aviation.	LO1
CO2	Explain the structure and functions of SAR organizations, including RCC, RSC, and coordination between national and international agencies.	LO1
CO3	Apply knowledge of search planning, methods, and patterns used in aviation search operations.	LO13
CO4	Demonstrate understanding of rescue techniques, evacuation procedures, and basic first aid in emergency situations.	LO3
CO5	Analyze communication systems, safety procedures, and risk management practices used during SAR operations.	LO2
CO6	Evaluate modern developments in SAR such as drones, satellite systems, and technological advancements in global rescue operations.	LO10

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	L		L	H	L		L	L	M			L	L
CO2	H		M	M					M	M			L	M	
CO3	H	M	M	L		L		M		H	L	L	M		L
CO4	M	L	L			M			L					L	M
CO5	H	M		M	L		L	L		M		L	M	M	
CO6	H	L	M	L	M	L		M		M	L		L		M

L – Low

M- Medium

H-High

SECOND YEAR	INTERDISCIPLINARY COURSE - 4 AIR SAFETY REGULATION	SEMESTER : IV
CODE	(THEORY)	CREDITS : 2

COURSE OBJECTIVE:

To provide students with a comprehensive understanding of national and international air safety regulations, enabling them to ensure compliance, manage aviation risks, and promote safe and efficient operations within the aviation industry

UNIT – I AIRLAW

General – International Bodies – ICAO – FAA- EASA – IATA – DGCA – CAA – CHICAGO Convention and establishment of ICAO – WARSAW Convention – Freedom of the Air

UNIT – II IMPORTANT DOCUMENTS:

ICAO Annexes – Controlling States Roles, Regulations, Sovereignty, Power of Authority – European Union EASA – Operations and Standard – EU- OPSI- 1045 – OPERATIONS MANUAL PARTS A, B, C, D.

UNIT – III NATIONAL LEGISLATION:

National Legislation-The Air corporations Act, 1953 (27 of 1953)-The Air Corporations (Transfer of Undertakings and Repeal) Ordinance, 1994(4 of 1994)-The Air Corporations (Transfer of Undertakings and Repeal) Act, 1994 (13 of 1994)-The International Airports Authority of India act,1971(43 of 1971)-The National Airports Authority of India,1985 (64 of 1985)-The Airports Authority of India Act 1994 (55 of 1994)-The Carriage by Air Act, 1972 (69 of 1972)

UNIT – IV HANDLING OF DANGEROUS GOODS :

Preloading inspection – Loading requirements – [Loading of magnetized material – Loading of Carbon dioxide solid (Dry ice) – Loading of live animals with dangerous goods – Loading of cargo aircraft – Loading of expandable polymeric beads – Loading of wheel chairs and other battery powered mobility aids – non – spill able batteries – Loading of organic peroxides and self- reactive substances–Loading of radioactive material.]

UNIT – V AIRCRAFT EMERGENCY RESPONSE DRILLS:

Emergency response drills – Drill letter table – Numerical list of dangerous goods with drill codes.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

(i) Case Studies about incident (ii) Accident report & Causes (iii) Practice about investigation (iv) Case Studies about Conventions.

TEXTBOOKS:

1. Indian Aviation Act 1934 by Ministry of Civil Aviation, Govt. of India
2. Air regulations – R.K. Bali

REFERENCEBOOKS:

1. International Aviation Law: A Practical Guide by Ronbartsch
2. Aviation Law, Flight Rules and Operational Procedures: Meteorology: Air Pilot's Manual
3. Civil Aviation requirements

E-RESOURCE:

<https://www.theairlinepilots.com/forumarchive/al/airlaw.pdf>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Define legal terms, describe and distinguish between methods of legal systems.	LO1
CO2	Identify and explain various characteristics of legal structure and legal relationships, and the purpose and processes of key legal organizations underpinning the Aviation industry.	LO1
CO3	Describe key areas of regulation affecting aviation.	LO1
CO4	Demonstrate an understanding of the characteristics, requirements and legal responsibilities of Aviation organizations and their personnel.	LO1
CO5	To develop the knowledge about regulations followed during visual and metrological conditions while flying.	LO1
CO6	Understand the principles of air safety regulations, including safety standards, compliance requirements, and risk management in aviation operations.	LO1

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H		L	M	L	H			M	M	H				
CO2		L			L			H		M		L	M		L
CO3	H		M		M	H			L		L			M	
CO4				L	M		M	L		M	M	M			
CO5	H	L	L			M			M				L	L	
CO6	H			L	M	H		H		M	M				

L – Low

M- Medium

H-High

THIRD YEAR	CORE COURSE - 9 AIR HOSTESS AND HOSPITALITY MANAGEMENT	SEMESTER : V
CODE	(THEORY)	CREDITS : 4

COURSE OBJECTIVES:

Have basic knowledge about the cabin crew profession.
Learn the roles and responsibilities of cabin crew.
Have adequate knowledge about air craft rules and regulations.

UNIT – I CABINCREWPROFESSION:

History & Origin of Cabin Crew Profession – Qualification and Training required – Key skills for Cabin Crew - Benefits & Challenges of working as Cabin Crew - Contents of Night kit.

UNIT – II CABINCREWLIFESTYLE:

Cabin Crew makeup – Jewelry & Hygiene – Uniforms & Presentation – Personal Presentation when working as Cabin Crew- Living style - The work and Life balance.

UNIT – III HOWTOSTAYHEALTHY:

Tips for Diet –Tips to keep fabulous air styles –Tips to chose right skin care product - Bestways to Tackle Cabin crew tiredness.

UNIT – IV ROLEANDRESPONSIBILITIESASCABINCREW:

Overview Responsibilities-Senior cabin crew briefing – Documents to be collected before closing the aircraft doors - Galley checks - Pre Flight Safety Checks - Pre Flight Safety Demonstration - Role of Cabin Crew in various emergency - Cabin management.

UNIT – V RULESANDREGULATIONS:

Aircraft Rules 1937 – Duties of Pilot in Command – Aircraft rules38 (B)1937- Carriage of Cabin Crew - Flight Time – FDTL - CAR Sections - Succession of Command.

UNIT - VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

- (i) Grooming & Presentation Practice
- (ii) Emergency practice
- (iii) Prepare a short report including qualifications, training, and career growth opportunities
- (iv) Healthy Lifestyle Plan.

TEXTBOOKS:

1. R.K.Bali–Navigation
2. Emmyarsonal – Airline cabin crew training manual

REFERENCEBOOKS:

1. Ground Studies for Pilots - Navigation
2. Oxford – General Navigation
3. Airline Cabin Crew Training Manual by Emmy Arsonval Maniriho

E-RESOURCE:

1. http://colbournecollege.weebly.com/uploads/2/3/7/9/23793496/flight_attendant_lesson_1.pdf

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Complete Knowledge of Cabin Crew & their Lifestyle	LO1
CO2	Demonstrate knowledge of grooming, lifestyle, and professional presentation standards.	LO2
CO3	Apply healthy lifestyle practices suitable for cabin crew duties.	LO15
CO4	Explain cabin crew responsibilities during pre-flight, in-flight, and emergency situations.	LO4
CO5	Understand and interpret aviation rules and regulations related to cabin crew operations.	LO2
CO6	Understand the roles, responsibilities, and service standards of cabin crew and hospitality management	LO13

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		H		M			H		H	H	L	L	H
CO2	L		M	M	M		L	M		M		H	H		L
CO3	M	L		L		H	M		H	L	H	L	L	H	L
CO4	M	M	M		H	L		M			L		M		H
CO5	L	M	L	L			M	M		M		H	L	L	
CO6	H	M		M	M	M		L	L		H		M		M

L – Low

M- Medium

H-High

THIRD YEAR	CORE COURSE - 10	SEMESTER : V
CODE	AIRSAFETYANDSECURITYSERVICES (THEORY)	CREDITS : 4

COURSE OBJECTIVES:

- Learn about crisis management and risk assessment
- To learn about the importance of Safety and Security in Air Transportation
- To learn about the techniques and methodologies used in protecting passengers, crew, baggage, cargo, mail, ground personnel, aircraft and property of Airports.

UNIT – I IMPORTANCE OF AIRTRANSPORT ATION SAFETY AND SECURITY- AIRPORT-AIRLINES

Protecting Public Transportation-Screening - Personnels and Baggages – Metal Detectors - Xray Inspections, Passive and Active Millimeters – Trace - Detection Techniques - The way on Drug and Explosives.

UNIT – II TERRORISM:

Terrorism–Introduction-Causes of Terrorism - Rivalclaim of Palestine - Palestine Liberation Organization - Nuclear Terrorism - Aircraftas Missiles-9/11 Terrorist Actandits Consequences- Biological & Chemical Warfare-Steps to Combat Terrorism

UNIT – III ANTIHIJACKING:

Hijacking – Security measures- Airport Security Programmed a Steps taken to Contend with Hijacking - Cockpit doors - Sky Marshal Program me - Public Law about Hijacking - Air Transportation Security Act of 2001 - Crimes against Humanity -The Tokyo Convention and Summit

UNIT – IV LEGISLATIONS AND REGULATIONS:

ICAO/ECAC-Transportation security administration – International aviation safety assessment program - Legislation after 9 Sep 2001

UNIT – V TECHNOLOGICAL IMPROVEMENTS ON AVIATION SAFETY AND SECURITY :

Technological Improvements on Aviation Safety and Security – Introduction - Microwave Holographic Imaging – Body or Fire Security Scanner – New Generation of video Security Systems – Bio simmer – Biometric Systems

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

- (i) Case Studies about Air Safety (ii) Practical Explanation and practice of Anti Hijacking. (iii) Case Studies on Terrorist attacks on Airport. (iv) Regulations And Assessments on Aviation Safety.

TEXTBOOKS:

1. R.K. Bali–regulations
2. ICAOAnnex17

REFERENCEBOOKS:

1. Kathleen M. Sweet–Aviation and Airport Security
2. Practical Aviation Security: Predicting and Preventing Future Threats by Jeffrey Cprince, Jefferys Forrest
3. Aviation Security

E-RESOURCE:

1. https://www.icao.int/sustainability/Documents/SafetySecurityStudy_en.pdf

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand aviation safety and security procedures at airports and airlines.	LO1
CO2	Analyze the causes and impacts of terrorism related to aviation.	LO13
CO3	Explain anti-hijacking measures and international security practices.	LO3
CO4	Describe aviation regulatory bodies and legal frameworks governing safety.	LO14
CO5	Evaluate modern technological advancements in aviation safety and security.	LO10
CO6	Understand the principles and practices of aviation safety and security services	LO1

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		H		M			H		H	H		L	
CO2	L		M		M		L	M		M		H	H		L
CO3	M	L		L		H	M		H	L	H	L	L	H	L
CO4	M	M	M		H	L		M		M	L		M	M	L
CO5	L		L	L			M	M		M		H	L	L	
CO6	H	M		M	M	M		L	L	M	H		M		M
L – Low M- Medium H-High															

THIRD YEAR	CORE COURSE - 11	SEMESTER : V
CODE	CUSTOMERSERVICE MANAGEMENT (THEORY)	CREDITS : 4

COURSE OBJECTIVE:

- To familiarize students with airline customer relationship management (CRM), service quality measurement, and the use of technology to enhance passenger satisfaction and loyalty.

UNIT – I INTRODUCTION TO CUSTOMER SERVICE MANAGEMENT

Meaning and importance of customer service in aviation – Role of customer service in airlines and airports – Types of airline passengers – Passenger expectations and satisfaction – Customer service as a competitive advantage in the aviation industry.

UNIT – II PASSENGER INTERACTION AND COMMUNICATION

Verbal and non-verbal communication in aviation – Airport communication procedures – Handling passenger inquiries – Telephone and email etiquette in airlines – Managing cultural diversity and international passengers – Professional behavior and grooming standards.

UNIT – III CUSTOMER RELATIONSHIP MANAGEMENT IN AIRLINES

Introduction to CRM in aviation – Passenger lifecycle in airlines – Frequent flyer programs – Personalization of services – Use of technology in managing passenger data – Data privacy and security in aviation.

UNIT – IV PASSENGER COMPLAINTS AND SERVICE RECOVERY

Types of passenger complaints (delays, cancellations, baggage issues) – Complaint handling procedures – Dealing with difficult passengers – Conflict resolution techniques – Service recovery strategies in airlines – Compensation policies and customer feedback systems.

UNIT – V SERVICE QUALITY AND EXCELLENCE IN AVIATION

Service quality dimensions in airlines – Measuring passenger satisfaction – Role of digital services (self check-in, apps) – Safety and security as part of service quality – Ethics and professionalism in aviation customer service – Global best practices in airline service.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

(i) Airport Customer Service Observation (ii) Simulate real-life airport situations (delays, lost baggage). (iii) Analyze real or hypothetical passenger complaints. (iv) Explore airline mobile apps and self-service kiosks.

TEXTBOOKS:

1. Art of Customer Service by Eddy Merrick
2. Customer Service in Aviation – Clare Foster

REFERENCEBOOKS:

1. Customer service by cliff Robison
2. Airline Marketing and Management – Stephen Shaw
3. The Airline Customer Experience – Peter Belobaba, Amedeo Odoni, Cynthia Barnhart

E-RESOURCES:

1. <https://airlinecustomerexperience.com>
2. <https://www.sciencedirect.com/journal/journal-of-air-transport-management>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand the role and importance of customer service in the aviation industry.	LO1
CO2	Demonstrate effective communication skills while interacting with passengers.	LO2
CO3	Apply CRM concepts to enhance passenger satisfaction and loyalty.	LO13
CO4	Handle passenger complaints and implement service recovery strategies.	LO5
CO5	Evaluate service quality and adopt best practices in aviation customer service.	LO7
CO6	Understand the key principles of customer service management, including communication skills, service quality, and handling customer needs effectively.	LO15

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	L	H		M			H		H	H		L	
CO2	L		M		M		L	M		M	M		H		L
CO3	M	L	H	L	L	H	M		H	L		L	L	H	M
CO4	M	M		M	H	L	H	L			L				L
CO5	L		L	L	H		M	M	L	M		H	L	L	H
CO6	H	M		M	M	M	H	L	L		H		M		M

L – Low

M- Medium

H-High

THIRD YEAR	CORE COURSE - 12 HUMAN FACTORS AND CREW MANAGEMENT	SEMESTER : V
CODE	(THEORY)	CREDITS : 4

COURSE OBJECTIVE:

- To equip students with an understanding of human physiology, psychology, and performance factors in aviation, and to develop skills in Crew Resource Management (CRM) to enhance flight safety and operational efficiency

UNIT – I BASIC PHYSIOLOGY

The need to take human factors into account; Incidents attributable to human factors/human error; ‘Murphy’s Law. Vision; Hearing; Information processing; Attention and perception; Memory; Claustrophobia and physical access. Hyperventilation, Hypoxia, Decompression Sickness anatomy & physiology of the ear, Vision.

UNIT – II SOCIAL PSYCHOLOGY

Responsibility: individual and group; Motivation and de-motivation; Peer pressure; ‘Culture’ issues; Team working; Management, supervision and leadership, Interacting with ATC, Cabin Crew, Passengers.

UNIT – III FACTORS AFFECTING PERFORMANCE

Fitness/health; Stress: domestic and work related; Time pressure and deadlines; Workload: overload and under-load; Sleep and fatigue, shift work; Alcohol, medication, drug abuse. Individual Performance: Relevant Factors - Automation and Upgradation of Skills - CRM: Training Methods

UNIT – IV CREW RESOURCE MANAGEMENT

CRM: Evolution and Basics - Flight Control Crew Management - Maintenance Resource Management- Impact of CRM in Aviation Safety CRM Training Evolution and CRM Desired Skills- Performance Standards for Instructors in CRM -CRM Standards and Training - CRIMs (CRM Instructors) and CRIMes (CRM Instructor Examiners)

UNIT – V HUMAN PERFORMANCE ANALYSIS

Data on Incidents/Accidents: Human Performance Analysis-Evaluation of Flight Crew CRM Skills - Communication: A Relevant factor in Aviation Safety - Line Operations-Safety Audit (LOSA) and CRM: Relationship

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

(i) **Case studies** of real aviation incidents/accidents caused by human factors. (ii) Case Studies on Maintenance of Aircrafts (iii) Stress and Fatigue Management Plan (iv) Discussion on Crew Management (v) Study the effects of hypoxia or fatigue on performance.

TEXTBOOKS:

1. Aviation Psychology and Human Factors” – Monica Martinussen, David Hunter
2. Human Factors in Aviation” – Eduardo Salas, Florian Jentsch, 1st Edition, Academic Press, 2013

REFERENCEBOOKS:

1. Crew Resource Management–Earl L. Wiener
2. Human Factors in Air Transport: Methods, Tools, and Applications - A. J. N. Rayman

E-RESOURCE:

[1.https://www.faa.gov/about/organization/office_org/headquarters_offices/avs/offices/afs/human_factors](https://www.faa.gov/about/organization/office_org/headquarters_offices/avs/offices/afs/human_factors)

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand basic human physiology and psychology	LO1
CO2	Analyze social and behavioral factors affecting crew performance	LO13
CO3	Evaluate factors influencing individual and team performance	LO7
CO4	Understand the principles of crew resource management.	LO3
CO5	Understand human performance analysis in aviation operations	LO1
CO6	Understand the principles of human factors and crew resource management, including communication, decision-making, teamwork, and their impact on aviation safety.	LO14

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		H		M	H	M	H		H	H		L	
CO2	L		M		M		L			M		H	H		L
CO3	M		L	L			M		H	L	H	L	L	H	
CO4	M	M	M		H	M	H	M	M		L		M	M	L
CO5	L		L	L			M	M		M			L	L	
CO6	H	M		M	M	M	H	L	L		H	L	M	M	M
L – Low M- Medium H-High															

THIRD YEAR	CORE COURSE - 13 ENTREPRENEURSHIP MANAGEMENT	SEMESTER : V
CODE	(THEORY)	CREDITS : 4

COURSE OBJECTIVES:

- On successful completion of this course, the students should have understood EDP, Project management Institutional support to entrepreneurial development
- En able to apply problem solving approaches to work challenges and make decisions using sound engineering methodologies
- Be able to apply a systematic design approach to engineering projects and have strong design and research skills in the chosen discipline specialization.
- Communicate effectively across small modes : is ten, speak, write and draw
- Apply the principles of lifelong learning to any new challenge
- Balance the technical, economic, social and ethical demands of a problem in sustainable and culturally sensitive ways.

UNIT – I ENTREPRENEURSHIP

Meaning of Entrepreneurship - characteristics, functions and types of entrepreneurship - Entrepreneur - Role of entrepreneurship in economic development.

UNIT – II ENTREPRENEURIAL GROWTH

Factors affecting entrepreneur growth – economic – non-economic. Entrepreneurship development programmes - need - objectives – course contents - phases - evaluation. Institutional support to entrepreneurs.

UNIT – III PROJECT MANAGEMENT

Project Management : Meaning of project – concepts – categories – project life cycle phases- characteristics of a project – project manager - role and responsibilities of project manager.

UNIT – IV PROJECT IDENTIFICATION AND FORMULATION

Project identification – Selection – Project formulation – Contents of a project report - Planning commission guidelines for formulating a project - Specimen of a project report.

UNIT – V PROJECT FINANCING

Source of finance for a project – Institutional finance supporting projects project evaluation - objectives - types - methods.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

Contemporary Developments related to this Course Demonstrate extemporaneous speaking skills developed through in - class discussion of text materials, case study analysis and current entrepreneurship – related issues

TEXTBOOKS:

1. C.B.GUPTA & SRINIVASAN, Entrepreneurial Development, Sultan Chand & Sons
2. GORDAN & NATARAJAN, Entrepreneurship Development, Himalaya Publishing House

REFERENCEBOOKS:

1. VASANTDESAI, Dynamics of Entrepreneurial Development, Himalaya Publishing House
2. S.S.KHANKA, Entrepreneurship Development S.Chand & Company Limited
3. JAYASHREESURESH, Entrepreneurial Development, Margham Publications

E-RESOURCES:

1. <https://www.investopedia.com/terms/e/entrepreneur.asp>
2. <https://www.economicsdiscussion.net/entrepreneurship/women-entrepreneurs-in-india/32337>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Critically evaluate and utilize relevant theories and concepts underpinning resolution of innovation management problems;	LO1
CO2	Demonstrate capacity for dealing with complex real world innovation problems, including through effective project management;	LO5
CO3	Evaluate a range of leadership skills critical for sustainable, responsible innovation problem solving and project implementation;	LO14
CO4	Demonstrate an advanced ability to create, implement and evaluate management consulting practices within a major work-based innovation project.	LO3
CO5	Analyze project financing options and apply appropriate project evaluation methods.	LO4
CO6	Understand business planning, opportunity identification, and management of new ventures	LO14

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H		M	H		H		H		M		M		M	L
CO2	M		M	H	M	H		H			H		L		M
CO3	L			M	L		L		L			L		H	L
CO4	M		L	H	H	H		H	L	M				M	H
CO5		L	H		L	M					H		L		
CO6	H		M	M		H	L	H		M		M		L	L
L – Low M- Medium H-High															

THIRD YEAR	SKILL ENHANCEMENT COURSE - 4	SEMESTER : V
CODE	RADIO COMMUNICATION	CREDITS : 2
	(THEORY)	

COURSE OBJECTIVES:

- To understand various aviation terminologies used in aviation telecommunication.
- Standard Universal Communication Procedures followed by different departments of Aviation.
- Understand different regulatory bodies responsible for Radio communication

UNIT – I REGULATION:

Duties of ITU, ICAO, AAI, WPC, ICAO Annexure, Spelling of Alphabets and Transmission of numerical, Aircraft Identification, Location Indicators, Flight Information Regions, Identification of Ground Services.

UNIT – II RADIOPROPAGATION:

- Relationship between wavelength, frequency and speed of light
- Frequency band and ranges
- Ionosphere layers during day and night
- Mode of Propagation MF, HF and VHF & above
- Operation of Geostationary Satellites
- Operation of Polar orbiting Satellites
- Diving
- Skip Distance
- Choice of Frequencies during Day & Night

UNIT – III PHRASEOLOGY:

Phraseology used in Aeronautical Communication Services, Abbreviations used in Aeronautical Communication Services.

- Distress
- Distress Relay
- Wrench
- Direction Finding
- Flight Safety
- Metrological
- Flight regulatory

UNIT – IV ‘Q’CODES:

‘Q’ Codes used in Aeronautical Communication Services, QNH, QFE, Height, Elevation, Altitude, Flight Level

UNIT – V COMMUNICATION:

Terminal Communication & En-route Communication, NOTAM and SNOWTAM, Need of Primary and Secondary Frequencies.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

(i) Practical Code words practice (ii) Two way communication practice (iii) Case Studies about Contingency Plan. (iv) Viva. (v) Examine sample NOTAMs/SNOWTAMs

TEXTBOOKS:

1. Radiotelephony, K.D. Tuli
2. Radiotelephony manual by R.K. Bali

REFERENCEBOOKS:

1. Air Regulation by R.K Bali
2. Aviation Communication by TAVLIN, Routledge

E-RESOURCE:

1. [https://www.ealts.com/documents/ICAO%20Doc%209432%20Manual%20of%20Radiotelephony%20\(4th%20ed.%202007\).pdf](https://www.ealts.com/documents/ICAO%20Doc%209432%20Manual%20of%20Radiotelephony%20(4th%20ed.%202007).pdf)
2. http://files.fpz.hr/Djelatnici/ifrancetic/Radiotelephony-communications-1-handbook.pdf?fbclid=IwAR0lkg3SbCL_Dr0RxtqFTGyCSsEq89LJL-4X1m3DxcgzGMSN17hMb4TQ7BU

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	To learn basic regulations of Radio communications.	LO1
CO2	To understand the basic knowledge of Radio waves and its Propagation.	LO6
CO3	To learn Phraseologies used in Aviation sector.	LO1
CO4	To learn about Aviation Code communications.	LO2
CO5	Perform practical communication exercises including code words, two-way communication, and NOTAM/SNOWTAM analysis.	LO8
	Understand communication procedures, frequency usage, and standard aviation phraseology.	LO2

COURSE ARTICULATION MATRIX (CAM) for defined Cos

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	H	M	H		H		H		M		M		M	L
CO2	L	M	M		M	M	M	H			H				
CO3	H	H		M	L	L		L	L	M		L	M		M
CO4	M	H	H			M	L	H	L					L	
CO5	L	L		H		M		M		L	H		L		
CO6	H	H	M	M	L	H	L	H		M			M		L

L – Low

M- Medium

H-High

THIRD YEAR	SKILL ENHANCEMENT COURSE - 4 PASSENGER FACILITATION	SEMESTER :V
CODE	(THEORY)	CREDITS:2

COURSE OBJECTIVES

1. To understand the concept and importance of passenger facilitation in aviation.
2. To learn procedures involved in passenger handling at airports.
3. To develop knowledge of customer service and communication skills.

UNIT – I INTRODUCTION TO PASSENGER FACILITATION:

Definition of passenger facilitation; Importance in aviation industry; Role of ground staff; Passenger journey at airport; Basic customer service principles; Passenger expectations and satisfaction.

UNIT – II PASSENGER HANDLING PROCEDURES:

Check-in procedures (manual and online); Boarding procedures; Ticket verification; Security check process; Immigration and customs (basic understanding); Departure and arrival procedures.

UNIT – III BAGGAGE HANDLING:

Types of baggage (checked-in, cabin); Baggage tagging; Handling procedures; Lost, delayed, and damaged baggage; Baggage claim process; Baggage rules and restrictions.

UNIT – IV SPECIAL PASSENGERS:

Handling passengers with disabilities; Elderly passengers; Unaccompanied minors (UMNR); VIP and VVIP passengers; Medical cases; Passenger assistance and care.

UNIT – V CUSTOMER SERVICE & COMMUNICATION:

Communication skills; Grooming and personality development; Dealing with difficult passengers; Complaint handling; Service quality standards; Professional behaviour at airport.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment Only):

Self check-in kiosks; E-boarding passes; Biometric systems; Passenger experience enhancement; Smart airport services; Future trends in passenger facilitation.

REFERENCE BOOKS

1. Airport Operations – Norman Ashford
2. Air Transportation – John G. Wensveen
3. IATA Passenger Handling Manual

E – RESOURCES

1. <https://www.iata.org/>
2. <https://www.icao.int/>
3. <https://www.aai.aero/>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand the concept, importance, and principles of passenger facilitation in the aviation industry.	LO1
CO2	Explain passenger handling procedures including check-in, boarding, security, and arrival processes	LO9
CO3	Demonstrate knowledge of baggage handling procedures, including tagging, tracking, and managing irregular baggage.	LO7
CO4	Apply appropriate techniques for handling special category passengers such as disabled passengers, elderly, UMNRS, and VIPs.	LO13
CO5	Understand regulations and safety in aviation logistics Develop effective communication skills and customer service strategies to handle passenger interactions and complaints professionally.	LO2
CO6	Evaluate modern trends and technologies such as self-check-in, biometrics, and smart airport systems in enhancing passenger experience.	LO14

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M	L		L	H	L		L		M			L	L
CO2	H	L		M			H		M	M			L	M	
CO3		M	L	L		L	L	H	H	H	L	L	M		L
CO4	H	L	L			L	H				M			L	M
CO5		M		M	L		L	L	L	M		L	M	M	
CO6	H	L	M	L	M		M	M	H		L		L		M

L – Low**M- Medium****H-High**

THIRD YEAR	CORE COURSE - 14 PRINCIPLES OF TRAVEL AND TOURISM OPERATION	SEMESTER :VI
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- To enable the students to learn the basics of Air travel and Tourism Aspects.
- The course also highlights the role of tourism as an economic intervention and its significance in economy.
- Course discusses the global nature of tourism and government support to it.

UNIT – I Introduction to Travel and Tourism

Travels and tourism – Principles – Scope and Operations – Perception of Travel world wide- Perception of Tourism world wide – India a tourist destination-Indian States, Capitals, Public holidays, Banks- Important Festivals and Tourist attractions-State Tourist Organizations- Important Travel Agents & Tour Operators

UNIT – II Global and Indian Tourism Overview

World Tourism – Important Countries / Capitals / Currencies / Exchange – World Tourism Attractions-Indian Tourism–Types–Transportation Commercial Aviation -Air Taxi Operations - Private Operation- Airport Handling Functions of IATA-ICAO - Aims and Objectives. -IATA Geography and Global indicators Travel Agent Management-Travel Partners -

UNIT – III Hospitality Management

Hotels and Star Ratings, Resorts, Boarding and Lodging houses – Rating Systems and Classifications - Hotel Products , Facilities, Services, Room types, Bedding Types, Meal Plans - Cancellations, Currency Fluctuations and Commission Policies IATA Approved Travel Agency - Appointment and Control -Bank guarantee.

UNIT – IV Aviation Industry and National Security

A National security asset: importance of Air transportation – Airways – Development of the - IATA Billing and Settlement Plan - Credit Period - Customer Service-Service Provider - Training and Development of Travel agent - GDS. Aviation industry – Deregulation – Consequences of 9/11 to the industry – Emergency Funding– Protecting Public Air transportation. Hijacking –Security Measures– International Prospective – Trend begins– Diplomatic Conference on Air Law – Ministerial Conference on Terrorism – Financing of Terrorism – United Nations – ICAO/ECAC

UNIT – V Aviation Terrorism and Hijacking History

Aircraft as Missiles: Early Hijackings – Terrorist Hijackings Spread – Initial Public response – Cockpit Doors – Profile of a Hijacker – Sky Marshal Program/Federal Air Marshal Program – History of Significant Air hijackings since 1972. Terrorism – Middle East – Rival Claims – Palestinian Liberation Organization – Abu Nidal – Hamas – Iranian Support of Terrorism – Hezbollah – Afghanistan: Osama Bin Laden – Europe – Japan – Peru – Russia – US – Domestic Terrorism – Nuclear Terrorism.

UNIT-VI CURRENT CONTOURS (Self-directed learning activities

for Continuous Internal Assessment Only):

(i) World Tourism Study (ii) Booking of Tickets (iii) On line reservation & Cancellation. (iv) Case studies about International Bookings.

TEXTBOOKS:

1. IATA Manual on Diploma in Travel & Tourism Management
2. ICAO Manuals

REFERENCEBOOKS:

1. An Introduction To Travel And Tourism Paperback – 1 January 2003 by Sushma Seth Bhat, Pran Nath Seth
2. TOURISM OPERATIONS AND MANAGEMENT – 25 March 2009
3. Airline Airport & Tourism Management by Dr. Sumeet Suseelan

E-RESOURCE:

<https://gacbe.ac.in/pdf/ematerial/18MTT12C-U1.pdf>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Appraise the positive and negative impacts of tourism destination development	LO1
CO2	Analyze a range of tourist needs and motivations to travel	LO13
CO3	Understand the functioning of IATA, ICAO, travel agencies, and airport handling operations	LO1
CO4	Analyze the impact of aviation security issues, including deregulation, hijacking, and terrorism.	LO2
CO5	Evaluate historical aviation hijackings and terrorism trends to understand preventive and protective measures..	LO3
CO6	Understand tour planning, ticketing, and customer service in the tourism industry.	LO7

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		H		M			H		H	H	L	L	
CO2	L		M		M		L	M		M		H	H		L
CO3	M	L		L		H	M		H	L	H	L	L	H	L
CO4	M	M	M		H	L		M			L		M		L
CO5	L	H	L	L		H	M	M		M		H	L	L	
CO6	H	M		M	M	M		L	L		H		M		M

L – Low

M- Medium

H-High

THIRD YEAR	CORE COURSE - 15 AIRLINEMARKETINGMANAGEMENT	SEMESTER :VI
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES

- To enable the students understand the principles of Marketing and the ways in which these principles can be applied in today's airline industry, the air transport market and its environment.
- Understand the scope, principles, norms, accountabilities and bounds of contemporary industry practice in the specific discipline
- Communicate in a variety of different ways to collaborate with other people, including accurate listening, reading and comprehension, based on dialogue when appropriate, taking into account the knowledge, expectations, requirements, interests, terminology and language of the intended audience

UNIT – I INTRODUCTION:

Marketing conceptual frame work - marketing environment - customer oriented organization-marketing interface with other functional are as marketing in a globalised environment Marketing Mix - Stages in the Application of Marketing Principles to Airline Management.

UNIT – II MARKET OF AIRTRAN SPORT SERVICES:

Customer- Definition - Apparent and True Needs - Industrial Buying Behaviour – Customer in the Business Air Travel Market-Customer in Leisure Air Travel Market - Customer in the Air Freight Market - Market Segmentation in Air Passenger & Air Freight Market - Marketing Environment - Theoretical Basis of PESTE Analysis - Building Customer Satisfaction.

UNIT – III PRODUCT ANALYSIS IN AIRLINE MARKETING:

Product-definition-Product Life Cycle-Product Life Cycles in Aviation Industry- Managing Product Portfolio – Balancing Risk and Opportunity – Fleet & Schedules related Product Features - Customer Service Related Product Features - Pricing Decisions - Building Blocks in the Airline Pricing Policy Uniform and Differential Pricing-Distribution Channel Strategies-Travel Agency Distribution System Global Distribution System - promotion methods. Advertisement and personal selling, public relations.

UNIT – IV MARKETING RESEARCH:

Types, process- tools and techniques - application of marketing research - product launching, demand estimation, advertising, brand preferences, customer satisfaction, retail stores image, customer perception, distribution, customer relationship, competitor analysis and related aspects - preparation of marketing research report - sample case studies.

UNIT – V INFORMATION TECHNOLOGY IMPACT ON MARKETING DECISIONS

Online marketing - web based marketing programmes - emerging new trends and challenges to marketers.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only)

(i) Practice to Build Marketing Concept Frame Work (ii) Discussion about Different Marketing Strategies (iii) Case Studies on Airline Marketing (iv) Practical on Online Marketing & Emerging new trends

TEXTBOOKS:

1. Stephen Shaw " Airline Marketing and Management" Ash gate Sixth Edition.
2. Philip Kotler : Marketing management, prentice hall of India P(ltd), New Delhi 2001.

REFERENCE BOOKS:

1. NAG, marketing successfully A professional perspective, macmillan 2001.
2. Boyd Walker, Marketing Management, Mc Graw Hill, 2002
3. Aakar Day , Kumar, Essential of Marketing Research

E-RESOURCE:

<https://silo.tips/download/airline-marketing-and-management>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Explain the fundamentals of marketing and its application in airline management.	LO1
CO2	Identify and analyze customer segments in business, leisure, and freight air transport markets.	LO7
CO3	Apply product management, pricing, and distribution strategies in airline marketing.	LO4
CO4	Conduct marketing research and prepare reports for decision-making in airline operations.	LO6
CO5	Evaluate promotional methods and develop integrated marketing communication strategies.	LO14
CO6	Understand the principles of airline marketing management, including market analysis, pricing strategies, promotion, and customer relationship development in the aviation industry.	LO15

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		H		M	H		H		H	H		L	
CO2	L		M	H	M	H	L	M		M			H		L
CO3		L		L		H	M		H		H	L	L	H	
CO4	M	M	M	H	H	L		M			L				L
CO5			L	L		H	M		L	M		H	L	L	
CO6	H	M		M	M	M		L	L		H		M		M

L – Low

M- Medium

H-High

THIRD YEAR	CORE COURSE - 16 AVIATION SECURITY	SEMESTER :VI
CODE	(THEORY)	CREDITS:4

COURSE OBJECTIVES:

- Train various terminologies and threats in aviation.
- Learn to screen and search the passengers and staffs.
- Study about the restricted articles and substances regarding aircraft.
- Know about the aircraft hijacking and different international conventions.
- Have good knowledge in situation of hostage negotiation and their role.
- Identification of baggage's with bombs

UNIT - I DEFENITIONS,OBJECTIVES AND THREATS

Aviation security and Airport security – Terminologies related to aviation security – Objectives of Aviation security – Nature of threats – Types / Characteristics of offenders.

UNIT – II SCREENING AND SEARCHING OF PASSENGERS AND STAFF:

Stages involved in inspection/screening process – Equipment's required for screening –X –ray examination of baggage – Physical inspection of baggage.

UNIT - III RESTRICTED ARTICLES AND SUBSTANCES:

Definition – Categories of restricted articles – Improvised explosive devices – Places of concealment of Explosives – Types of explosives detectors – Bomb threat – Threat to an airborne aircraft.

UNIT – IV AIRCRAFT HIJACKING AND INTERNATIONAL CONVENTIONS

Unlawful seizure of Aircraft (Hijacking) – Why is Civil aviation considered as an attractive target? Where can the threats come from? – Historical review of the past incidents – Dealing with the hijacking situation onboard – Tokyo convention Hague convention – Montreal convention.

UNIT - V HOSTAGE NEGOTIATION:

Hostage situation – Hostage situation move through several distinct phases – Hostage takers – The negotiator arrives on the scene – Negotiator objectives and tactics – Making a deal with the hostage taker – Role of Cabin crew in hostage situation.

UNIT – VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only)

1. Case Study on Aviation Security Threats
2. Hostage Negotiation Role Play
3. Regulatory Study Assignment

REFERENCEBOOKS:

1. R.K.Bali–Regulation
2. Kathleen M.Sweet – Aviation and airport security
3. ICAOAnnex17

E – RESOURCES

- 1.<http://blog.safe-passage.com/emerging-threats-to-aviation-security>
- 2.https://en.wikipedia.org/wiki/Improvised_explosive_device
- 3.<https://www.futuretravelexperience.com/2016/08/new-technologies-strive-to-enhance-airport-security/>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Define the terms related to aviation security	LO1
CO2	Identify the process and equipment required for screening	LO6
CO3	Identify restricted articles, explosives, and methods of detection.	LO8
CO4	Determine the threat level for aviation and convention related to safeguarding aviation	LO13
CO5	Summarize hostage negotiation plan	LO14
CO6	Understand threat identification, screening procedures, and security regulations to ensure safe air travel	LO9

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		H		M			H		H	H	L	L	
CO2	L		M		M	M	L	M	L	M		H	H		L
CO3	M	L		L		H	M		H	L	H	L	L	H	L
CO4	M	M	M		H	L		M	L		L		M		L
CO5	L		L	L		M	M	M		M		H	L	L	
CO6	H	M		M	M	M		L	L		H		M	M	M

L – Low

M- Medium

H-High

THIRD YEAR	SKILL ENHANCEMENT COURSE - 6 TRAVEL AGENCY OPERATION	SEMESTER:VI
CODE	(THEORY)	CREDITS:2

The candidate shall be required to take up a Project Work by group *or individual* and submit it at the end of the final year. The Head of the Department shall assign the Guide who, in turn, will suggest the Project Work to the students in the beginning of the final year. A copy of the Project Report will be submitted to the University through the Head of the Department on or before the date fixed by the University.

The Project will be evaluated by an internal and an external examiner nominated by the University. The candidate concerned will have to defend his/her Project through a Viva-voce.

ASSESSMENT/EVALUATION/VIVA VOCE:

1	PROJECT REPORT EVALUATION (Both Internal & External)		
	I	Plan of the Project	20 marks
	II	Execution of the Plan/collection of 45 marks Data/Organisation of Materials/ Hypothesis, Testing etc and presentation of the report	45 marks
	III	Individual initiative	15 marks
2		Viva-voce/Internal & External	20 marks
		Total	100 marks

PASSING MINIMUM:

Project	Vivo –Voce 20 Marks 40% out of 20 Marks (i.e. 8 Marks)	Dissertation 80 Marks 40% out of 80 marks (i.e. 32 marks)
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A candidate who gets less than 40% in the Project must resubmit the Project Report. Such candidates need to defend their submitted Project at the Viva-voce within a month. A maximum of 2 chances will be given to the candidate.

THIRD YEAR	SKILL ENHANCEMENT COURSE - 6 TRAVEL AGENCY OPERATION	SEMESTER:VI
CODE	(THEORY)	CREDITS:2

COURSE OBJECTIVES:

- The nature and types of business organizations – Principles & functions of Management
- Process of decision making
- Advanced level of theoretical and applied knowledge in subjects concerning with the business of Travel Agency and tour operator.

UNIT - I TRAVEL AGENTS AND AVIATION ASSOCIATIONS

Travel agent – Formation – Role and Responsibilities - Travel Agents Body in India – TAAI - Travel Agent and the Airline - Commercial Aviation - Air Taxi Operations - Private Operation - Airport Handling Functions of IATA-ICAO – Aims and Objectives. IATA Geography and Global indicators

UNIT - II TOUR OPERATORS

Tour Operators Role and Responsibilities – Planning Tours and Preparation of Tour Brochures - Operating Conditions for Tour packages and Legal position in case of non compliance and other reasons -Pricing of Tour packages

UNIT – III AIRLINE OPERATIONAL MANAGEMENT

Airline Operational Management – Domestic – International Departure Formalities, - Security Check - In. Hand Baggage Screening – Personal Frisking –Boarding the Plane ,Ground Announcements - Handling of Delayed Flight

UNIT – IV TOURISM MANAGEMENT

Tourism Management – Domestic and International Tourism – Discover India - Government Regulations on Tourism Management - Exploring new Destinations - Foreign Currency Earner - Disruptive Flights - Ramp Handling & Ramp Safety - Procedure

UNIT – V AVIATION INDUSTRY OPERATIONS AND DOCUMENTATION

Aviation Industries terminologies – OAG - Pooling of baggage and Allowances - Weight and piece concept - Legal liability for Passengers and Baggage - Checked and Unchecked International travel documentation- Passports–Visas- Health documentation- Airline Tickets Airlines Terminal Management

UNIT - VI CURRENT CONTOURS (Self-directed learning activities for Continuous Internal Assessment Only):

(i) Travel Agency Visit (ii) Domestic and International Departure formalities Practice
(iii) Case Studies on Foreign Currency Conversion (iv) Tour Brochures and Package Preparation & Calculation Practical.

TEXTBOOKS

- Travel Agency and Tour Operations Management – Dr. K. K. Sharma
- Tourism Operations and Management – A. K. Bhatia

REFERENCEBOOKS

- IATA: Airport and Airline Operations – IATA Publications
- Airline Airport & Tourism Management by Dr. Sumeet Suseelan

E-REFERENCE

<http://teamslive.com/DOWNLOADS/Bharathiar%20University%20Study%20Materials/UG/BBA%20Airline%20&%20Airport%20Management/Third%20Year/Travel%20Agency%20Operations.pdf>

COURSEOUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Categories of tour operators	LO1
CO2	Preparation of holiday packages and Brochure	LO1
CO3	Understand airline operational management including passenger processing, security, and boarding procedures.	LO13
CO4	Managing time and tasks and clarifying personal values	LO4
CO5	Demonstrate understanding of aviation industry operations, baggage handling, and international travel documentation requirements.	LO7
CO6	Analyze customer service and marketing in travel agencies	LO2

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		L		H			M		M				H
CO2	L		L	H			M		L				M	H	
CO3	H	M		L		L		H		M		H		M	H
CO4	L			H	M	L		M	L		L	L	M	L	H
CO5	H	M		M		H		L		H		M	L		
CO6		M	L	L				L		L			M	H	M

L – Low

M- Medium

H-High

THIRD YEAR	SKILL ENHANCEMENT COURSE – 7 PLANNING AND CREW SCHEDULING	SEMESTER:VI
CODE	(THEORY)	CREDITS:2

COURSE OBJECTIVES

1. To understand the fundamentals of airline planning and scheduling.
2. To learn the principles of crew scheduling and rostering.
3. To develop knowledge of flight planning and time management.

UNIT – I INTRODUCTION TO PLANNING

Definition of planning; Importance in aviation; Types of planning (strategic, tactical, operational); Airline planning process; Route planning basics; Flight scheduling concepts.

UNIT – II FLIGHT SCHEDULING

Types of flight schedules; Timetable preparation; Slot allocation; Factors affecting scheduling (weather, demand, aircraft availability); Turnaround time; Hub and spoke system.

UNIT – III CREW SCHEDULING & ROSTERING

Introduction to crew scheduling; Crew pairing; Rostering principles; Duty allocation; Shift planning; Crew utilization; Challenges in crew scheduling.

UNIT – IV REGULATIONS & CREW MANAGEMENT

Flight duty time limitations (FDTL); Rest requirements; Role of aviation authorities; Compliance with safety regulations; Crew fatigue management; Documentation and record keeping.

UNIT – V COORDINATION & OPERATIONS CONTROL

Role of Operations Control Center (OCC); Coordination between flight operations, ground staff, and maintenance; Handling delays and disruptions; Contingency planning; Decision-making in operations.

UNIT – VI CURRENT CONTOURS (For Continuous Internal Assessment Only)

Automation in scheduling; Use of software in crew management; Artificial Intelligence in planning; Real-time scheduling systems; Case studies of airline operations; Future trends in airline planning.

REFERENCE BOOKS

1. Airline Operations and Scheduling – Massoud Bazargan
2. Air Transportation – John G. Wensveen
3. IATA Scheduling Guidelines

E – REFERENCES:

1. <https://www.iata.org/>
2. <https://www.icao.int/>
3. <https://www.skybrary.aero/>

COURSE OUTCOMES:

At the end of the course, the students will have the ability to		
CO1	Understand airline planning concepts	LO1
CO2	Explain flight scheduling procedures	LO4
CO3	Understand crew scheduling and rostering	LO10
CO4	Analyze regulations related to crew management	LO6
CO5	Understand coordination in airline operations	LO14
CO6	Understand current trends in planning and scheduling	LO6

COURSE ARTICULATION MATRIX (CAM) for defined COs

CO	Program Outcomes														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CO1	H	M		L		H			M	L	M			H	H
CO2	L		L	M		H	M			M		M		M	
CO3	H	M		L		L	M	H		M		H	L	H	H
CO4	L			H	M	L		M	L		L	L		L	H
CO5	H	M		H		H				H	M	M		H	
CO6		M	L	L		M		L		L			M	M	M

L – Low

M- Medium

H-High