



## 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 2022-2023 onwards)

Sem.	Part	Courses	Title	Ins. Hrs.	Credits	Exam. Hours	Maximum Marks			
							Int.	Ext.	Total	
I	I	Language Course – 1 (Tamil \$/OtherLanguages +#)		6	3	3	25	75	100	
	II	English Course-I		6	3	3	25	75	100	
	III	Core Course – I (CC)	Introduction to Airport Management	6	5	3	25	75	100	
		Core Course-II (CC)	Business Management	6	5	3	25	75	100	
		First Allied Course-I (AC)	Introduction to Accounting	4	3	3	25	75	100	
	IV	Value Education	Value Education	2	2	3	25	75	100	
			<b>Total</b>		<b>30</b>	<b>21</b>			<b>600</b>	
II	I	Language Course - II (Tamil \$/Other Languages +#)		6	3	3	25	75	100	
	II	<b>English Course-II</b>		<b>4</b>	<b>3</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	
	III	Core Course – III (CC)	Organisational Behaviour	6	5	3	25	75	100	
		Core Course-IV (CC)	Airport Ground handling Management	6	5	3	25	75	100	
		First Allied Course-II (AC)	Flight Operations Management	4	3	3	25	75	100	
			<b>Add on Course- I ##</b>	<b>Professional English- I</b>	<b>6 *</b>	<b>4</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>
	IV	Environmental Studies	Environmental Studies	2	2	3	25	75	100	
	VI	<b>Naan Mudhalvan Scheme (NMS) @@</b>	<b>Language Proficiency for Employability - Effective English</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	
		<b>Total</b>		<b>30 +6 *</b>	<b>27</b>			<b>800</b>		

III	I	Language Course - III (Tamil \$/Other Languages +#)		6	3	3	25	75	100
	II	English Course-III		6	3	3	25	75	100
	III	Core Course – V (CC)	Radio Communication	6	5	3	25	75	100
		Core Course-VI (CC)	Air Regulation and Air Traffic Management	6	5	3	25	75	100
		Second Allied Course-I (AC)	General Air Navigation Management	4	3	3	25	75	100
		<b>Add on Course- II ##</b>	<b>Professional English- II</b>	<b>6*</b>	<b>4</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>
IV	@ Non-Major Elective Course- I	1. Introduction to Airports (or) 2. Introduction to airline	2	2	3	25	75	100	
		Those who choose Tamil in Part -I can choose a non-major elective course offered by other departments.  Those who do not choose Tamil in Part- I must choose either a) Basic Tamil if Tamil language was not studied in school level (or ) b) Special Tamil if Tamil language was studied upto 10 <sup>th</sup> & 12 <sup>th</sup> std.							
			<b>Total</b>	<b>30</b>	<b>23</b>				<b>700</b>
IV	I	Language Course -IV ( Tamil \$/Other Languages +#)		6	3	3	25	75	100
	II	English Course-IV		6	3	3	25	75	100
	III	Core Course – VII (CC)	Dangerous Goods and Cargo Management	6	5	3	25	75	100
		Core Course-VIII (CC)	PC Software (MS Office)	6	5	3	25	75	100
		Second Allied Course-II (AC)	Aviation Meteorology	4	3	3	25	75	100
	IV	@ Non Major Elective Course-II (NME)	1. Aviation Logistics and Cargo. (or) 2. Air Safety Regulation	2	2	3	25	75	100
			Those who choose Tamil in Part-I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part-I must choose either a) Basic Tamil if Tamil language was not studied in school level or Special Tamil if Tamil Language was studied upto 10 <sup>th</sup> & 12 <sup>th</sup> Std.						
VI	<b>Naan Mudhalvan Scheme (NMS) @@</b>	<b>Digital Skills for Employability - Microsoft</b>	-	<b>2</b>	<b>3</b>	<b>25</b>	<b>75</b>	<b>100</b>	
			<b>Total</b>	<b>30</b>	<b>23</b>				<b>700</b>

V	III	Core Course-IX (CC)	Air Hostess and Hospitality Management	5	5	3	25	75	100
		Core Course-X (CC)	Air Safety and Security Services	5	5	3	25	75	100
		Core Course-XI (CC)	Customer Service Management	5	5	3	25	75	100
		Core Course-XII (CC)	Air Craft Maintenance and Crew Management	5	5	3	25	75	100
		Major Based Elective Course-I (MBE)	1. Aircraft Search and Rescue Management (or) 2. Aviation Law	5	5	3	25	75	100
	IV	Skill Based Elective Course-I	Airport Infrastructure Management	3	2	3	25	75	100
		Soft Skills Development	Soft Skills Development	2	2	3	25	75	100
		<b>Total</b>	<b>30</b>	<b>29</b>				<b>700</b>	
VI	III	Core Course- XIII (CC)	Entrepreneurship Management	5	5	3	25	75	100
		Core Course –XIV (CC)	Principles of Travel and Tourism Operations	6	5	3	25	75	100
		Core Course-XV (CC)	Airline Marketing Management	6	5	3	25	75	100
		Major Based Elective Course-II (MBE)	1. Air Passenger Handling and Ramp services (or) 2. Travel Agency Operation	5	5	3	25	75	100
		Project	Project	4	3		20	80	100
	IV	Skill Based Elective Course-II	Customer Relationship Management	3	2	3	25	75	100
	V	Gender Studies	Gender Studies	1	1	3	25	75	100
		Extension Activities	Extension Activities	--	1	--	--	--	--
	VI	<b>Naan Mudhalvan Scheme (NMS) @@</b>	Digital Banking, Logistics and Audit Essentials for employability	-	2	3	25	75	100
			<b>Total</b>	<b>30</b>	<b>27</b>		<b>150</b>	<b>450</b>	<b>700</b>
		<b>Grand Total</b>	<b>192</b>	<b>154</b>				<b>4300</b>	

- \$ For those who studied Tamil upto 10<sup>th</sup> +2 (Regular Stream)  
+ Syllabus for other Languages should be on par with Tamil at degree level  
# Those who studied Tamil upto 10<sup>th</sup> +2 but opt for other languages in degree level under Part- I should study special Tamil in Part -IV  
## The Professional English – Four Streams Course is offered in the 2<sup>nd</sup> and 3<sup>rd</sup> Semester (only for 2022-2023 Batch) in all UG Courses. It will be taught apart from the Existing hours of teaching/ additional hours of teaching (1 hour /day) as a 4 credit

paper as an add on course on par with Major Paper and completion of the paper is must to continue his/her studies further. (As per G.O. No. 76, Higher Education (K2) Department dated: 18.07.2020)

\* The Extra 6 hrs/cycle as per the G.O. 76/2020 will be utilized for the Add on Professional English Course.

@ NCC Course is one of the Choices in Non-Major Elective Course. Only the NCC cadets are eligible to choose this course. However, NCC Course is not a Compulsory Course for the NCC Cadets.

\*\* Extension Activities shall be outside instruction hours.

@@ Naan Mudhalvan Scheme: As per Naan Mudhalvan Scheme instruction

### SUMMARY OF CURRICULUM STRUCTURE OF UG PROGRAMMES – MANAGEMENT

Sl. No.	Part	Types of the Courses	No. of Courses	No. of Credits	Marks
1.	I	Language Courses	4	12	400
2.	II	English Courses	4	12	400
3.	III	Core Courses	15	75	1500
4.		Allied Courses - I & II	4	12	400
5.		Major Based Elective Courses	2	10	200
6.		<b>Professional English</b>	<b>2</b>	<b>8</b>	<b>200</b>
7.		Project	1	3	100
8.	IV	Non Major Elective Courses	2	4	200
9.		Skill Based Elective Courses	2	4	200
10.		Soft Skills Development	1	2	100
11.		Value Education	1	2	100
12.		Environmental Science	1	2	100
13.	V	Gender Studies	1	1	100
14.		Extension Activities	1	1	---
15.	VI	<b>Naan Mudhalvan Scheme (For All Arts Programmes Except Economics)</b>	<b>3</b>	<b>6</b>	<b>300</b>
<b>Total</b>			<b>44</b>	<b>154</b>	<b>4300</b>

### **PROGRAMME OBJECTIVES:**

- The BBA Aviation programme aims to produce skilled professional for the Aviation sector and allied fields of travel and tourism
- It Provided the necessary training to lead teams and manage them with tasks of air transportation, airport operations, passenger forecasting, etc...

### **PROGRAMME OUTCOMES:**

On Completion of this course, the graduate will be able to :

- Take up a career of learning to fly new aircraft and operate new equipments and have positive habits on to maintain high levels of professionalism .
- Pursue higher education programme like MBA in Aviation Management and Doctorate in logistics management .
- Take-up the roles of aviation planner, senior staff analyst for airlines, operations analyst for airlines, financial analyst for airlines, cabin crew and Ticketing management.
- Make decisions and actions that impact their passengers, people on the ground, airport security and public perception of the aviation industry.
- Exhibit communication skills apart from leadership and organizational skills which are important in the aviation industry.

**First Year**

**CORE COURSE-I  
INTRODUCTION TO AIRPORT  
MANAGEMENT  
(Theory)**

**Semester-I**

**Code:**

**Credit: 5**

**OBJECTIVE:**

- To acquire basic understanding of the layout of an Airport; its buildings, facilities, installations and their functioning.
- Understand the basic about the markings and signage within an airport and their meaning
- Classify the different organization works together for safe conduct of flight

**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 IMPORTANT ORGANIZATIONS:**

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

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

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Airport Visit, (ii) Internship, (iii) Flight Dispatch (iv) Case Studies about ATC.

**TEXT BOOK:**

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

**REFERENCE BOOK:**

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

**E- REFERENCE:**

1. <https://www.google.com/url?sa=t&source=web&rct=j&url=https://catsr.vse.gmu.edu/SYST460/IntroAirportsWorkbook.pdf&ved=2ahUKEwivm7-ihb74AhVJt1YBHbpOA-MQFnoECAOQAQ&usg=AOvVaw0jfVZoueHvonyoUnSNV9wl>

**COURSE OUTCOMES**

- Understand about aviation history and terminologies
- Have good idea about buildings and installation.
- Study the importance of Air Traffic Control.
- Understand about various Organisations in aviation.
- Explain the basic about RADAR principle

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**First Year**

**CORE COURSE-II  
BUSINESS MANAGEMENT**

**Semester-I**

**Code:**

**(Theory)**

**Credit: 5**

**OBJECTIVES:**

- On successful completion of this course, the students should understand the basic concepts..
- Understand basics about a business organization and its various forms
- Understand the nature and principles and functions of management process

**UNIT-I:**

Business - Meaning - Business and profession, requirements of a successful business - Organisation - meaning - importance of business organisation. Forms of business Organisation -Sole traders, partnership, Joint Hindu family firm - Joint Stock Companies – Cooperative Organisations – Public Utilities and Public Enterprises.

**UNIT-II:**

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

**UNIT-III:**

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:**

Organising: Types of organisation –Organisational structure - span of control - use of staff units and committees. Delegation: Delegation and Centralisation - Line and Staff relationship Staffing: Sources of recruitment-Selection process-training.

**UNIT- V:**

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 (For Continuous Internal Assessment Only):**

The students will get an opportunity to examine and apply appropriate theories / concepts about managing the business effectively.

### **TEXT BOOKS:**

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

### **REFERENCE BOOKS:**

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:**

- Discuss and communicate the management evolution and how it will affect future managers.
- Observe and evaluate the influence of historical force on the current practice of management.
- Identify and evaluate social responsibility and ethical issues involved business situation and logically articulate own position on such issues
- Explain how organization adapts to an uncertain environment and identify techniques managers use to influence and control the present scenario.
- Practice the process of management functions.

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**First Year**

**FIRST ALLIED COURSE-I  
INTRODUCTION TO ACCOUNTING**

**Semester-I**

**Code:**

**(Theory)**

**Credit: 3**

**OBJECTIVES:**

- Explain the concept and role of accounting and financial reporting.
- Explain the regulatory framework for the operation of accounting activities.
- Understanding of basic accounting concepts, principles and techniques of posting the transactions.

**UNIT– I:**

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

**UNIT-III:**

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

**UNIT-IV:**

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

**UNIT-V:**

Preparation of accounts from incomplete records.

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

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

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

**TEXT BOOKS:**

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:**

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, Sultan chand & Sons, New Delhi.

**E - RESOURCES:**

1. [https://www.tutorialspoint.com/financial\\_accounting/financial\\_nontrading\\_accounts.htm](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:**

- The students should have understood The basic accounting concepts Double entry book keeping system and various books of accounts Preparation of final accounts
- The students develop conceptual understanding of the basic accounts system through book-keeping mechanism and to prepare financial statement
- The student will be able to recollect the meaning of various accounting concepts and prepare Ledgers, Trial Balance, and Balance Sheets.
- Recognize circumstances providing for increased exposure to errors and frauds.
- To make the students to acquire the skill to prepare the trial balance and final accounts.

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**First Year**  
**Code:**

**CORE COURSE-III**  
**ORGANISATIONAL BEHAVIOUR**  
**(Theory)**

**Semester-II**  
**Credit: 5**

**OBJECTIVES:**

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

**UNIT-I:**

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

**UNIT– II:**

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

**UNIT-III:**

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

**UNIT– IV:**

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-types-theories - Trait, Managerial Grid, Fiedler's contingency – Organisational culture, Organisational change- organisational effectiveness – Organisational development - Counselling and guidance Importance of counsellor- Types of counselling – Merits of counselling.

## **UNIT - VI      CURRENT CONTOURS (For Continuous Internal Assessment Only):**

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

### **TEXT BOOKS:**

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

### **REFERENCES BOOKS:**

1. Elements of Organizational Behaviour – S.S. KHANKA, 2006 Edition, S.Chand & Company Ltd.
2. Organizational Behaviour – Gupta CB, 2014, S.Chand
3. Organizational Behaviour - K.ASWATHAPPA, 12<sup>th</sup> Edition, Himalaya Publishing House

### **COURSE OUTCOMES:**

- Analyze the behavior of individuals and groups in organizations in terms of the key factors that influence organizational behavior.
- Assess the potential effects of organizational-level factors (such as structure, culture and change) on organizational behavior.
- Critically evaluate the potential effects of important developments in the external environment (such as globalization and advances in technology) on organizational behavior.
- Analyze organizational behavioral issues in the context of organizational behavior theories, models and concepts.

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**First Year**

**CORE COURSE-IV  
AIRPORT GROUND HANDLING  
MANAGEMENT**

**Semester-II**

**Code:**

**(Theory)**

**Credit: 5**

**OBJECTIVES:**

- Have good knowledge about the arrival and departure services, transfer counters, customer service counters and airline lounge.
- Train students to handle different phenomenon like parking, towing, lavatory, luggage handling, refuelling etc.,
- Learn about cargo terms and 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 – Refuelling - 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 SECURITY CHECK & RESTRICTED ARTICLES AND 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.

**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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Group Discussion (ii) Case Studies (iii) Ramp Visit (iv) Air Safety in Airport.

**TEXT BOOKS:**

1. Oxford – General Navigation
2. RK Bali – Air Regulations

**REFERENCE BOOK:**

1. DGCA CAR Section 7
2. ICAO Annex 14
3. Aviation Management by Arijit Das - 1<sup>st</sup> January 2021

**E- REFERENCE:**

1. [https://s3.amazonaws.com/training.iata.org/Ground\\_Operations\\_Management\\_3rdEdition\\_2015\\_TALP-52.pdf](https://s3.amazonaws.com/training.iata.org/Ground_Operations_Management_3rdEdition_2015_TALP-52.pdf)

**COURSE OUTCOME:**

- Acquire sufficient knowledge about the arrival and departure services, transfer counters, customer service counters and airline lounge.
- Be able to handle different phenomenon like parking, towing, lavatory, luggage handling, refuelling etc.,
- Have good knowledge about cargo terms and procedures. Adequate understanding of security check in
- Be able to understand the terminal building operations line BMA, BBA etc.,
- Learn about different safety procedures to be followed in aviation.

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**First Year**

**FIRST ALLIED COURSE-II  
FLIGHT OPERATIONS MANAGEMENT**

**Semester-II**

**Code:**

**(Theory)**

**Credit: 3**

**OBJECTIVES:**

- Familiarise the student about flight operations officer, company structure and flight operational process.
- To know about the various duties and responsibilities of flight operations officer.
- Learn about the aircraft performance.

**UNIT-I FLIGHT OPERATIONS OFFICER:**

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

**UNIT – II TAKEOFF & LANDING:**

Take off performance and Limitations - Take off distance available - Take off run available - Accelerated stop distance available - Take off 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:**

Aerodynamic 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.

**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 DISPATCH RESOURCE MANAGEMENT:**

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

## **UNIT - VI      CURRENT CONTOURS (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Operation Department Visit (ii) Case Studies about Dispatch of flight (iii) Log Book Entry Practice (iv) Filing of Flight Plan.

### **TEXT BOOK:**

1. R.K. Bali – Regulation
2. Groud studies for pilots - flight planning

### **REFERENCE BOOK:**

1. Oxford - Flight performance and planning
2. Oxford – Aircraft General Knowledge
3. Oxford – Flight performance and planning

### **E- REFERENCE:**

1. <https://www.rainierflightservice.com/businessdocs/flight-operations-manual.pdf>

### **COURSE OUTCOME:**

- Understand the basic roles and responsibilities of flight operations officer.
- Recognize duties of flight operations officer
- Understand about the aircraft performance.
- Perceive the idea of take-off and landing of aircraft.

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**First Year**

**CORE COURSE-V  
RADIO COMMUNICATION**

**Semester-III**

**Code:**

**(Theory)**

**Credit: 5**

**OBJECTIVE:**

- 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 RADIO PROPAGATION:**

- a. Relationship between wavelength, frequency and speed of light
- b. Frequency bands and ranges
- c. Ionosphere layers during day and night
- d. Mode of Propagation MF, HF and VHF & above
- e. Operation of Geostationary Satellites
- f. Operation of Polar orbiting Satellites
- g. Diving
- h. Skip Distance
- i. Choice of Frequencies during Day & Night

**UNIT -III PHRASEOLOGY:**

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

- (a) Distress
- (b) Distress Relay
- (c) Wrench
- (d) Direction Finding
- (e) Flight Safety
- (f) Metrological
- (g) 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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Practical Code words practice (ii) Two way communication practice (iii) Case Studies about Contingency Plan. (iv) Viva.

#### **TEXT BOOKS:**

1. Radio telephony, K.D. Tuli
2. Radio telephony manual by R.K. Bali

#### **REFERENCE BOOK:**

1. Air Regulation by R.K Bali
2. Radio telephony for everyone; The wireless
3. Aviation Communication by TAVLIN, Routledge

#### **E- REFERENCE:**

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-4X1m3DxegzGMSN17hMb4TQ7BU](http://files.fpz.hr/Djelatnici/ifrancetic/Radiotelephony-communications-1-handbook.pdf?fbclid=IwAR0lkg3SbCL_Dr0RxtqFTGyCSsEq89LJL-4X1m3DxegzGMSN17hMb4TQ7BU)

#### **COURSE OUTCOME:**

- To learn basic regulations of Radio communications.
- To understand the basic knowledge of Radio waves and its Propagation.
- To learn Phraseologies used in Aviation sector.
- To learn about Aviation Code communications.
- To understand the Notices to Airmen.

Second year

**CORE COURSE-VI  
AIR REGULATION AND AIR TRAFFIC  
MANAGEMENT  
(Theory)**

Semester-III

Code

Credit-5

**OBJECTIVES:**

- Know about the various Air Laws.
- 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 AIR TRAFFIC MANAGEMENT:**

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

**UNIT-IV 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-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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned. **Practical:** (i) ATC visit (ii) Different Signals sign practice (iii) Case studies about Air Laws (iv) Internship.

**TEXT BOOK:**

1. Understanding Air Traffic Control by DieudonneNdayizera
2. R.K.Bali – Air Regulations

## REFERENCE BOOK:

1. ICAO Annex 11
2. A Study About Aviation Paperback by Rishiraj Singh Rathore – 18 August 2021
3. Indian Aviation Act 1934 by Ministry of Civil Aviation, Govt. of India

## E- REFERENCE:

1. <https://apcae.files.wordpress.com/2009/05/doc-4444.pdf>
- a. [https://www.researchgate.net/publication/356715116\\_DOMESTIC\\_AIR\\_LAWS\\_IN\\_INDIA](https://www.researchgate.net/publication/356715116_DOMESTIC_AIR_LAWS_IN_INDIA)

## COURSE OUTCOME:

- Gain knowledge about the various Air Laws.
- Know the important documents and operations manual required.
- Learn about air traffic control and its services.
- Have clear idea about air traffic management.
- Gain knowledge how Air Traffic are managed.

**Second year**

**SECOND ALLIED COURSE-I  
GENERAL AIR NAVIGATION  
MANAGEMENT  
(Theory)**

**Semester-III**

**Code**

**Credit-3**

**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 maps and chart
- To learn the calculations to be made before, during and after every flight.

**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, Convergency, Grid Direction and Grivation, 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 Solutions on the Navigation Computer, Finding the wind Velocity at a 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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned. **Practical:**  
(i) Practice on Slide Rules, (ii) Navigation computer, (iii) Case studies on Flight Levels, (iv) Calculation of Fuel requirements practice.

### **TEXT BOOK:**

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

### **REFERENCE BOOKS:**

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

### **E- REFERENCE:**

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>

### **COURSE OUTCOME:**

- Understand the basic composition and arrangements of layers of earth's atmosphere
- To familiarize with the heating of earth's surface and atmosphere
- To understand the influencing factors of density and how it affects the performance of aircraft
- To understand the basic flow pattern of winds
- To understand the importance of visibility in aviation and factors which affects

Second year

**NON MAJOR ELECTIVE COURSE-I**  
**1. INTRODUCTION TO AIRPORTS**  
**(Theory)**

Semester-III

Code

Credit-2

**OBJECTIVE:-**

- To Introduce to the history of Airports
- students will be able to obtain the basic knowledge of airport planning and management
- develop technical skills for managing airport

**UNIT-I:**

History and Evolution of Airports. Airports and Aerodromes-Major Differences-Operational and Commercial activities

**UNIT-II:**

Classification of Airports-Military-Civil-Domestic-International-Cargo Airports-Private

Airports **UNIT-III:**

Airports Infra Structures-Runway-Taxiway-Apron-Control Tower-Fire and Rescue-Radar

**UNIT-IV:**

Airport Organisation Chart-Corporate Office-Administration-Human Resource-Finance-Engineering Public Relation

**UNIT-V:**

Airport Economics – Airport Revenue – Airport Expenditure.

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

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Airport Visit (ii) Internship (iii) Case studies on Airport Planning (iv) Planning of small, medium, large Airport Practical Knowledge.

**TEXT BOOK:**

1. Air Regulations by R. K. Bali
2. Civil Aviation Requirements Section-4, Aerodrome Standards; Air Traffic Services.

**REFERENCE BOOK:**

1. Airport Planning and Management– 16 May 2011 by Alexander Wells, Seth Young
2. Airport Systems: Planning, Design, And Management 1st Edition by Richard de Neufville ,Amedeo Odoni
3. Airport Operations, Third Edition Hardcover – 1 Dec 2012 by Norman J Ashford, Pierre Coutu, John R. Beasley

**E- REFERENCE:**

1. <https://catsr.vse.gmu.edu/SYST460/IntroAirportsWorkbook.pdf>

**COURSE OUTCOME:**

- Basic knowledge of Airports and Aerodromes.
- To learn all Signals, Markings and Lightings.
- To understand the basic knowledge of Navigational aids.
- To learn the basic knowledge of Aeronautical Information Publication.
- To understand International Aviation Organization.

Second year

NON MAJOR ELECTIVE COURSE-I

Semester-III

Code

2. INTRODUCTION TO AIRLINE  
(Theory)

Credit-2

**OBJECTIVES:**

- Explain roles, functional components, and competitive strategies of major US airlines, regional carriers and cargo operators.
- Identify roles and functions of airline ground, flight, maintenance, and management departments.
- Evaluate the impact of irregular operations (IrOps) on the national air transportation system

**UNIT-I:**

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

**UNIT-II:**

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

**UNIT-III:**

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

**UNIT-IV:**

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

**UNIT-V:**

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

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

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Visit to Airport Checking Counter (ii) Case Studies about ticketing (iii) Practice of Check-in (iv) Allocation of seating arrangement.

**TEXT BOOKS:**

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

**REFERENCE BOOK:**

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 EdissaUwayo
3. Airline Operations And Management A Management Textbook by Gerald N. Cook, Bruce G Billig

**E- REFERENCE:**

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

**COURSE OUTCOME:**

- Understand about the commercial foundation of the airline industry
- Apply key trends in today's industry environment, including: economic, political, demand and supply, revenue and cost
- Analyze the airline market and understand how to achieve profitability
- Understand how successful airline executives develop broad strategic plans using real-life examples
- Understand how leaders are developed and the tools they use to measure and improve performance

Second year

**CORE COURSE – VII  
DANGEROUS GOODS AND CARGO  
MANAGEMENT  
(Theory)**

Semester-IV

Code

Credit-5

**OBJECTIVES:**

- Understand the ICAO requirements, government of India requirements and Aircraft Act 1934, the Aircraft Rules 2003.
- Have basic understanding about the definitions on dangerous goods.
- Acquire good knowledge in divisions in 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–OperationsandIndustryRegulations–ServiceFunction,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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned. **Practical:** (i) Group Discussion about different types of Dangerous Goods (ii) Case Studies fire (iii) Cargo Loading (iv) Cargo Visit.

**TEXT BOOK:**

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

**REFERENCE BOOK:**

1. Annex 19
2. Oxford – Air Law
3. John F Magee & William C Copalino, — Modern Logistics Managementl, John Wiley & Sons

**E- REFERENCE:**

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>

**COURSE OUTCOME:**

- Learn the ICAO requirements, government of India requirements and Aircraft Act 1934, the aircraft Rules 2003.
- Understand about the various definitions regarding dangerous goods.
- Perceive good knowledge in divisions in dangerous goods.
- Know how to tackle dangerous goods and to proceed with precautionary actions.
- Maintain emergency response drills in aircrafts

**Second year**

**CORE COURSE – VIII  
PC SOFTWARE (MS OFFICE)  
(Theory)**

**Semester-IV**

**Code**

**Credit-5**

**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 foundation a low-computer literacy curriculum that prepares
- Students for life-long learning of computer concepts and skills.

**UNIT-I:**

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:**

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 Power point - Creating a simple presentation – Creating, inserting and deleting slides – Saving a Presentation – Slide Show – Templates – Charts – Graphs.

**UNIT-IV:**

Internet basics – Internet Address – Domain names – Browsers – search Engine – Connecting to the internet – installing and configuring a modem – creating a connection profile – changing the default connection.

**UNIT-V:**

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 (For Continuous Internal Assessment Only):**

### **TEXT BOOKS:**

1. Management Information System - Gordon B Davis.
2. PC Software for window made simplex by R.KTaxali–Tata McGraw Hill Publishers Pvt. Ltd.,
3. Quick Course in Microsoft Office Joyce Cox, Pollyurban–Galgottia Publications.
4. PC Software for Office- Automation by T.Karthikeyan and Dr. C. Muthu- Sultan Chand and Company.

### **COURSE OUTCOMES:**

- Describe the usage of computers and why computers are essential components in business and society.
- Utilize the Internet Web resources and evaluate on-linee-business system.
- Solve common business problems using appropriate Information Technology applications and systems.
- Identify categories of programs, system software and applications. Organize and work with files and folders.
- Describe various types of net works network standards and communication software.

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**Second year**

**SECOND ALLIED COURSE-II  
AVIATION METEOROLOGY  
(Theory)**

**Semester-IV**

**Code**

**Credit-3**

**OBJECTIVE:**

- To understand the various aspects of weather in aviation.
- To decode the aviation weather report
- To understand and expect the changes occurs in the surrounding atmosphere

**UNIT-I THE ATMOSPHERE:**

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 WEATHER FORECAST AND REPORTS:**

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 SYMBOLS AND ABBREVIATIONS:**

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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned. **Practical:** (i) Visit of Metrology Office (ii) Case Studies about Clouds (iii) Weather prediction (iv) Decoding of Symbols

### **TEXT BOOK:**

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

### **REFERENCE BOOK:**

1. Oxford - Meteorology
2. The Air Pilot's Manual, Vol 2, Peter. D. Godwin
3. From the Ground up.

### **E- REFERENCE:**

1. [https://mausam.imd.gov.in/imd\\_latest/contents/pdf/aviation\\_sop.pdf](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>

### **COURSE OUTCOME:**

- Student will understand the importance of weather conditions in Aviation.
- Student can identify the best and worst situations to fly.
- Students can be able to figure out the best plans during certain weather conditions
- Students can understand the influencing factors of density and how it affects the performance of aircraft
- Students can understand the basic flow pattern of winds

**Second year**

**NON MAJOR ELECTIVE COURSE-II  
1. AVIATION LOGISTICS AND CARGO  
(Theory)**

**Semester-IV**

**Code**

**Credit-2**

**OBJECTIVES:**

- To understand of the current competitive landscape of the air cargo industry.
- To Participants will gain valuable insights into the industry's best practices and develop skills to strategically manage air cargo related challenges.
- To understand the study of business models from other industries adapted for air cargo management.

**UNIT-I:**

Concept of Logistics-Introduction-Components, Advantage &Growth-Logistics in Global Organisation Marketing and Logistics Channel-Inventory Management- Purpose, Type, Objective and Cost- Model of Inventory Management

**UNIT-II:**

Transport System Mode land Warehousing – Deregulation and Government Rule– Transport Security Product Packaging and Pricing–Role of Warehouse–Alternative Warehousing-Trend in Material Handling – Inbound Logistics and Purchasing

**UNIT- III:**

Global Environment & Strategy-Global Supply Chain–International Documentation- Improving Logistics Performance

**UNIT- IV:**

Air Cargo Concept-Introduction – Operations and Industry Regulations –Service Function, Organisation. Types of cargo-Handling of Perishable, Valuable Cargo and Special-Cargo.-Air cargo Tariff, Rates & Charges – 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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned. **Practical:**(i) Cargo Visit (ii) Coding/Decoding of Luggage (iii) Loading of Cargo Practical (iv) Case studies about Cargo Logistics.

### **TEXT BOOK:**

1. Kent Gourdin, —Global Logistics Management by Wiley Blackwell
2. Lambert, — Strategic Logistic Management, Academic Int Publisher

### **REFERENCE BOOK:**

1. Alan Rushton & John Oxley, — Hand Book of Logistic and Distribution, Kogan Page
2. John F Magee & William C Copalino, — Modern Logistics Management, John Wiley & Sons
3. Paul R. Murphy, Jr and Donald F. Wood, — Contemporary Logistics, Prentice Hall, 9th edition, 2008

### **E- REFERENCE:**

1. [https://www.civilaviation.gov.in/sites/default/files/moca\\_001669.pdf](https://www.civilaviation.gov.in/sites/default/files/moca_001669.pdf)

### **COURSE OUTCOME:**

- To understand the airline operations, type of aircrafts and their limitations
- Explain the basics of air cargo industry
- Analyze and accept cargo, prepare the air cargo for loading onto the aircraft,
- Complete the documentation with respect to the cargo acceptance
- Can handle dangerous goods

<b>Second year</b>	<b>NON MAJOR ELECTIVE COURSE-II</b>	<b>Semester-IV</b>
	<b>2. AIR SAFETY REGULATION</b>	
<b>Code</b>	<b>(Theory)</b>	<b>Credit-2</b>

Change Aviation Law To Air Safety Regulation

**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 IMPORTANT DOCUMENTS:**

ICAO Annexes – Controlling States Roles, Regulations, Sovereignty, Power of Authority – European Union EASA – Operations and Standard – EU- OPSI- 1045 – OPERATIONS MANNUAL 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(43of1971)-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-spillable batteries – Loading of organic peroxides and self- reactive substances–Loading of radio active 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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned. **Practical:** (i) Case Studies about incident (ii) Accident report & Causes (iii) Practice about investigation (iv) Case Studies about Conventions.

**TEXT BOOK:**

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

**REFERENCE BOOK:**

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

**E- REFERENCE:**

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

**COURSE OUTCOME:**

- Define legal terms, describe and distinguish between methods of legal systems.
- Identify and explain various characteristics of legal structure and legal relationships, and the purpose and processes of key legal organisations underpinning the Aviation industry.
- Describe key areas of regulation affecting aviation.
- Demonstrate an understanding of the characteristics, requirements and legal responsibilities of Aviation organisations and their personnel.
- To develop the knowledge about regulations followed during visual and metrological conditions while flying.

Third year

**CORE COURSE-IX  
AIR HOSTESS AND HOSPITALITY  
MANAGEMENT  
(Theory)**

Semester-V

Code

Credit-5

**OBJECTIVE:**

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

**UNIT-I CABIN CREW PROFESSION:**

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 CABIN CREW LIFESTYLE:**

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

**UNIT-III HOW TO STAY HEALTHY:**

Tips for Diet - Tips to keep fabulous hair styles - Tips to chose right skin care product - Best ways to Tackle Cabin crew tiredness.

**UNIT-IV ROLE AND RESPONSIBILITIES AS CABIN CREW:**

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 RULES AND REGULATIONS:**

Aircraft Rules 1937 - Duties of Pilot in Command -Aircraft rules 38(B) 1937 - Carriage of Cabin Crew- Flight Time- FDTL-CAR Sections- Succession of Command.

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

Contemporary Developments Related to the Course during the Semester concerned. **Practical:** (i) Uniform (ii) Emergency practice (iii)Airport Visit (iv) Practice about Cabin Signal.

**TEXT BOOK:**

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

**REFERENCE BOOK:**

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

**E- REFERENCE:**

1. [http://colbournecollege.weebly.com/uploads/2/3/7/9/23793496/flight\\_attendant\\_lesson\\_1.pdf](http://colbournecollege.weebly.com/uploads/2/3/7/9/23793496/flight_attendant_lesson_1.pdf)

**COURSE OUTCOME:**

- Complete Knowledge of Cabin Crew & their Lifestyle
- Handle the Situation with calmness.
- Maintain the Comfort of Air Passengers.
- Rules and regulations to be followed as Crew Member
- Gain basic and adequate knowledge about aircraft rules and regulations.

Third year

**CORE COURSE-X**  
**AIR SAFETY AND SECURITY SERVICES**  
**(Theory)**

Semester-V

Code

Credit-5

**OBJECTIVES:**

- Learn about crisis management and risk assessment
- To enable the Students 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 AIR TRANSPORTATION 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 - Rival claim of Palestine - Palestine Liberation Organization - Nuclear Terrorism - Aircraft as Missiles-9/11 Terrorist Act and its Consequences- Biological & Chemical Warfare-Steps to Combat Terrorism

**UNIT-III ANTI HIJACKING:**

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-- Biosimmer – Biometric Systems

## **UNIT - VI CURRENT CONTOURS (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned. **Practical:** (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.

### **TEXT BOOK:**

1. R.K.Bali – regulations
2. ICAO Annex 17

### **REFERENCE BOOK:**

1. Kathleen M.Sweet – Aviation and Airport Security
2. Practical Aviation Security: Predicting and Preventing Future Threats by Jeffrey C prince, Jeffery s Forrest
3. Aviation Security

### **E- REFERENCE:**

1. [https://www.icao.int/sustainability/Documents/SafetySecurityStudy\\_en.pdf](https://www.icao.int/sustainability/Documents/SafetySecurityStudy_en.pdf)

### **COURSE OUTCOME:**

- Know about security measures and different unlawful interferences.
- Identify dangerous goods and aero medical factors.
- Handle emergency situations in aircraft
- Have basic knowledge about aero medical and environmental factors.
- Understand Dispatch resource management and techniques in dispatch environment, work load and stress management.

Third year

**CORE COURSE-XI**  
**CUSTOMER SERVICE MANAGEMENT**  
**(Theory)**

Semester-V

Code

Credit-5

**OBJECTIVES:**

- Baggage Handling.
- Customer Service.
- Security Protocols

**UNIT- I      ROLES OF CSA:**

Passenger reception at check in desk – luggage at ticket check in – 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      DEFINITIONS, 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 - VI      CURRENT CONTOURS (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Practice well on Check-in Procedures (ii) Case Studies about immigration (iii) Practice on Baggage & Ticketing (iv) Case Studies on Airport Security & Threats.

**TEXT BOOKS:**

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

**REFERENCE BOOK:**

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

**E- REFERENCE:**

1. [http://colbournecollege.weebly.com/uploads/2/3/7/9/23793496/unit\\_19\\_lo\\_1\\_2\\_handeling\\_air\\_passengers\\_score\\_sheet.pdf](http://colbournecollege.weebly.com/uploads/2/3/7/9/23793496/unit_19_lo_1_2_handeling_air_passengers_score_sheet.pdf)
2. [https://www.icao.int/SAM/Documents/2018-USAPCMA/Global\\_Aviation\\_Security\\_Plan\\_November\\_2017\\_en.pdf](https://www.icao.int/SAM/Documents/2018-USAPCMA/Global_Aviation_Security_Plan_November_2017_en.pdf)

**COURSE OUTCOME:**

- Student know how to handle Passengers better.
- Student knows the Security Alerts and to notice offenders
- Students know the procedure to deal with misbehaving passengers
- Student know to handle any abnormal situation
- Students know to handle baggage security check

**Third year**

**CORE COURSE-XII  
AIR CRAFT MAINTENANCE AND CREW  
MANAGEMENT  
(Theory)**

**Semester-V**

**Code**

**Credit-5**

**OBJECTIVES:**

- Evolution and Impact of Crew Resource Management
- Need of CRM and training bench marks.
- Scope for improvement in CRM

**UNIT-I:**

Maintenance :Role of the Engineer & Mechanic–Two Types of Maintenance- Reliability Redesign – Failure Rate Patterns – Establishing a Maintenance Program. Development of Maintenance Programs :Introduction–Maintenance Steering Group(MSG) approach – Process & Tasks – Oriented Maintenance– Maintenance Program Documents – Maintenance Intervals defined

**UNIT-II**

ProductionPlanningandControl:Introduction–Forecasting–ProductionPlanning& Control – Feedback for Planning – Organization of PP & C. Technical Publications: Introduction –Functions of Technical Publications – Airline Libraries – Control of Publications – Document Distribution. Technical Training: Computer Support:– Airline uses of Computers – Computer Program Modules – Selecting a computer System

**UNIT-III**

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-IV**

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-V:**

Individual Performance: Relevant Factors - Automation and Upgradation of Skills - CRM: Training Methods and Standardization-Competency Profile for Instructors of CRM - Maintenance Crew Skill Requirements – Morning Meeting. Hanger Maintenance (On – Aircraft) – Introduction – Organization of Hanger Maintenance.

## **UNIT - VI CURRENT CONTOURS (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Visit to Hangar (ii) Case Studies on Maintenance of Aircrafts (iii) Practice Planning (iv) Discussion on Crew Management.

## **TEXT BOOK:**

1. Aviation Maintenance Technician: General by Dale Crane
2. Heavy Airframe and Light Aircraft by KhwajaHasanNafis – Third edition

## **REFERENCE BOOKS:**

1. Aviation Maintenance Management – Harry A. Kinnison – McGraw Hill Reference Books:
2. Risk Management and Error Reduction in Aviation Maintenance – Manoj S. Patankar and James C. Taylor – Ashgate Publishing Ltd.
3. Managing Maintenance Error – James Reason and Alan Hobbs - Ashgate Publishing Ltd.

## **E- REFERENCE:**

1. <https://notionpress.com/pdfviewer/fundamentals-of-aircraft-maintenance-management>

## **COURSE OUTCOME:**

- A sound understanding for the national and international regulatory and commercial business environment and the ability to prepare a sound business case
- Knowledge of aspects of accident and incident investigation, human factors, safety risk management
- A proven ability to research and write a substantial analytical report.
- A good understanding of business analysis, crisis, human motivation
- Understands the principle of management of the aircraft maintenance industry.

Third year

**MAJOR BASED ELECTIVE COURSE-I**  
**1. AIRCRAFT SEARCH AND RESCUE**  
**MANAGEMENT**  
**(Theory)**

Semester-V

Code

Credit-5

**OBJECTIVES:**

- To Know the importance of Rescue Management
- To Understand the Emergency and Act accordingly
- To understand the air to ground signal communication

**UNIT- I ORGANIZATION :**

Rescue services - Rescue regions - Rescue coordination centres - Rescue subcentres - Search and rescue communications - Search and rescue units - Search and rescue equipment.

**UNIT- II COOPERATION:**

Cooperation between States - Cooperation with other services - Dissemination of information.

**UNIT – III PREPARATORY MEASURES:**

Preparatory information - Plans of operation - Search and rescue units - Training and exercises – Wreckage.

**UNIT – IV OPERATING PROCEDURES:**

Emergencies - Procedures for rescue coordination centres during emergency phases - Procedures for authorities in the field - Procedures for rescue coordination centres — termination and suspension of operations - Search and rescue signals - Maintenance of records.

**UNIT – V SEARCH AND RESCUE SIGNALS:**

Signals with surface craft - Ground-air visual signal code - Air-to-ground signals.

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

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Case Studies on Operating Procedures (ii) Practice Emergency Rescue Methods. (iii) Case Studies on Aircraft Rescue Plans (iv) Viva on Rescue Methods & Signals

**TEXT BOOK:**

1. ICAO Annex 12
2. Air Regulation – R.K bali

**REFERENCE BOOK:**

1. Fundamentals Of Search And Rescue – second edition
2. Special Ops: Search and Rescue Operations by Carol Handy
3. Students will be aware of Emergency and importance of Rescue Management.

**E- REFERENCE:**

1. <https://www.pilot18.com/icao-annex-12-sar/>

**COURSE OUTCOME:**

- Students will be aware of Emergency and importance of Rescue Management.
- With have a clear idea which controlling authority should be contacted
- Understand even the layout and functioning of cell phone
- Can explain the regulatory bodies involving in this mission and their function
- Can explain the satellites involved in this mission.

**Third year**

**MAJOR BASED ELECTIVE COURSE-I**

**Semester-V**

**Code**

**2. AVIATION LAW**

**(Theory)**

**Credit-5**

**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**

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

**UNIT – II**

Aircraft Rules- Aircraft Act1934- The Aircraft Rules1937

**UNIT – III**

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 Authorityof Indiaact,1971(43of1971)-TheNationalAirportsAuthorityofIndia,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 (CAR) Section1-General-Section2-Airworthiness-Section3- Air Transport

**UNIT-V**

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- TheTokyo Convention, 1963.

## **UNIT - VI CURRENT CONTOURS (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

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

### **TEXT BOOK:**

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

### **REFERENCE BOOK:**

- International Aviation Law: A Practical Guide by Ron bartsch
- Aviation Law, Flight Rules and Operational Procedures: Meterology : Air Pilot's Manual
- Civil Aviation requirements

### **E- REFERENCE:**

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

### **COURSE OUTCOME:**

- Define legal terms, describe and distinguish between methods of legal systems.
- Identify and explain various characteristics of legal structure and legal relationships, and the purpose and processes of key legal organisations underpinning the Aviation industry.
- Describe key areas of regulation affecting aviation.
- Demonstrate an understanding of the characteristics, requirements and legal responsibilities of Aviation organisations and their personnel.
- To develop the knowledge about regulations followed during visual and metrological conditions while flying.

**Third year**

**SKILL BASED ELECTIVE COURSE-I  
AIRPORT INFRASTRUCTURE  
MANAGEMENT**

**Semester-V**

**Code**

**(Theory)**

**Credit-2**

**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 – 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 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 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:- operational Concepts, Space Relationships and Area Requirements,-Noise Control, Vehicular Traffic and Parking at Airports.

## **UNIT-V:**

AIRTRAFFICCONTROLANDAIDS:-Runways and Taxiways markings, Day& Night Landing Aids, Airport Lighting and other Associated Aids.

## **UNIT - VI CURRENT CONTOURS (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned. **Practical:**

(i)Case Sties on Airport Infrastructure(ii) Geometry of Airport Practical (iii) Discussion on Airport Runway, Taxiway and etc (iv) ATC & Aids Practicals.

## **TEXT BOOK:**

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

## **REFERENCE BOOK:**

- Aviation Safety Programs A Management Hand Book-Richard H.Wood – Jeppesen Sanderson Inc.
- Marketing Management – RAJAN SAXENA –Tata McGraw Hill
- International Marketing – Philip R.Cateora-Irwin McGraw Hill, 9th Edition.

## **E- REFERENCE:**

[https://www.collectionscanada.gc.ca/obj/s4/f2/dsk1/tape4/PQDD\\_0028/MQ51698.pdf](https://www.collectionscanada.gc.ca/obj/s4/f2/dsk1/tape4/PQDD_0028/MQ51698.pdf)

## **COURSEOUTCOMES:**

- Demonstrate broad and coherent knowledge of Aviation Human Factors, Aviation Management and Aviation Technology
- Work autonomously and in teams within organisations with a focus on safety, quality, legality and profitability applying ethical standards with professional accountability
- Demonstrate effective oral and written communication skills in a professional aviation context.
- To enable Students to learn the International standards in Airport System Planning and Airport Planning
- Will have a clear idea about the layout of airport.

**Third year**

**CORE COURSE-XIII  
ENTREPRENEURSHIP MANAGEMENT  
(Theory)**

**Semester-V**

**Code**

**Credit-5**

**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 all modes: listen, 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:**

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

**UNIT –II:**

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

**UNIT –III:**

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

**UNIT –V:**

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

## **UNIT - VI CURRENT CONTOURS (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

### **TEXT BOOKS:**

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

### **REFERENCE BOOKS:**

1. VASANT DESAI, Dynamics of Entrepreneurial Development, Himalaya Publishing House
3. S.S. KHANKA, Entrepreneurship Development S.Chand & Company Limited
4. JAYASHREE SURESH, Entrepreneurial Development, Margham Publications

### **E - RESOURCES:**

1. <https://www.investopedia.com/terms/e/entrepreneur.asp>
2. <https://www.economicdiscussion.net/entrepreneurship/women-entrepreneurs-in-india/32337>
3. <https://www.businessmanagementideas.com/entrepreneurship-2/entrepreneurship-developmentprogramme/21011>

### **COURSE OUTCOMES:**

- Critically evaluate and utilise relevant theories and concepts underpinning resolution of innovation management problems;
- Demonstrate capacity for dealing with complex real world innovation problems, including through effective project management;
- Evaluate a range of leadership skills critical for sustainable, responsible innovation problem solving and project implementation;
- Demonstrate an advanced ability to create, implement and evaluate management consulting practices within a major work-based innovation project.

**Third year**

**CORE COURSE-XIV  
PRINCIPLES OF TRAVEL AND TOURISM  
OPERATIONS  
(Theory)**

**Semester-V**

**Code**

**Credit-5**

**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:**

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:**

World Tourism - Important Countries/ Capitals / Currencies / Exchange - World Tourism Attractions-IndianTourism–Types–TransportationCommercialAviation-AirTaxiOperations-- Private Operation- Airport Handling Functions of IATA-ICAO - Aims and Objectives. -IATA Geography and Global indicators Travel Agent Management-Travel Partners -

**UNIT-III:**

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:**

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:**

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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Visit to Travel Agent Office. (ii) Booking of Tickets (iii) Online reservation & Cancellation. (iv) Case studies about International Bookings.

## **TEXT BOOK:**

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

## **REFERENCE BOOK:**

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

## **E- REFERENCE:**

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

## **COURSE OUTCOMES:**

- Appraise the positive and negative impacts of tourism destination development
- Analyse a range of tourist needs and motivations to travel
- Discuss the development of Tourism industry
- Describe the role played by Government
- Student can explain the importance to appreciate the socioeconomic, ecological impacts of tourism.

**Third year**

**CORE COURSE-XV  
AIRLINE MARKETING MANAGEMENT**

**Semester-V**

**Code**

**(Theory)**

**Credit-5**

**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 areas marketing in a globalised environment Marketing Mix - Stages in the Application of Marketing Principles to Airline Management.

**UNIT-II MARKET OF AIR TRANSPORT 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 now trends and challenges to marketers.

## **UNIT - VI      CURRENT CONTOURS (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (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

### **TEXT BOOK:**

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

### **REFERENCE BOOK:**

1. NAG, marketing successfully A professional perceptive, macmilan 2001.
2. Boyd Walker, Marketing Management, McGraw Hill, 2002
3. Aakar Day, Kumar, Essential of Marketing Research

### **E- REFERENCE:**

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

### **COURSE OUTCOMES:**

- Understand the principles of marketing within the aviation industry
- Be able to use market research methods for aviation organisations
- Be able to develop a marketing plan for aviation organizations
- Understand how air cargo differs from passenger markets
- Describe the key characteristics of aircraft selection and network planning

Third year

**MAJOR BASED ELECTIVE COURSE-II**  
**1. AIR PASSENGER HANDLING AND**  
**RAMP SERVICES**  
**(Theory)**

Semester-V

Code

Credit-5

**OBJECTIVES:**

- To know how to Handle Passengers
- To Know the rules of CSA
- To Know about Ramp Services.

**UNIT -I ROLES OF CSA:**

Passenger reception at check in desk – luggage at ticket check in – 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 Fright handling – Aircraft towing – High Pressure Air – Push back – De icing / Anti icing.

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

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (i) Practice on Check – in Procedures (ii) Case Studies on immigration (iii) Ramp Visit (iv) Viva in Roles of RSA

**TEXT BOOK:**

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

**REFERENCE BOOK:**

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

**E- Reference:**

[http://colbournecollege.weebly.com/uploads/2/3/7/9/23793496/unit\\_19\\_lo\\_1\\_2\\_handeling\\_air\\_passengers\\_score\\_sheet.pdf](http://colbournecollege.weebly.com/uploads/2/3/7/9/23793496/unit_19_lo_1_2_handeling_air_passengers_score_sheet.pdf)

**COURSE OUTCOME:**

- Student know how to handle Passengers better.
- Student knows the Security Alerts and to notice offenders
- Students know the procedure to deal with misbehaving passengers
- Student know to handle any abnormal situation
- Students know to handle baggage security check

<b>Third year</b>	<b>MAJOR BASED ELECTIVE COURSE-II</b>	<b>Semester-V</b>
	<b>2. TRAVEL AGENCY OPERATION</b>	
<b>Code</b>	<b>(Theory)</b>	<b>Credit-5</b>

**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:**

Travelagent-Formation-RoleandResponsibilities-TravelAgentsBodyinIndia– 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:**

TourOperatorsRoleandResponsibilities-PlanningToursandPreparationofTour Brochures - Operating Conditions for Tour packages and Legal position in case of non compliance and other reasons - Pricing of Tour packages

**UNIT-III:**

AirlineOperationalManagement-Domestic-InternationalDepartureFormalities,- Security Check- In. Hand Baggage Screening -Personal Frisking- Boarding the Plane, Ground Announcements- Handling of Delayed Flight

**UNIT-IV:**

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 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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

**Practical:** (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.

### **TEXT BOOK:**

1. Aviation Maintenance Management – Harry A. Kinnison McGraw Hill Reference Books:
2. Risk Management and Error Reduction in Aviation Maintenance – Manoj S. Patankar and James C. Taylor – Ashgate Publishing Ltd.

### **REFERENCE BOOK:**

1. Managing Maintenance Error – James Reason and Alan Hobbs – Ashgate Publishing Ltd.
2. TOURISM OPERATIONS AND MANAGEMENT–, 25 March 2009
3. Airline Airport & Tourism Management by Dr.SumeetSuseelan

### **E- REFERENCE:**

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

### **COURSE OUTCOMES:**

- Categories of tour operators
- Preparation of holiday packages and Brochure
- To know types of holiday packages
- Managing time and tasks and clarifying personal values
- Collaborative study practice and independent learning,

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**Third Year**

**PROJECT**

**Semester-VI**

**Code:**

**Credit: 3**

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 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 the resubmitted Project at the Viva-voce within a month. A maximum of 2 chances will be given to the candidate.

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Third year

**SKILL BASED ELECTIVE COURSE-II  
CUSTOMER RELATIONSHIP  
MANAGEMENT  
(Theory)**

Semester-V

Code

Credit-2

**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:**

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

**UNIT-II:**

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

**UNIT-III:**

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

**UNIT-IV:**

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

**UNIT-V:**

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 (For Continuous Internal Assessment Only):**

Contemporary Developments Related to the Course during the Semester concerned.

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

**TEXT BOOK:**

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

**REFERENCE BOOK:**

1. Customer service by cliff Robison
2. Exceptional customer service by Lisa Ford
3. S. Shajahan – Relationship Marketing – McGraw Hill, 1997 Paul Green Berg – CRM – Tata Mc Graw Hill, 2002 Philip Kotler, Marketing Management, Prentice Hall, 2005
4. Barry Berman and Joel R Evans – Retail Management – A Strategic Approach- Prentice Hall of India, Tenth Edition, 2006

**E- REFERENCE:**

[https://www.researchgate.net/publication/290447911\\_Customer\\_Relationship\\_Management\\_Concepts\\_and\\_Technologies](https://www.researchgate.net/publication/290447911_Customer_Relationship_Management_Concepts_and_Technologies)

**COURSEOUTCOMES:**

- Student knows the Security Alerts and to notice offenders
- Students know the procedure to deal with misbehaving passengers
- To create insight and new learning in the area of customer relationship management.
- 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.
- To discuss the conceptual foundations of relationship marketing and its implications for further knowledge development in the field of business.