

UNIVERSITY OF MADRAS

MASTER OF BUSINESS ADMINISTRATION (MBA) DEGREE PROGRAMME SYLLABUS WITH EFFECT FROM 2023-2024

934E901: Specialization Courses in Airport and Airline Management

Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901A	Aviation and Legal Environment	Elective	3	-	-	-	3	3	25	75	100
934E901B	Aviation Resource Management	Elective	3	-	-	-	3	3	25	75	100
934E901C	Strategic Airport Planning and Marketing	Elective	3	-	-	-	3	3	25	75	100
934E901D	Airline and Airport Operations	Elective	3	-	-	-	3	3	25	75	100
934E901E	Aviation Safety and Security	Elective	3	-	-	-	3	3	25	75	100
934E901F	Airline Marketing and Strategic Airline Alliances	Elective	3	-	-	-	3	3	25	75	100
934E901G	Air Traffic Control	Elective	3	-	-	-	3	3	25	75	100
934E901H	Aircraft Maintenance Management	Elective	3	-	-	-	3	3	25	75	100
934E901I	Airlines Insurance	Elective	3	-	-	-	3		25	75	100

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901A	AVIATION AND LEGAL ENVIRONMENT	Elective	3	-	-	-	3	45	25	75	100
Course Objectives											
C1	To gain knowledge of Aviation Legal Environment										
C2	To understand the legal system related to Aviation										
C3	To understand the laws and regulations related to Aviation										
C4	To gain knowledge on the civil aviation requirements										
C5	To understand the international conventions related to aviation										
UNIT	Details							No. of Hours	Course Objectives		
I	DGCA-Introduction to Directorate General of Civil Aviation-DGCA functions-DGCA Organization-DGCA as Regulatory Authority							9	C1		
II	REGULATIONS-Aircraft Act 1934- The Aircraft Rules 1937							9	C2		
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 Authority of India act, 1971 (43 of 1971) • The National Airports Authority of India, 1985 (64 of 1985) • The Airports Authority of India Act 1994 (55 of 1994) • The Carriage by Air Act, 1972 (69 of 1972) • The Tokyo Convention Act, 1975 (20 of 1975) • The Anti-hijacking Act, 1982 (65 of 1975) • The suppression of unlawful acts against safety of Civil Aviation Act, 1982 (66 of 1982)							9	C3		
IV	CIVIL AVIATIONREQUIREMENTS (CAR) • Section 1-General • Section 2-Airworthiness • Section 3-Air Transport • Section 4-Aerodrome standards and Air Traffic							9	C4		

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	Services • Section 5-Air Safety • Section 6-Design standards and type certification • Section7-Flight crew standards, training and licensing • Section 8-Aircraft operations		
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 • The Tokyo Convention, 1963	9	C5
	Total	45	
Course Outcomes			
Course Outcomes	On completion of course students will	Program Outcomes	
CO1	Have a knowledge of Aviation Legal Environment and understanding of the legal system related to Aviation	PO4, PO6	
CO2	Understanding of the laws and regulations related to Aviation	PO6	
CO3	Knowledge on the civil aviation requirements	PO5, PO6, PO7	
CO4	Understanding of the international conventions related to aviation	PO6, PO7	
CO5	Gain knowledge of Aviation Legal Environment	PO4, PO6, PO7	
Reading List			
1.	Aircraft Manual, C.A.R.Sec.II		
2.	http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S001827/P001871/M031349/ET/15278285773.20Q1.pdf		
3.	https://indiankanoon.org/doc/979883/		
4.	https://www.icao.int/publications/pages/doc7300.aspx		
References Books			
1.	Ron Bartsch, “International Aviation Law”, Taylor and Francis, 2020		
2.	“A Guide to India’s Aviation Law”, Thomson Reuters South Asia Private Limited, 2019		
3.	“The Principles and Practice of International Aviation Law”., Gabriel S. Sanchez, Brian F. Havel., Cambridge University Press		
4.	International Environmental Law., Pierre-Marie Dupuy, Jorge E. Viñuales., 2 nd edition., Cambridge University Press		

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5.	International Aviation Law, A Practical Guide., Ronald I. C. Bartsch., Taylor & Francis., ebook format
6	Biodiversity and International Law, The Effectiveness of International Environmental Law., A. S. Bilderbeek, Ankie Wijgerde, Netty van Schaik, Simone Bilderbeek., IOS Press

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1				3		2		
CO 2						2		
CO 3					3	3	2	
CO 4						2	2	
CO 5				3		2	2	

3-Strong 2-Medium 1-Low

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901B	AVIATION RESOURCE MANAGEMENT	Elective	3	-	-	-	3	45	25	75	100
Course Objectives											
C1	To develop an understanding of crew resources management										
C2	To gain knowledge of aircraft cabin										
C3	To manage fatigue and stress in air activity										
C4	To understand the training and recruitment process of airline pilot and crew										
C5	To gain knowledge on aviation information and management										
UNIT	Details							No. of Hours	Course Objectives		
I	CREW RESOURCES MANAGEMENT: The role of crew resources management – The trouble with culture – Creating and implementing human factors’ safety culture – human assessment – traditional flight crew and CRM training in general aviation – crew concepts in the air ambulance services.							9	C1		
II	THE AIRCRAFT CABIN: Safety issues in capital – cabin crew communication – service, teamwork and flight safety – flight attendants’ job performances and job satisfaction.							9	C2		
III	FATIGUE AND STRESS: Fatigue management in aviation – Fatigue in air activity – Stress management – the physiological factor							9	C3		
IV	SELECTION AND TRAINING: Job requirements of Airline Pilots – Pilot selection process – Personality test for traffic controllers – training of pilots and crew members – the link between human factors and organizational learning.							9	C4		
V	AVIATION INFORMATION AND MANAGEMENT: Structure of aviation operational information, management of aviation operational information – User innovation in Aviation operational information – Future of Aviation operational information							9	C5		
	Total							45			

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Course Outcomes		
Course Outcomes	On completion of this course, students will;	Program Outcomes
CO1	Develop understanding of crew resources management	PO4, PO6, PO7
CO2	Gain knowledge of aircraft cabin	PO4, PO6
CO3	Manage fatigue and stress in air activity	PO4, PO6, PO7
CO4	Understand the training and recruitment process of airline pilot and crew	PO3, PO4, PO6, PO7
CO5	Gain knowledge on aviation information and management	PO6, PO8
Reading List		
1.	https://www.youtube.com/watch?v=c-8rLmxAyH0	
2.	https://www.researchgate.net/publication/338636641_SELECTION_PROCESS_A_S_A_KEY_HUMAN_ASPECT_IN_AIR_TRAFFIC_CONTROL	
3.	https://www.icao.int/Meetings/FutureOfAviation/Pages/default.aspx	
References Books		
1.	Brain Mc Allister, Crew Resource Management ,Air life	
2.	Jensen,Pilot Judgement & Crew Resource Management ,N A	
3.	ThomasLSeamster,Aviation Information Management – From Documents Data, Ashgate	
4.	ThomasL Seamster & Barbara G Kanki ,Aviation Information Management, Ashgatem	
5.	Eduardo Sales, Katherine A Wison ,Crew Resource Management, Ashgate.	
6.	Frank H Hawkins, Human Factors in Flight Ashgate	
7.	Mary Edwards& Elwyn Edwards, The Aircraft Cabin –Managing Human Factors , Ashgate	
8.	Harry W Orlady & Linda M Orlady, Human Factors in Multi Crew Flight Operation Ashgate	

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1				2		2	2	
CO 2				3		3		
CO 3				2		2	2	
CO 4			2	2		2	2	
CO 5						2		2

3-Strong

2-Medium

1-Low

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901C	STRATEGIC AIRPORT PLANNING AND MARKETING	Elective	3	-	-	-	3	45	25	75	100
Course Objectives											
C1	To understand the airport operations										
C2	To provide an insight into airport characteristics										
C3	To learn airport planning and survey, planning and designing of terminal areas, traffic control and aids										
C4	To learn in detail about role and scope of activity of the Airport Enterprise										
C5	To learn about non-aviation and airport marketing plan										
UNIT	Details							No. of Hours	Course Objectives		
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.							9	C1		
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.							7	C2		
III	AIRPORT PLANNING AND SURVEYS: Runway length and width, sight distances, longitudinal and transverse, runway intersections, taxiways, clearances, aprons, numbering, holding apron. PLANNING AND DESIGN OF THE TERMINAL AREA: Operational concepts, space relationships and area requirements, noise control, vehicular traffic and parking at airports. AIR TRAFFIC CONTROL AND AIDS: Runways and taxiways markings, day & night landing aids, airport lighting and other associated aids.							8	C3		
IV	The role and scope of activity of the Airport Enterprise – The economic impact on countries and regions – the main governance patterns in the airport business – The							12	C4		

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	International path of evolution in the airport business – Airport transport value chain – Air enterprises – two primary actors in the air transport value chain – Skipping peripheral positions in the value chain. Rise of airport marketing for the aviation related business – airports market positioning – primary hub – secondary hub – regional airport – all cargo airport – airport positioning criteria – role on the market – identification of partners for airport development – first quantum leap of the airport enterprises – low cost airports – role of helicopters as a complimentary feeder and defender of hub airports – Airport revenue management – Airport alliances – management contract.		
V	The Development of the Non Aviation – Related value Proposition. Evolution of traditional Air port – Evolutionary patterns for airport enterprises – Commercial Airport Philosophy – tourist and conference service – logistic services – property management – consulting services – BAA and the non aviation business – best airport in the world: The case of Singapore Airport – Role and meaning of loyalty for a service company – Bench marking airline experience – Provider – Customer relational link – benefits from ALPS implementation of ALPS Airport marketing Planning – London city Airport: A best – in – class provider in the Airport business – The Airport industry and An International Picture - Air port business in 2002- US & European performance in 2002 – Asia pacific performance in 2002 – Middle east/Africa in 2002 – Airport business in 2003 – 2005 outlook for the Air transport industry.	10	C5
	Total	45	
Course Outcomes			
Course Outcomes	On completion of this course, students will;	Program Outcomes	
CO1	Understand the airport operations	PO2, PO4	
CO2	Provide an insight into airport characteristics	PO2, PO7	
CO3	Learn airport planning and survey, planning and designing of terminal areas, traffic control and aids	PO6, PO7	
CO4	Learn in detail about role and scope of activity of the Airport Enterprise	PO1, PO2, PO6, PO7	
CO5	Learn about non-aviation and airport marketing plan	PO2, PO6, PO7	

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Reading Materials	
1.	https://www.aai.aero/en/content/airport-policy
2.	https://onlinepubs.trb.org/Onlinepubs/trcircular/247/247-003.pdf
3.	https://civilsolution1.webs.com/airport%20planning%20and%20design.pdf
4.	https://hbs.ac.in/hbs-life/course/strategic-airport-infrastructure-management/
5.	https://www.icao.int/meetings/wrdss2011/documents/jointworkshop2005/atag_socialbenefitsairtransport.pdf
Text Books	
1.	Strategic Airport Planning –Robert E.Caves & Geoffrey D.Gosling-Elsevier Science Ltd
2.	Airport Marketing –David Jarach –Ashgate Publishing Limited
References Books	
1.	Aviation Safety Programs A Management Hand Book-Richard H.Wood –
2.	Jeppesen Sanderson Inc.
3.	Strategic Management –Gregory G.Dess and Alex Miller –McGraw Hill
4.	Strategic Management: An Integrative Perspective-A.C.Hax and NS-Majifu, Prentice Hall.
5.	Marketing Management –Philip Kotler – Pearson Education/PHI
6.	Marketing Management – RAJAN SAXENA –Tata McGraw Hill
7.	International Marketing – Philip R.Cateora-Irwin McGraw Hill, 9th Edition.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1		2		2				
CO 2		2					2	
CO 3		2				2	2	
CO 4	2	2				2	2	
CO 5		2				2	2	

3-Strong 2-Medium 1-Low

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901D	AIRLINE AND AIRPORT OPERATIONS	Elective	3	-	-	-	3	45	25	75	100
Course Objectives											
C1	To learn about the history of aviation and current challenges in airline industry										
C2	To learn airport management										
C3	To understand air transport services										
C4	To gain knowledge airline operations										
C5	To learn logistics and air cargo management										
UNIT	Details							No. of Hours	Course Objectives		
I	INTRODUCTION History of Aviation- Development of Air transportation in India-Major players in Airline Industry-SWOT analysis in Airline Industry-Market potential of Indian Airline Industry—Current challenges in Airline Industry-Completion in Airline Industry-IATA & ICAO							9	C1		
II	AIRPORT MANAGEMENT Airport planning-Operational area and Terminal planning, design, and operation-Airport operations-Airport functions-Organization structure of Airline and Airports sectors-Airport authorities-Global and Indian scenario of Airport management – DGCA –AAI.							9	C2		
III	AIRTRANSPORT SERVICES International trends-Emerging Indian scenario-PPP-Public Private Participation in Indian Airports-Environmental regulations-Private participation in International developments-Environment regulations-Regulatory issues-Meteorological services for Aviation-Airport fees, rates, and charges							9	C3		
IV	AIRLINE OPERATIONS Airline Terminal Management-Flight Information Counter/Reservation and Ticketing-Check In/Issue of Boarding pass-Customs and Immigration formalites-Co-ordination-Security Clearance-Baggage and -Handling of Unaccompanied minors and Disabled Passengers-Handling of Stretcher Passengers and Human Remains-Handling of CIP,VIP & VVIP-Co-ordination of Supporting Agencies /Departments.							9	C4		

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	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1				2		2	2	
CO 2	2	3				2	2	
CO 3		2					3	
CO 4						2	3	
CO 5	2	2		3			2	

3-Strong 2-Medium 1-Low

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901E	AVIATION SAFETY AND SECURITY	Elective	3	-	-	-	3	45	25	75	100
Course Objectives											
C1	To enable students to understand the fundamentals of national security pertaining to Aviation										
C2	To throw light on terrorism and hijacking										
C3	To understand screening related to aviation										
C4	To provide insights into various security measures adopted by aviation sector										
C5	To understand technology related to aviation										
UNIT	Details							No. of Hours	Course Objectives		
I	A National security asset: importance of Air transportation – Airways – Development of the Aviation industry – Deregulation – Consequences of 9/11 to the industry – Emergency Funding – Protecting Public Air transportation. Hijacking – Security Measures – International Prospective – Trend begins – Aviation regulations – Airport security – New Carrier rules – New Airport Operator rules – Resistance Fades – Public Law 93 – 366 – threat warnings – Presidents Commission – Aviation Security Improvement Act of 1990 – Civil Aviation Security – research and Development – Lot of Talk: Crimes against Humanity – Convention – Tokyo – Hijacking , Montreal- Bonn Agreement – Diplomatic Conference on Air Law – Ministerial Conference on Terrorism – Financing of Terrorism – United Nations – ICAO/ECAC							9	C1		
II	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.The Roots remain: Introduction – Causes of 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 –							9	C2		

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	Nuclear Terrorism. The Best Defense: Introduction – Counter terrorist Units – Enforcement – central, Defense Intelligence Agency.		
III	Screening: The last line of Defense – Introduction – Facilities – Screening check Point Augmentation – Law enforcement Officers at the gate – Flexible Law enforcement response Program – Public and Private Security Interface. Airborne Aircraft Security. Increased Supervision: Introduction – Criminal Guards – Ergonomic Solutions – potential Operator concerns – measuring operator Performance – The public tolerate the intrusion – Introduction – Metal detectors – Selecting a metal detector – Hand Held Body Scanners – X-ray inspection units – Passive and active metal detectors – Wave imaging – Selecting an X- Ray unit – Sizes – Film and Laptops – Details of X-ray unit – US standard for radiation exposure – New computer software – Trace – Detection technology – Tangents – conclusion.	9	C3
IV	A Loose End : Introduction – Cargo Carrier responsibility – Air cargo security – Suicides – Baggage Tags – Passenger/ Baggage reconciliation – Airport lockers – Container hardening – Blast containment versus blast management – Airmail security – Indirect air carriers – known and unknown shipper – Vacuum chambers – Inspection of cargo – International Air cargo standards – Irelands air Cargo Security Program – TSA inspection of Air port – Conclusion. A slippery slope: Introduction – Fourth Amendment – Administrative search exception – Balancing Approach – Less intrusive alternatives – Stop and frisk exceptions – Individual stop and frisk search – Selective class stop and frisk search – Consent exception – Fourth amendment requirements – reasonableness – probable cause – Exclusionary rules – Police participation – Non- Violent threats – Passenger’s right to terminate a search – Alternate view point – the war on drugs – New law and technologies – Conclusion . Foreign Airport Security: Introduction – ground Security – American assessments – diversion airports – Aviation safety assessment program – Legal Remedies – Profiling – Bomb sniffing dogs – Conclusion.	9	C4
V	Technological Improvements: Some intrusive and some not: Introduction – Core commission – Micro wave Holographic Imaging – Body orifice security scanner – Flight Vu™ Aircraft data scanner – New Generation of	9	C5

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	video security systems – Bio simmer™ quadruple resonance device – Intelliscan™ - 12000 Metal Detector- Biometric systems - FACEIT™ Access controls – Imaging Technologies – Conclusion. The Foundations of Security: Introduction -Airport/Runway incursions – Passenger interference – Conventional weapons – explosives – Nuclear weapons – Biological weapons – Conclusions. Another Foundation: Introduction – Access control – exterior alarm sensors – Control room – no power/ security – media intrusion – computer security – conclusion.		
	Total	45	
Course Outcomes			
Course Outcomes	On completion of this course, students will;	Program Outcomes	
CO1	Understand the fundamentals of national security pertaining to Aviation	PO1, PO2, PO6	
CO2	Understand light on terrorism and hijacking	PO3, PO5, PO8,	
CO3	Understand screening related to aviation	PO1, PO3, PO5, PO8	
CO4	Gain insight into various security measures adopted by aviation sector	PO1, PO2, PO6, PO7	
CO5	Learn the technology related to aviation	PO1, PO2, PO5, PO8	
Reading materials			
1.	https://www.civilaviation.gov.in/sites/default/files/Final%20Report%20-%209th%20March%202016.pdf		
2.	https://catdir.loc.gov/catdir/toc/fy044/2003065829.html		
Text Book			
1.	Aviation and Airport Security – Kathleen M. Sweet – Pearson Education Inc.		
Reference Books			
1.	Aviation in Crisis – Ruwantissa I.R.Abeyrante-Ashgate Publishing Ltd.		
2.	Aviation Safety Programs-Richard H.Wood –Jeppesen Sanderson Inc.		

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1	3	2				3		
CO 2			3		3			3
CO 3	2		3		2			3
CO 4	3	3				2	3	
CO 5	3	2			2			3

3-Strong 2-Medium 1-Low

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901F	AIRLINE MARKETING AND STRATEGIC AIRLINE ALLIANCES	Elective	3	-	-	-	3	45	25	75	100
Course Objectives											
C1	To gain insight into market for air transport and understand the marketing strategy										
C2	To gain insight into product analysis										
C3	To understand promotion marketing in the airline										
C4	To understand the regulatory framework for air transport										
C5	To throw light into the finances and management of airlines										
UNIT	Details							No. of Hours	Course Objectives		
I	Market For Air transport Service-Definition-Marketing Mix- stages in the application of Marketing Principles of Airline Management – successful Airlines – definition of market for Air Transport Services – what business are we in –who is the customer –definitions –apparent and true needs – Industrial Buying Behavior –customer business Air Travel market –leisure air travel market – Air Freight Market – market segmentation – concept- segmentation variables in the air passenger market-customer requirements-demographics and psychographics-the leisure segment of demand – air freight market-differences between the passenger and air freight markets. Marketing Strategy: PESTE analysis : political factors – economic factors – social factors – technological factors – environmental factors – introduction of Airline Business and Marketing Strategies – Porters Five Forces and their application to the Airline Industry – strategic families – differentiation airlines – the future – focus strategies – Airline Business and marketing strategies – common mistakes							9	C1		
II	Product Analysis-What is product- theory of product analysis and its application to the Airline Industry – fleet and schedules – related product features – customer service – related product features – controlling product quality – introduction of Pricing and revenue management – building blocks in airline pricing policy –							9	C2		

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	uniform and differential pricing – the structures of air freight pricing-Distribution Of Product And Brand Relationship-Distribution channel strategies – The Travel Agency Distribution system – Global Distribution System (GDS) –Distribution Channels in the Air Freight market – Brands and Commodities – Brand –Building in the Airline Industry – Brand Strategies		
III	Promotion Marketing-Fundamentals of relationship marketing – components of a relationship marketing strategy – frequent flyer programmers –the anatomy of a sale – sales planning – marketing communication techniques – airline advertising – selling in the air freight market – glossary of aviation terms and marketing terms.	9	C3
IV	The regulatory framework of Air Transport- Economic characteristics of the Airline Industry-Benefits of scale, scope and density in Air Transport-Types of Alliances between Airlines-Current Airline Alliance group-Cases of failed Airline Alliances-A Historical glimpse at Alliancing objectives-Reasons for Airlines building Alliances-Objectives of Alliances- Introduction-Marketing-driven objectives for alliances-Turbulence in marketing channels-Changes to airline marketing-Determinates of alliance image-Benefit challenges and cost of alliance brand association-Marketing and information. Performance measurement in airlines-Measuring the performance impact of alliance-Time continuum in performance assessment-Traffic and revenue enhancement-Cost-Productivity-Profitability.	9	C4
V	Introduction –Sources of financial benefits –Labour cost reduction –Cost reduction in sourcing – marking financial benefits come true- Airline views or financial benefits Traffic increase- revenue enhancement- Cost reduction-Profit improvement. The structure of alliance groups- The airline alliance group as a hybrid organization-The airline alliance group as an industrial network. Airline alliance groups as ‘multinational corporations’ - The problem of local rationales. Introduction- Success drivers in airline business-Premises and objectives – Finding suitable partners – governance structure- degree of integration and trust-Organization’s commitment- Ensuring flow of information- Performance evaluation-Managing cultural differences- In conclusion. Scenarios for the future- The internal dynamics of alliancing- a look into the future of	9	C5

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	airline alliance groups.		
	Total	45	
Course Outcomes			
Course Outcomes	On completion of this course, students will;	Program Outcomes	
CO1	Gain insight into market for air transport and understand the marketing strategy	PO4, PO5, PO6, PO7	
CO2	Gain insight into product analysis	PO4, PO5, PO6, PO7	
CO3	Understand promotion marketing in the airline	PO2, PO4, PO5, PO6, PO7	
CO4	Understand the regulatory framework for air transport	PO4, PO5, PO6, PO7	
CO5	Gain knowledge about the finances and management of airlines	PO4, PO6, PO7	
Reading Materials			
1.	https://www.tutorialspoint.com/aviation_management/aviation_management_airline_marketing.htm		
2.	https://nscpolteksby.ac.id/ebook/files/Ebook/Business%20Administration/Airline%20Marketing%20and%20Management%20(2007)/6.%20Chapter%205%20-%20Product%20Analysis%20in%20Airline%20Marketing.pdf		
3.	https://core.ac.uk/download/pdf/10127599.pdf		
	Reference Books		
1.	Marketing Management – Philip Kotler-Pearson Education		
2.	Marketing Management –Ramaswamy & Namakumari –MacMillan		
3.	Global Marketing Management –Warren J.Keegan –P.H.I		
4.	Strategic Management –An Integrated Approach –Hill Jones –(Dreamtech Bictantia)		
5.	Strategic Management Concept & Cases –Thomson & Strictland –Tata McGraw Hill		
6.	Cases in Strategic Management –S.B.Budhiraja & M.B.Athreya –Tata McGraw Hill.		
	Text Book		
1.	Airline Marketing and Management-Stephen Shaw – Ashgate Publishing Limited		
2.	Managing Strategic Airline Alliances-Birgit Kleymann & Hannu Seristo-		

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1				3	3	3	3	
CO 2				3	3	3	3	
CO 3		3		3	3	3	3	
CO 4				3	3	3	3	
CO 5				3		3	3	

3-Strong 2-Medium 1-Low

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901G	AIR TRAFFIC CONTROL	Elective	3	-	-	-	3	45	25	75	100
Course Objectives											
C1	To understand the human factors in air traffic control										
C2	To elucidate the information processing process related to air traffic control										
C3	To demonstrate effective communication and team-building strategies										
C4	To understand the Procedures, Circumstances and Background details										
C5	To understand and manage stress in aviation field										
UNIT	Details							No. of Hours	Course Objectives		
I	Human factors in Air traffic Control –Temporal progress in Human Factors in ATC –The circumstances – Background Details – The Human Factors –Preventive measures. Nature of Human Error: Shell model – Modeling Error –Engineering ,Interactive Information Processing – Levels of Behavior – Skill based, Rule Based, Knowledge based – Violations – Decision Making – Action – nature of Intended action – Managing Human error – Individual blame or systemic causal factors.							9	C1		
II	Information processing – Sensation and sensory memory – Perception – Detection – Attention – Recognition – Decision Making and response selection – the visual system – visual sensation, perception, cognition, imagery – visualization in air traffic control. Auditory cognition – Spatial Orientation – Situation awareness – Mental Models – decision making and Judgment – Cognitive aspects – attitudinal behavioral aspects – selection and training							9	C2		
III	Introduction – Communication distortion, expectancy, Noise and masking – Interruption – Listening – Selecting – Attending – Understanding – Non-verbal communication – Touch – Body Language – Communication in the ATC environment – communicating within groups – to solve problems – gate keeping – mediating – Criticism – Leadership – Team Building – Stress reduction – Self-development and							9	C3		

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	learning – Communication style – teams and Team work –Teams – Conformity – Compliance – Group decision making – group polarization – group think – cultural influences – Team roles – Working with other teams.		
IV	Procedures – Circumstances – Background details – The Human factors – preventive measures – Checklists – Software display. Human machine systems – operational complexity versus Functional capability – Radar service – Procedural service – Future changes in the controlling environment – navigation: GNSS and free flight – surveillance: ADS and ADS-B – Other Human Factor issues in the CNS environment – Design and development – training – licensing	9	C4
V	Stress – causes of stress – noise and vibration – stress recognition – Stress management – Estimating stress levels -Changing Attitudes and behavior – Post traumatic stress Disorder – Sleep and fatigue – Circadian Rhythms – Cardiovascular and respiratory systems – The digestive system and the kidneys – Mental performance – psychological problems – performance changes – safety management – A case study – The Mount Erebus Disaster – Individual Performance factors – task factors – organizational culture – ATS organizations.	9	C5
	Total	45	
Course Outcome			
Course Outcomes	On completion of this course, students will;	Program Outcomes	
CO1	To understand the human factors in air traffic control	PO4, PO6, PO7	
CO2	To elucidate the information processing process related to air traffic control	PO4, PO6, PO7	
CO3	To demonstrate effective communication and team-building strategies	PO2, PO4, PO6, PO7	
CO4	To understand the Procedures, Circumstances and Background details	PO4, PO5, PO6, PO7	
CO5	To understand and manage stress in aviation field	PO4, PO6, PO7	
Reading List			
1.	https://courses.lumenlearning.com/suny-esc-communicationforprofessionals/chapter/interference-in-communication-processes/		
2.	https://aim-india.aai.aero/sites/default/files/ais_docs/Doc%209758%20-%20Human%20Factors%20Guidelines%20ATM%20Systems.pdf		
3.	http://aviationlearning.net/files/HumanFactors%20AAt%20booklet.pdf		
4.	https://www.researchgate.net/publication/270584102_Improving_the_mastery_of_human_factors_in_a_safety_critical_ATM_organisation		

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	Reference Book
1.	Investigating Human Error –Barry Strauch –Ashgate Publishing Limited Staffing the ATM System –Hinnerk Eibfeldt, Mike C.Heil and Dana Broach –Ashgate Publishing Limited.
2.	Innovation and Consolidation in Aviation – GrahamEdkins and PeterPfister – Ashgate Publishing Ltd.
3.	Air Traffic Control: Human Performance Factors –Anne R.Issac with Bert Ruitenbergh-Ashgate Publishing Ltd.
4.	Michael S Nolan, Fundamentals of Air Traffic Control, Delmar Publicaiton, 5 th Edition, 2018
5.	Air Traffic Control: Past, Present and Future., Sundara Mahalingam., Kaveri Books.
6.	Human Factors In Air Traffic Control., V. D. Hopkin.,2017, United Kingdom: CRC Press.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1				3		3	3	
CO 2				3		3	3	
CO 3		3		3	3	3	3	
CO 4				3	3	3	3	
CO 5				3		3	3	

S-Strong M-Medium L-Low

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901H	AIRCRAFT MAINTENANCE MANAGEMENT	Elective	3	-	-	-	4 5	3	25	75	100
Course Objectives											
C1	To learn about the goals of aircraft maintenance										
C2	To understand the documents to be maintained										
C3	To study the production planning and technical training										
C4	To study on basic maintenance control										
C5	To know the role of quality assurance and quality control										
UNIT	Details							No. of Hours	Course Objectives		
I	AIRCRAFT MAINTANANCE Goals and Objectives of Maintenance: Types of Maintenance-Reliability, Redesign. Establishing Maintenance Programme. Introduction of Maintenance Steering Group- Process and Task Oriented Maintenance- Maintenance Intervals Defined.							9	C1		
II	Documentation for Maintenance Types of Documentation- Regulatory Documents- Airlines Generated Documents- ATA Document Standards- Maintenance and Engineering Organization.							9	C2		
III	Production Planning and Control Forecasting-Production Planning & Control. Feedback for Planning- Organization for PPC- Technical Publications-Functions of Technical Publication- Technical Training – Training for Aviation Maintenance.							9	C3		
IV	Maintenance Control Centre Responsibilities- Line maintenance operations. Maintenance crew skill requirement- Hammer maintenance activities- Maintenance overall shops (off aircraft)							9	C4		

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V	Quality Assurance and Quality Control Requirement for Quality Assurance. Quality Audit-ISO 9000 Quality Standard- Reliability- Types of Reliability- Maintenance Safety-Safety Rules-Accident & Injury Reporting.	9	C5
	Total	45	
Course Outcomes			
Course Outcomes	On completion of this course, students will;		
CO1	To Understand the goals and objectives of aircraft maintenance	PO4, PO6, PO7	
CO2	Identify the documents to be maintained	PO4, PO6, PO7	
CO3	To know about the production planning and technical training	PO4, PO6, PO7	
CO4	To know the basic maintenance control	PO4, PO6, PO7	
CO5	Imbibe the role of quality assurance and quality control	PO4, PO6, PO7	
Reading List			
1.	https://www.softwaretestinghelp.com/quality-assurance-vs-quality-control/		
2.	https://www.interviewbit.com/blog/difference-between-quality-assurance-and-quality-control/		
3.	https://ftmaintenance.com/maintenance-management/8-maintenance-management-objectives/		
4.	https://resources.workable.com/maintenance-worker-job-description		
References Books			
1.	Aviation Maintenance Management-Harry A KinnisonMcGraw Hill		
2.	Risk Management And Error Reduction In Aviation Maintenance- ManojS.Patankar and James C.Taylor-Ashgate Publishing Ltd		
3.	Managing Maintenance Error-James Reason And Alan Ho		
4.	Introduction to Aircraft Maintenance. (2012). United States: Avotek Information Resources.		
5.	Delp, F., Watkins, W., Sterkenburg, R., Kroes, M. (2013). Aircraft Maintenance and Repair, Seventh Edition. United Kingdom: McGraw-Hill Education.		
6.	Siddiqui, T., Kinnison, H. A. (2012). Aviation Maintenance Management, Second Edition. United Kingdom: McGraw-Hill Education.		

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1				3		3	3	
CO 2				3		3	3	
CO 3		3		3	3	3	3	
CO 4				3	3	3	3	
CO 5				3		3	3	

3-Strong 2-Medium 1-Low

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Subject Code	Subject Name	Category	L	T	P	O	Credits	Inst. Hours	Marks		
									CIA	External	Total
934E901I	AIRLINES INSURANCE	Elective	3	-	-	-	3	45	25	75	100
Course Objectives											
C1	To learn about the airline insurance										
C2	To understand the valuation and sources of fund										
C3	To study the airline leasing and financing										
C4	To have a basic knowledge of risk management										
C5	To know the role of aviation insurance and its pricing										
UNIT	Details							No. of Hours	Course Objectives		
I	AIRLINE FINANCE Introduction-need&importance-world airline financial resultsFactors affecting financial results-asset utilization-key financial issues- Airline financial ratio-performance earning ratio-risk solvency ratio- Liquidity ratio-stock market ratio-interairline comparison of financial ratio.							9	C1		
II	AIRLINE VALUATIONS AND SOURCE OF FINANCE: The valuation of tangible and intangible assets-the valuation of the airline as a whole- Rating agencies-sources of internal and external finance-institutions involved in airline finance- Term loan payments, book profitand manufacturer's prepayment..							9	C2		
III	AIRCRAFT LEASING AND FINANCE: Finance lease-meaning,objectives,different type of leasing,major,differences between wet,sales and operating lease.Securitization of aircraftmeaning,purpose and advantage,airline traffic and financial forecasts-Airline capital expenditure projections and airline financial requirement forecasts.							9	C3		
IV	PRINCIPLES OF INSURANCE AND RISK MANAGEMENT History of aviation insurance basic principal of insurance-basic terminologies in general insurance.Insurers-risk & insurance-risk management.							9	C4		
V	AVIATION INSURANCE: Aircraft hull and liability insurance-sample policy and							9	C5		

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	endorsement-airport premise liability and other aviation coverage- Underwriting and pricing aviation risk- aviation business property insurance and transport insurance.		
	Total	45	
Course Outcomes			
Course Outcomes	On completion of this course, students will;		
CO1	They understand about the airline insurance	PO4, PO6, PO7	
CO2	Identify the valuation and sources of fund	PO4, PO6, PO7	
CO3	Understand the airline leasing and financing	PO4, PO6, PO7	
CO4	To have a basic knowledge of risk management	PO4, PO6, PO7	
CO5	To know the role of aviation insurance and its pricing	PO4, PO6, PO7	
Reading List			
1.	https://www.oecd.org/daf/fin/insurance/4.DavidGasson-background.pdf		
2.	https://en.wikipedia.org/wiki/Aviation_insurance#:~:text=Aviation%20insurance%20provides%20coverage%20for,damage%20caused%20by%20aircraft%20accidents.		
3.	https://www.bankbazaar.com/miscellaneous-insurance/aviation-insurance.html		
4.	https://avioninsurance.com/the-importance-of-getting-an-aviation-insurance/		
References Books			
1.	M.N.Mishra:Insurance principles and practices references		
2.	Peter.S.Morrel,AirlineFinance,Ashgate		
3.	P.Periyasamy: Principles and practices of insurance		
4.	Gail F Butler &Martin R Keller,-Airline Finance,McGraw Hill		
5.	Alexander.T.Wells&Bruce.D,Aviation Insurance and Risk Management,Krieger		
6.	Introduction to Aviation Insurance and Risk Management. (2007). United States: Krieger Pub..		

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
CO 1				3		3	3	
CO 2				3		3	3	
CO 3		3		3	3	3	3	
CO 4				3	3	3	3	
CO 5				3		3	3	

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The students will be Evaluated and Assessed on all the courses as given below:

Methods of Evaluation		
Internal Evaluation	Continuous Internal Assessment Test	25 Marks
	Assignments	
	Seminars	
	Attendance and Class Participation	
External Evaluation	End Semester Examination	75 Marks
	Total	100 Marks
Methods of Assessment		
Recall (K1)	Simple definitions, MCQ, Recall steps, Concept definitions	
Understand/ Comprehend (K2)	MCQ, True/False, Short essays, Concept explanations, Short summary or overview	
Application (K3)	Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain	
Analyze (K4)	Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas, Map knowledge	
Evaluate (K5)	Longer essay/ Evaluation essay, Critique or justify with pros and cons	
Create (K6)	Check knowledge in specific or offbeat situations, Discussion, Debating or Presentations	

Evaluation and Assessment

The students will be Evaluated and Assessed on all the courses as given below:

Methods of Evaluation		
Internal Evaluation	Continuous Internal Assessment Test	25 Marks
	Assignments	
	Seminars	
	Attendance and Class Participation	
External Evaluation	End Semester Examination	75 Marks
	Total	100 Marks
Methods of Assessment		
Recall (K1)	Simple definitions, MCQ, Recall steps, Concept definitions	
Understand/ Comprehend (K2)	MCQ, True/False, Short essays, Concept explanations, Short summary or overview	
Application (K3)	Suggest idea/concept with examples, Suggest formulae, Solve problems, Observe, Explain	
Analyze (K4)	Problem-solving questions, Finish a procedure in many steps, Differentiate between various ideas, Map knowledge	
Evaluate (K5)	Longer essay/ Evaluation essay, Critique or justify with pros and cons	
Create (K6)	Check knowledge in specific or offbeat situations, Discussion, Debating or Presentations	