

ALAGAPPA UNIVERSITY

(Accredited with A+ Grade by NAAC (CGPA : 3.64) in the Third Cycle ,
Graded as Category-I University and granted autonomy by MHRD-UGC)

DIRECTORATE OF COLLABORATIVE PROGRAMMES



M.B.A (Airline and Airport Management)

Regulations and Syllabus

[For those who join the Course in July 2023 and after]

CHOICE BASED CREDIT SYSTEM

GENERAL INSTRUCTIONS AND REGULATIONS

MBA in Airline and Airport Management conducted by Alagappa University, Karaikudi, Tamil Nadu through its Collaborative Institution Nehru College of Aeronautics and Applied Sciences at Kuniyamuthur, Coimbatore.

Applicable to all the candidates admitted from the Academic year **2023** onwards.

1. Eligibility:

Candidate for admission to **MBA in Airline and Airport Management** shall be required to have passed any bachelor degree from recognized University/Institution.

2. For the Degree:

The candidates shall have subsequently undergone the prescribed programme of study in a institute for not less than two academic years comprising 4 semesters, passed the examinations prescribed and fulfill such conditions as have been prescribed therefore.

3. Admission:

Admission based on the marks in the qualifying examination.

4. Duration of the course:

The course shall extend over a period of two years under semester pattern accounting to four semesters.

5. Standard of Passing and Award of Division:

- a. Students shall have a minimum of 50% of total marks of the University examinations in each subject. The overall passing minimum is 50% both in aggregate of Continuous Internal Assessment and external in each subject.
- b. The minimum marks for passing in each theory / Lab course shall be 50% of the marks prescribed for the paper / lab.
- c. A candidate who secures 50% or more marks but less than 60% of the aggregate marks, shall be awarded **SECOND CLASS**.
- d. A candidate who secures 60% or more of the aggregate marks, shall be awarded **FIRST CLASS**.
- e. The Practical / Project shall be assessed by the two examiners, by an internal examiner and an external examiner.

6. Continuous internal Assessment:

- a. Continuous Internal Assessment for each paper shall be by means of Written Tests, Assignments, Class tests and Seminars
- b. **25 marks** allotted for the Continuous Internal assessment is distributed for Written Test, Assignment, Class test and Seminars.
- c. Two Internal Tests of 2 hours duration may be conducted during the semester for each course / subject and the best marks may be considered and one Model Examination will be conducted at the end of the semester prior to University examination. Students may be asked to submit at least five assignments in each subject. They should also participate in Seminars conducted for each subject and marks allocated accordingly.
- d. Conduct of the continuous internal assessment shall be the responsibility of the concerned faculty.
- e. The continuous internal assessment marks are to be submitted to the University at the end of every year.
- f. The valued answer papers/assignments should be given to the students after the valuation is over and they should be asked to check up and satisfy themselves about the marks they have scored.

- g. All mark lists and other records connected with the continuous Internal Assessments should be in the safe custody of the institution for at least one year after the assessment.

7. Attendance:

Students must have earned 75% of attendance in each course for appearing for the examination.

Students who have earned 74% to 70% of attendance to be applied for condonation in the prescribed form with the prescribed fee.

Students who have earned 69% to 60% of attendance to be applied for condonation in the prescribed form with the prescribed fee along with the medical certificate.

Students who have below 60% of attendance are not eligible to appear for the examination. They shall re-do the semester(s) after completion of the programme.

8. Examination:

Candidate must complete course duration to appear for the university examination. Examination will be conducted with concurrence of Controller of Examinations as per the Alagappa University regulations. **University may send the representatives as the observer during examinations.** University Examination will be held at the end of the each semester for duration of 3 hours for each subject. Certificate will be issued as per the AU regulations. **Hall ticket will be issued to the 1st year candidates and upon submission of the list of enrolled students along with the prescribed course fee, subsequent 2nd year hall tickets will be issued.**

9. Miscellaneous

- a. Each student possess the prescribed text books for the subject and the workshop tools as required for theory and practical classes.
- b. Each student is issued with an identity card by the University to identify his / her admission to the course
- c. Students are provided library and internet facilities for development of their studies.
- d. Students are to maintain the record of practicals conducted in the respective laboratory in a separate Practical Record Book and the same will have to be presented for review by the University examiner.
- e. Students who successfully complete the course within the stipulated period will be awarded the degree by the University.

10. Fee structure

Course fee shall be as prescribed by the University and 50% of the course fee should be disbursed to University. Special fees and other fees shall be as prescribed by the Institution and the fees structure must be intimated to the University. Course fees should be only by Demand draft / NEFT and AU has right to revise the fees accordingly.

11. Other Regulations:

Besides the above, the common regulation of the University shall also be applicable to this programme

M.B.A (AIRLINE AND AIRPORT MANAGEMENT)

VISION STATEMENT:

- To be a pioneering force in grooming future leaders who will drive strategic innovation and transformation within the airline and airport management sector.
- To cultivate a cohort of professionals armed with a profound understanding of international aviation practices, enabling them to navigate the complexities of a rapidly evolving global market.
- To create a vibrant ecosystem of academia, industry partnerships, and international collaborations, facilitating the exchange of knowledge, best practices, and expertise.

MISSION STATEMENT:

- At the M.B.A-Airline and Airport Management program, our mission is to cultivate a cadre of exceptional leaders who will drive the advancement and sustainability of the aviation industry. Through a comprehensive curriculum enriched by industry experts, cutting-edge research, and practical experience, we aim to equip our graduates with the knowledge, skills, and ethical foundation necessary to excel in the dynamic world of airline and airport management.
- Our program is dedicated to fostering the importance of innovation in the aviation industry global awareness and social responsibility, ensuring that our graduates are poised to address challenges, seize opportunities, and lead with integrity in a complex and evolving aviation industry.
- By nurturing a collaborative learning environment, nurturing industry partnerships, and promoting continuous growth, we are committed to producing industry-ready professionals who will contribute significantly to the growth, innovation, and excellence of the global aviation sector

GRADUATE ATTRIBUTES

1. MBA graduates will have a comprehensive and integrated understanding of essential functional business disciplines.
2. MBA graduates will have a global perspective that is required to lead and manage businesses in a diverse and changing environment.
3. MBA graduates will have strong appreciation for and ability to apply evidence-based approaches in making decisions.
4. MBA graduates will possess a strategic mindset and frameworks to recognise and respond effectively to internal and external challenges and opportunities.
5. MBA graduates will aspire and possess the necessary frameworks to be ethical and socially responsible managers and leaders.

P.E.O- Programme Education Objectives

PEO 1	To empower students with current business knowledge and skills in functional domains of aviation management.
PEO 2	To provide experiential learning avenues for managerial professional development.
PEO 3	To inculcate professional ethics, human values, and social responsibility for organizational and societal development.
PEO 4	To adapt to the power of emerging technologies, fostering graduates with the ability to enhance operational efficiency and customer experience.
PEO 5	To develop the skills and knowledge in the theoretical and possess practical skills and hands-on experience that seamlessly translate into real-world scenarios.

Programme Specific Objectives

PSO 1	This MBA Programme aims to develop qualified future managers with proper education, training, research, and consultancy orientations.
PSO 2	It aims at grooming business and aviation professionals into true management leaders by imparting quality education, and training them to challenge the convention and think innovatively.
PSO 3	To Understand the application of theoretical studies into the real-time application-based approaches through Case-based study, Internship and on-the-job training method.
PSO 4	To Understand the problem-solving and strategic planning ability, enhancing analytical skills and the ability to cope with demands and challenges.
PSO 5	To Radiate leadership, creativity, positive attitude, skills, enthusiasm and continuous learning from every aspect, illuminating the path to enhancing business excellence in both industry and academia.

The programme outcome (PO's)-

On successful completion of the M.B.A(Airline and Airport Management) programme.	
PO1	Students will have a comprehensive understanding and knowledge of the aviation industry, including its history, regulations, trend challenges and opportunities.
PO2	Students will be well-versed in airline and airport operations including aspects such as terminal management, ground operations, fleet management, passenger services, baggage handling, and security protocols.
PO3	Students will be able to apply strategic management principles to the aviation context including devising strategies for business development, market expansion, and competitive advantage in the airline and airport sectors.
PO4	Students will have the ability to manage financial aspects specific to aviation, such as budgeting, cost control revenue management, and financial analysis for airlines and airports.
PO5	Students will understand the importance of effective marketing in the aviation industry, as well as how to provide exceptional customer service to passengers, cargo clients, and other stakeholders.
PO6	Students will be familiar with aviation regulations, safety standards, and legal requirements applicable to airlines and airports, ensuring compliance and operational integrity.
PO7	Students will possess leadership skills to manage teams effectively in aviation, fostering collaboration and motivation among staff members.
PO8	Students will be able to identify and manage risks inherent to the aviation industry, including operational, financial, safety, and security-related risks.
PO9	Given the international nature of the aviation industry, students will have a global outlook and be capable of dealing with cross-cultural challenges and international market dynamics.
PO10	Students will be aware of the latest technological advancements in aviation, such as digitalization, data analytics, and automation, and their impact on enhancing operational efficiency.
PO11	With the growing emphasis on sustainability, students will understand the environmental and social implications of aviation operations and be able to contribute to sustainable practices within the aviation industry.
PO12	Students will be equipped to navigate ethical dilemmas and understand the importance of corporate social responsibility within the aviation sector.

Programme Specific Outcomes (PSO)

After the successful completion of the M.B.A (Airline and Airport Management) programme, the students are expected to:	
PSO 1	Apply professional skills in functional areas of management for organizational effectiveness
PSO 2	Evaluate managerial challenges and intricacies associated with the worldwide economy and the realm of international business within the context of aviation management.
PSO 3	Perform marketing, human resource, finance, airline, and airport management roles in multinational organizations.
PSO 4	After completion of their studies, graduates can move to managerial positions in aviation and related industries.
PSO 5	Graduates can work in airlines, airports, logistics, and the travel and tourism industry.

**M.B.A (AIRLINE AND AIRPORT MANAGEMENT)
PROGRAMME STRUCTURE**

S. No	Course Code	Courses	Name of the Subject	T/P	Credits	Hours/Week	I	E	Total
I SEMESTER									
1	92011	CC	Management Practices	T	4	4	25	75	100
2	92012	CC	Organizational Behaviour	T	4	4	25	75	100
3	92013	CC	Principles of Aviation Management	T	4	4	25	75	100
4	92014	CC	Airport Economics	T	4	4	25	75	100
5	92015A	Elective 1:	i) Airline Finance Management (or)	T	4	4	25	75	100
	92015B		ii) Statistical Methods						
6	92016A	Elective 2:	i) Executive Communication (or)	T	4	5	25	75	100
	92016B		ii) Management Information Systems Library/Yoga/Counselling/Field Visit						
					24	30	150	450	600
II SEMESTER									
7	92021	CC	Human Resource Management	T	4	4	25	75	100
8	92022	CC	Strategic Airport Planning	T	4	4	25	75	100
9	92023	CC	Airline and Airport Marketing	T	4	4	25	75	100
10	92024	CC	Air Traffic Control	T	4	4	25	75	100
11	92025A	Elective 3:	i) Aviation Industry (or)	T	4	4	25	75	100
	92025B		ii) Aviation Resource Management						
12	92026A	Elective 4:	i) Business Research Methods (or)	T	4	4	25	75	100
	92026B		ii) Financial and Management Accounting						
13	92027A	Elective 5:	i) Logistics and Air Cargo Management (or)	T	5	5	25	75	100
	92027B		ii) Promotion Management						
			Self Learning Course(SLC)- MOOCs				Extra Credit		
			Library/ Yoga/ Counselling/ Field Visit			1			
					29	30	175	525	700
*Internship or mini project during summer. The credit shall be awarded in Semester III statement of marks									
III SEMESTER									
14	92031	CC	Business Ethics and CSR	T	4	4	25	75	100
15	92032	CC	Aviation Rules and Regulations	T	4	4	25	75	100
16	92033	CC	Airport Operations Management	T	4	4	25	75	100
17	92034	CC	Airside Planning	T	4	4	25	75	100
18	92035A	Elective 6:	i) Strategic Aviation Management (or)	T	4	4	25	75	100
	92035B		ii) Supply Chain Management						
19	92036A	Elective 7:	i) Customer Relationship Management (or)	T	5	5	25	75	100
	92036B		ii) Quantitative Techniques						
20	92037A	Elective 8:	i) Travel and Tourism Management (or)	T	4	4	25	75	100
	92037B		ii) Services Marketing						

21	92038A 92038B		Internship or Mini project	I/ PR	4	-	25	75	100
			Self Learning Course (SLC)- MOOCs		Extra Credit				
			Library/Yoga/Counselling/Field Visit			1			
					33	30	200	600	800
IV SEMESTER									
22	92041A 92041B	Elective 9:	i) Aviation and Airport Security (or) ii) Aviation Ancillary Services	T	4	5	25	75	100
23	92042A 92042B	Elective 10:	i) Future Aviation Systems (or) ii) Cabin Crew Management	T	4	5	25	75	100
24	92043A 92043B	Core	Dissertation Work or Internship Programme	D/ I	8	20	50	150	200
					16	30	100	300	400
			TOTAL		102	120	625	1 1875	2500

SEMESTER - I					
Course Code:92011	CORE 1	MANAGEMENT PRACTICES	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. Discuss and communicate the management evolution and how it will affect future managers. 2. Observe and evaluate the influence of historical forces on the current practice of management. 3. Identify and evaluate social responsibility and ethical issues involved in business situations and logically articulate own position on such issues. 4. Explain how organizations adapt to an uncertain environment and identify techniques managers use to influence and control the internal environment. 5. Practice the process of management's four functions: planning, organizing, leading, and controlling. 				
Unit- I	INTRODUCTION OF MANAGEMENT Management: Science, Theory and Practice – The Evolution of Management Thought and the Patterns of Management Analysis – Management and Society: The External Environment, Social Responsibility and Ethics – Global and Comparative Management – The Basis of Global Management.				
Unit – II	PLANNING The Nature and Purpose of Planning – Objectives – Strategies, Policies and Planning Premises – Decision Making – Global Planning.				
Unit – III	ORGANIZATIONAL STRUCTURE The Nature of Organizing and Entrepreneurship – Organizational Structure: Departmentation – Line / Staff Authority and Decentralization – Effective Organizing and Organizational Culture – Global Organizing.				
Unit – IV	CO-ORDINATION Co-ordination functions in Organization – Human Factors and Motivation – Leadership- Committees and group decision making – Communication – Global Leading				
Unit – V	CONTROLLING The System and Process of Controlling – Control Techniques and Information Technology – Productivity and Operations Management – Overall Control and toward the nature through Preventive Control – Global Controlling and Global Challenges.- Emerging practices in Management : TQM, Six Sigma, JIT etc.,				
Text Book: <ol style="list-style-type: none"> 1. Fundamentals of Management, Robbins. S.P., Pearson, 2003. 					
Reference Books: <ol style="list-style-type: none"> 1. Essentials of Management, Koontz & Weirich, Tata McGraw Hill. 2. Management, Stoner & Wankal, PHI 3. Management, Robert Krcitner, ATTBS. 4. Management – A Global perspective, Weirich & Koontz, McGraw Hill. 5. Management, Helliregarl, Thomson Learning, 2002. 					
Course Outcomes <ol style="list-style-type: none"> 1) Evaluate the global context for taking managerial actions of planning, organizing and controlling. 2) Assess global situation, including opportunities and threats that will impact management of an Organization. 3) Integrate management principles into management practices. 4) Assess managerial practices and choices relative to ethical principles and standards. 5) Specify how the managerial tasks of planning, organizing, and controlling can be executed in a variety of circumstances. 					

CO Number	CO Statement	Knowledge Level
CO1	Identify and apply appropriate management techniques for managing business	K2, K3
CO2	Have a conceptual knowledge about the planning and decision making	K1,K2
CO3	Apply the concept of organizing for the effective functioning of a management	K3
CO4	Evaluate leadership style to anticipate the consequences of each leadership style	K5
CO5	Demonstrate the techniques for controlling and coordination	K4

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	L(1)	S(3)	M(2)	L(1)
CO2	M(2)	S(3)	L(1)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	M(2)	M(2)	S(3)	L(1)
CO5	M(2)	S(3)	M(2)	L(1)	M(2)
W.AV	2.4	2.2	2.2	2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S (3)	M(2)	M(2)	S(3)	M(2)	M(2)	S(3)	S(3)	S(3)	L(1)	M(2)	M(2)
CO2	M(2)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	L(1)	M(2)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	M(2)	L(1)	L(1)	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)
CO4	M(2)	L(1)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	M(2)	M(2)	M(2)	S(3)
CO5	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	L(1)	S(3)	S(3)	M(2)
W.AV	2.6	2.2	2.2	2.2	2.4	2.6	3	2.4	2.4	2.2	2.4	2.6

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - I					
Course Code:92012	CORE 2	ORGANIZATIONAL BEHAVIOUR	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> To Gain insights into individual and group behavior within organizations, fostering a deeper understanding of how people interact, communicate, and make decisions. To learn to build and manage high-performing teams, considering factors like diversity, roles, and collaboration to achieve collective goals efficiently. To Develop change management skills to navigate and facilitate organizational changes, fostering adaptability and resilience among employees. To Gain insights into how organizational culture shapes behavior and performance, enabling students to align their actions with the cultural context. To develop conflict management skills to address and resolve disputes constructively, maintaining a harmonious work environment. 				
UnitO- I	Introduction to Organizational Behaviour Organizational Behaviour: History – evaluation, Challenges & opportunities, contributing disciplines, management functions and relevance to Organization behaviour. Personality – Determinants, structure, behaviour , assessment, psycho – analytical social learning, job-fit, trait theories.				
Unit – II	Emotions, Values and Attitudes Emotions and Emotional Intelligence as a managerial tool, Implications of EI on managers and their performance. Attitudes – relationship with behaviour, sources, types, consistency, work attitudes, values – importance, sources, types, ethics and types of management ethics. Perception – Process, Selection, Organization Errors, Managerial implications of perception.				
Unit – III	Stress Management Stress – Nature, sources, Effects, influence of personality, managing stress. Conflict– Management, Levels, Sources, bases, conflict resolution strategies, negotiation. Foundation of group behaviour: linking teams and groups, Stages of development influence on team effectiveness, team decision making, issues in Managing teams.				
Unit – IV	Organization Change, Politics and Culture Organizational change – Managing planned change. Resistance to change – Approaches to managing organizational change – Organizational Development – values – interventions, change management. Organizational politics – Political behaviour in organizations, Impression management, Self monitoring. Organizational culture – Dynamics, role and types of culture and corporate culture, ethical issues in organizational culture, creating and sustaining culture.				
Unit – V	Global and Cultural Diversity Organizational Behaviour responses to Global and Cultural diversity, challenges at international level, Homogeneity and heterogeneity of National cultures, Difference between countries, The challenges of work force diversity and managing diversity.				
Text Book:					
1.Organizational Behaviour, Robbins. S., X edn., Prentice Hall, India					
Reference Books:					
Organizational Behaviour, Hollinger Slocum, Woodman, IX edn., Thomson learning.					
Organizational Behaviour, Umasekaran, Tata McGraw Hill.					
Concepts contrivances and applications, Robbins. S.P. Prentice Hall.					
Organizational Behaviour, Helliregal.Et. Al, Thomson Learning					
Organizational Behavior 9th Edition- by <u>Steven L. McShane</u> (Author), <u>Mary Ann Von Glinow</u> (Author), <u>Himanshu Rai</u> (Author).					
Organizational Behaviour by L.M Prasad Publisher Sultan Chand & Sons					

Course Outcomes

1. Obtain the conceptual knowledge of organisational behaviour, and analyze the models and concepts.
2. Have a inclusive knowledge about the behaviour of individuals in terms of personality, perception, attitude in organizations.
3. Assimilate and evaluate the importance of group roles and group tasks.
4. Acquaint in various theories of leadership and motivation used in organizations.
5. Gain experience about organisational culture and implementation of commodious organisational climate

CO Number	CO Statement	Knowledge Level
CO1	Obtain the conceptual knowledge of organizational behaviour, and analyse the models and concepts	K1,K4
CO2	Have a inclusive knowledge about the behaviour of individuals in terms of personality, perception, attitude in organisations	K3
CO3	Assimilate and evaluate the importance of group roles and group tasks	K3,K5
CO4	Acquaint in various theories of leadership and motivation used in organizations	K2
CO5	Gain experience about organisational culture and implementation of commodious organisational climate	K3

**On what level it correlated with COs & POs- based on that we have to give marks
Mapping Course Outcome VS Programme Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	L(1)
CO2	M(2)	S(3)	L(1)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	M(2)	S(3)	M(2)	L(1)
CO5	M(2)	L(1)	M(2)	S(3)	M(2)
W.AV	2.6	2.2	2.4	2.2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S(3)	M(2)	M(2)	L(1)	M(2)	M(2)	L(1)	S(3)	S(3)	L(1)	S(3)	M(2)
CO2	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	L(1)	S(3)	M(2)	M(2)	S(3)
CO3	L(1)	M(2)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)
CO4	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	L(1)	M(2)	L(1)
CO5	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)
W.AV	2.2	2.4	2.6	2.2	2	2.4	2.2	2.4	3	2	2.6	2.2

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - I					
Course Code:92013	CORE 3	PRINCIPLES OF AVIATION MANAGEMENT	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. To Learn the History of Aviation , Growth of Aviation Industry, Major Players in Airline Industry, Current Trends and Challenges 2. To Acquire knowledge on Airport Planning ,Airport Operation and various Authorities involved in Airport Management 3. To Learn about the Meteorological Services, Environmental Regulation and Airport fees, Rates and Charges. 4. To Understand the Safety Regulation, Economic Regulation and Aviation Security. 5. To provide knowledge about the Air Traffic Control, Air Space and Navigational Aid. 				
Unit- I	Introduction to Aviation: Aviation – Meaning –Concepts – History – Growth of Aviation Industry – Airlines and Airports – Benefits of Air Transport – Economic Benefits – Travel and Tourism – International trade – Airline Management – Functions – Organizational – Chart – Staff Departments – their Functions – Line Departments – their Functions.				
Unit – II	Aviation Management Structure: Aviation Management Structure : Four Components Viz., Operational Management. Air Transport System – Air freedom rights – Price Competition – Open Sky policy – Airline Pricing – Business to Business relations – Code Sharing / Infrastructural Management – Nature of Airport Terminals – Airport Management – Airport Master Plan – Steps for AMP – Factors influencing Airport Location – Scale and Size of Airport – Infrastructure - Runways, Taxi ways and Apron – Aerodrome Reference Code – Airport Capacity Management – Terminal Management and Apron Management – Scale and Size of Airport.				
Unit – III	Regulatory Management: Regulatory Management: Need for and importance of Regulation – Regulatory Techniques – Principles of Good Regulatory Practice – Forms of Regulatory Mechanism – Airport Regulation – Airport Price Regulation – Nature of Airport Changes – Types of Regulation. Safety and Security Management :- Need for safety – Airport Protection – Principles of Airport Protection – Passenger and Freight Screening – Baggage Screening – Identifying threat and risk – Surveillance and Monitoring – Dangerous goods carried by passengers and crew.				
Unit – IV	General Aviation: General Aviation: Meaning – Uses of General Aviations – Aircrafts – Business Flying, Personal Flying, instructional Flying, Commercial and Industrial Aviation – General Aviation Airports – General Aviation Support Industry – Functions of Fixed Base Operators (FBOs). The Markets for General Aviation.				
Unit – V	Airspace Management: Airspace Management: Navigation system – Air Traffic Control Facilities – ATC Tower – Phases of Flight – Infrastructure safety – Airport and Airspace Congestion Issues – Air Transport Slot Trading. Privatization of Indian Civil Aviation Industry – Airport Privatizations – Objectives – Causes and Models.				

Text Book:

Aviation Management: Global and National Perspectives-Ratandeep Singh

Reference Books:

1. John G. Wensveen - Air Transportation – Ashgate.
2. P.S. Senguttuvan - Principles of Airport Economics – Excel Books.
3. Introduction to Aviation Management, “by Andreas Wittmer and Suzanne K. Keans
4. Air Transportation: A Management Perspective" by John G. Wensveen
5. Basic Airport Management by Dr.Arjun Singh- Zorba Publishers

Course Outcomes

1. It Enable the students to Learn the History of Aviation , Growth of Aviation Industry, Major Players in Airline Industry, Current Trends and Challenges
2. It Enable the students to Acquire knowledge on Airport Planning ,Airport Operation and various Authorities involved in Airport Management
3. It Enable the students to Learn about the Meteorological Services, Environmental Regulation and Airport fees, Rates and Charges.
4. It Enable the students to Understand the Safety Regulation, Economic Regulation and Aviation Security.
5. It Enable the students to provide knowledge about the Air Traffic Control, Air Space and Navigational Aid.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to study of The air transportation industry. Certificated air carriers, the freight and passenger business, general aviation. Economic impact of aviation	K1,K4
CO2	It enable the students to learn the Aviation Management structure	K,K2
CO3	It enable the students to understand Regulatory Management	K3,K5
CO4	It enable the students to Know Key players and functions of general aviation	K2
CO5	It enables the students to Understand the importance of Airspace management and Navigation systems.	K3

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S (3)	M(2)	M(2)	M(2)	M(2)	M (2)	M(2)	L(1)	S(3)	S(3)	M(2)	M(2)
CO2	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	M(2)	S(3)	S(3)
CO3	L(1)	M(2)	M(2)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)
CO4	M(2)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)
CO5	S (3)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)
W.AV	2.2	2.6	2.4	2.2	2.6	2.4	2.8	2.2	2.6	2.6	2.4	2.6

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	S(3)	L(1)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	L(1)	M(2)	S(3)	L(1)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.6	2.4	2.2	2.4	2.2

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - I					
Course Code:92014	CORE 4	AIRPORT ECONOMICS	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. To Understand the key Concepts of Economics and its applications. 2. To Gain Knowledge about Importance of Economics in Aviation Studies. 3. To Learn the various Airport Market and Competition. 4. To Acquire Knowledge on Airport Pricing Strategies. 5. To Understand the Airport Regulations and Airport Privatization. 				
Unit- I	Introduction to Airport Economics: Economics in aviation studies: Economics and its importance – Infrastructure economics – economics of aviation sector in India – Transport economics – importance of economics in aviation studies. Aviation industry and its significance : over view of aviation industry – consumer behavior – Airport operational economics:- History and development of Airport – Airport categories – Functions of Airports – principles of Airport Management – Airport governance and organizational structure.				
Unit – II	Economics of Airport Operation: Airport systems – Airfield operational capacity – factors impeding airport capacity – Terminal building - Passengers flows – Airport congestion and delay – Factors affecting delay – financial losses of Air traffic delay – measures of decongestion Airport slot mechanism – Airport infrastructure capacity – Airport transformation – Levels of Airport Activity – Functions of Airline level 3 Airport – Slot trading – Allocation of Runways – slot markets – slot aviation.				
Unit – III	Airport market and competition Airport market and competition: Airports competitiveness – factors of Airport competition – competitive strategies – Airport strategic options – Airport strategic direction methods – Hub and spoke airport strategies – Emerging trends in Airport business activities – Airport Finance: goals of airport finance – airport and air navigator changes – Airport revenue – sources – Airport charges – non aeronautical revenue				
Unit – IV	Airport pricing strategy Airport pricing strategy : pricing objectives – factors determining pricing – principles of airport pricing – Airport costs – Airport operating costs – compensatory – Airport approach – Airport business plan and budget – Airport performance system: performance indicators – performance measures – measuring standards for airport services – customer satisfaction.				
Unit – V	Regulations and Privatization: Regulations and competitions: Meaning and definition – objectives – principles of regulatory practices – need – Techniques – Forms of regulatory mechanism – Alternative regulatory mechanism – profit controls – Regulating Airport industry – Airport privatization – objectives – Forms of Airport privatization – Privatization in India – Airport ownership models – case studies about Airport owning in Britain – India – USA.				
Text Book:					
1. Principles of Airport Economics- Senguttuvan					
Reference Books:					
1. P.S. Seguttuvan – Airport Economics, Excel Books, 2007					
2. P.S. Seguttuvan – Principles of Airport Management, Excel, 2007.					
3. Managerial Economics – Maheswari , Sultan Chand Airport Economics by Peter Forsyth					
4. The Economics of Airport Operations (Advances of Airline Economics) by James Peoples and					

John Bitzman.

5. Air Transportation: A Management Perspective" by John G. Wensveen

Course Outcomes

1. It enable the students to Understand the key concepts of airport economics and their application.
2. It enable the students to Gain Knowledge about Importance of Economics in Aviation Studies.
3. It enable the students to learn the various Airport Market and Competition.
4. It enable the students to acquire Knowledge on Airport Pricing Strategies.
5. It enable the students to Understand the Airport Regulations and Airport Privatization.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to Understand the key concepts of airport economics and their application.	K1,K4
CO2	It enable the students to Gain Knowledge about the Importance of Economics in Aviation Studies	K,K2
CO3	It enable the students to learn the various Airport Market and Competition.	K3,K5
CO4	It enable the students to Acquire Knowledge on Airport Pricing Strategies.	K2
CO5	It enable the students to Understand the Airport Regulations and Airport Privatization.	K3

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S(3)	M(2)	M(2)	L (1)	M(2)	M(2)	L(1)	S(3)	S(3)	L(1)	M(2)	M(2)
CO2	M(2)	S(3)	S(3)	S(3)	M (2)	S(3)	M(2)	L(1)	S(3)	M(2)	S(3)	S(3)
CO3	L(1)	M(2)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)
CO4	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	L(1)	M(2)	S(3)
CO5	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	L(1)	M(2)
W.AV	2.2	2.4	2.6	2.2	2	2.4	2.2	2.4	3	2	2.2	2.6

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	L(1)
CO2	M(2)	S (3)	L(1)	S(3)	M(2)
CO3	S (3)	M (2)	S(3)	L(1)	S(3)
CO4	S (3)	M (2)	S(3)	M(2)	L(1)
CO5	M (2)	L (1)	M(2)	S(3)	M(2)
W.AV	2.6	2.2	2.4	2.2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - I					
Course Code:92015A	DSE-1A	AIRLINE FINANCE MANAGEMENT	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> To Gain proficiency in analysing financial statements, assessing the financial health of airlines, and interpreting financial ratios to make informed decisions about resource allocation and investments. To Understand the proficiency in capital budgeting techniques, enabling effective decision making regarding long term investment projects To acquire skills in assessing and mitigating financial risks inherent to aviation sector, such as foreign exchange fluctuations, fuel price volatility and economic uncertainties. To Explore the complexities of aircraft leasing, including nuance of financial and operating lease to make informed decisions To Learn techniques to evaluate the financial viability of aircraft acquisition, and other investment opportunities 				
Unit- I	Introduction to Airline Finance Management: Finance – Meaning and Definition – Scope and Functions – Functions of Financial Manager – Financial Planning – Financial Statement Analysis – Objectives and Limitation of Financial Statements – Tools and Methods of Analysis – Cash Flow and Funds Flow Statements – Ratios – Income and Expenditure of Airlines – Assets and Liabilities of Airlines – Accounting for Frequent Flyer Award – Time Value of Money.(No Problems)				
Unit – II	Long Term Funds & Working Capital: Long-term Funds:- Source of Long Term Funds – Equity capital – Public Issues of Shares – Internal accruals – Preference Capital – Term Loan – Debentures – Venture Capital – Methods of Venture Capital financing – Working capital financing:- Nature and need for working capital – Deferred Income – Trade Credit – Bank Overdraft – Public Deposit – Commercial Papers.				
Unit – III	Airline Valuation: Valuation of Airlines – Value of Tangible and In-tangible Assets – methods of Valuation – Factors determining Value of Traffic Rights – Valuing Right to Airport Slot – Capital Budgeting Techniques – Meaning – Types – Start –up Airline Business plan – Internal and External Sources of Airline Finance – Institutions involved in Airline Finance.				
Unit – IV	Airline Leasing: Airline Leasing – meaning – Features of Air Craft Leasing – Types of Aircraft Leasing – Merits and Demerits of Leasing – Lease Vs Hire Purchase – Financial Lease Vs Operating Lease. Rating Agencies :- International Rating Agencies – Rating methods- Rating Agencies in India. Aircraft Securitization – Meaning and Types.				
Unit – V	Airline Privatization Airline Privatization – Reasons – Methods. Airline Financial Planning Budgeting – Advantages and Limitations – Types of Budgets – Budgetary Control – Investment Decisions – Meaning - Methods of evaluating Investment Proposals. Mergers, Acquisitions – Steps and Methods of Valuing Assets. Foreign Exchange – meaning – Functions of Foreign Exchange Markets – Fuel Exposure to Exchange Fluctuation.				

Text Books:

1. Advanced Financial Management: Kohok, M. A., Everest Publishing House

Reference Books:

1. Peter Morrel – Airline Finance – Ashgate.
2. Gail F.Burea and Martin Keller – Airline Finance – McGraw Hill.
3. P.Periyasamy – Financial Management – Vijay Nicole Imprints Pvt., Ltd.I.M. Pandey – Financial Management – Mc Graw Hill.
4. Indian Financial System: Khan, M. Y., TMH Publication.
5. P.S. Seguttuvan – Principles of Airport Management, Excel, 2007.

Course Outcomes

1. Helps to Understand the basic concepts of Airline Finance Management
2. Students will learn the different types of funds, Working capital and methods to generate funds for business.
3. Gain the knowledge on types of Airline assets and Liabilities
4. It enables the students to understand the concept airline leasing and its types.
5. Provides detailed information on Airline Privatization and Investment decision.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to Understand the basic concepts of Airline Finance Management	K1,K2
CO2	It enable the students to Learn different types of funds, Working capital and methods to generate funds for business	K2,K2
CO3	It enable the students to Understand the types of Airline assets	K1, K2
CO4	It enable the students to Understand the concept airline leasing and its types	K1, K5
CO5	It enable the students to Understand Airline Privatization and Investment decision	K5,K3

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	M(2)	M(2)	M (2)	M(2)	L(1)	S(3)	S(3)	L(1)	S(3)
CO2	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	M(2)	L(1)
CO3	M(2)	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	S(3)	S(3)
CO4	S (3)	L(1)	S(3)	M(2)	L(1)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)
CO5	S (3)	S(3)	M (2)	S(3)	M(2)	S(3)	M(2)	M(2)	S(3)	S(3)	M(2)	S(3)
W.AV	2.6	2.2	2.4	2.6	2.2	2.6	2.4	2.2	3	2.6	2.2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	M(2)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	L(1)	S(3)	M(2)	M(2)	L(1)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.2	2.6	2.4	2.2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - I

Course Code: 92015B	DSE-1B	STATISTICAL METHODS	T	Credits: 4	Hours: 4
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Objectives	<ol style="list-style-type: none"> 1. Students should learn how statistical techniques fit into the general process of science. 2. To find the correlation between two variables and form regression lines. 3. Translate real-world problems into probability models. 4. Analyze Statistical data using Time Series and Index Numbers. 5. To understand the concepts of sampling and To estimate the parameters using various methods
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Unit- I	<p>Introduction to Statistics: Meaning and Definitions of Statistics - Scope and Limitations. Statistical enquiries – Functions of Statistics – Classification of Data - Presentation of data by Diagrammatic and Graphical Method.– Organising a Statistical Survey- Planning the Survey – Executing the survey- - Concept of Interest- Simple Interest –Compound Interest.</p>
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Unit – II	<p>Data Analysis: Data Analysis – Uni – Variate – ungrouped and grouped data measures of central Tendencies, measures of dispersion – C V percentages. Bivariate – correlation and regression – problems related to business applications.</p>
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Unit – III	<p>Probability: Probability – definition – addition and multiplication Rules– simple business application problems – probability distribution – expected value concept – theoretical probability distributions – Binomial, Poison and Normal – Simple problems applied to business.</p>
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Unit – IV	<p>Analysis of Time Series and Index numbers: Analysis of Time Series- Variation in Time Series- Trend Analysis- Methods of Measuring Trend - Index number –Methods of Constructing Index numbers – Simple Index- Simple Aggregative Method- Simple Average of Price Relative Method - Composite Index- Laspeyres Method- Paasche’s Method- Fisher’s Ideal Index Method- Marshall Edge worth Method- Consumers price / cost of living Index.</p>
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Unit – V	<p>Testing of Hypothesis: Hypothesis testing of Proportion and Mean – single and two tailed tests – Errors in Hypothesis Testing – Measuring the power of Hypothesis test. Chi – square Tests.</p>
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Text Book:
 1. Statistics for Management – Richard L Levin & Daid S Rubin

Reference Books:
 1. Statistics Methods– Rudolf J. Freund , William J. Wilson.
 2. Statistical Methods – S P Gupta
 3. Statistics for Business and Economics – R P Hoods – MacMillan India Limited
 4. David M. Levine, Timothy C. Krehbiel and Mark L. Berenson
 5. Statistics Methods for Engineers and Scientists – Robert M. Bethea, Benjamin S Duran, Thomas L. Boullion.

Course Outcomes

1. Analyze the data pertaining to attributes and to interpret the results.
2. To recognize and evaluate the relationship between two quantitative variables through simple linear correlation and regression .
3. Students should understand the basic definition of probability and the underlying assumption of random sampling.
4. Develop critical thinking and use Time Series and Index numbers techniques in Business problems.

5. To understand the relationship between sample statistics and population parameters.

CO Number	CO Statement	Knowledge Level
CO1	Analyze the data pertaining to attributes and to interpret the results.	K2, K3
CO2	To recognize and evaluate the relationship between two quantitative variables through simple linear correlation and regression.	K1, K2
CO3	Students should understand the basic definition of probability and the underlying assumption of random sampling.	K3
CO4	Develop critical thinking and use Time Series and Index numbers techniques in Business problems.	K5
CO5	To understand the relationship between sample statistics and population parameters.	K4

**On what level it correlated with COs & POs - based on that we have to give marks
Mapping Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	L(1)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	M(2)	L(1)
CO2	S(3)	S(3)	L(1)	M(2)	L(1)	S(3)	M(2)	L(1)	S(3)	L(1)	S(3)	S(3)
CO3	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	L(1)	S(3)	M(2)	S(3)
CO4	S(3)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	S(3)	M(2)
CO5	M(2)	L(1)	M(2)	M(2)	M(2)	S(3)	L(1)	S(3)	S(3)	S(3)	M(2)	L(1)
W.AV	2.4	2	2.2	2.4	2.2	2.4	2.2	2.4	2.2	2.4	2.2	2

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	M(2)	S(3)	M(2)	S(3)
CO2	L(1)	S(3)	M(2)	S(3)	L(1)
CO3	S(3)	L(1)	S(3)	L(1)	S(3)
CO4	M(2)	S(3)	S(3)	S(3)	S(3)
CO5	M(2)	L(1)	M(2)	L(1)	M(2)
W.AV	2.2	2	2.6	2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - I					
Course Code: 92016A	DSE-2A	EXECUTIVE COMMUNICATION	T	Credits: 4	Hours: 5
Objectives	1. To make the students confident of speaking in English impeccably and with utmost enthusiasm. 2. To familiarize the students with different styles of communication. 3. To make the students aware of various kinds of barriers of communication. 4. To create awareness among students with respect to various ramifications of communication. 5. To kindle the minds of students and encourage them to become extroverts with improved confidence.				
Unit - I	Communication Starters Communication – Meaning and significance for management – Types of communication – Media Barriers to communication – Principles of effective communication.				
Unit – II	Business Correspondence: Correspondence – Norms for Business letters –Letter for different kinds of situations – Personalized standard letters, enquiries, customers complaints, collection letters – sales promotion letters.				
Unit – III	Written Communication Report writing – Structure of reports – classification of reports long & short reports – formal & informal reports – writing research reports technical reports – norms for including exhibits & appendices.				
Unit – IV	Aural and Oral Communication: Non – verbal communication – personal appearance posture – body language – use of charts, diagrams & tables – visual & audio visual aids for communication – Dyadic communication – face to face communication – telephonic conversation.				
Unit – V	Reports, Proposals and Presentations: Conducting Meetings: Procedure – preparing Agenda, minutes and resolutions – conducting seminars and conferences: Procedure of Regulating speech – evaluating oral presentation – Group Discussion: Drafting speech.				
Text Book: 1. Essential of Business Communication, Rajendra Paul and Koralahalli.					
Reference Books: 1. Mastering Business Communication, WOOLCOTT & UNWIN – McMillan. 2. Business Communication, RAISHER– AITBS 3. Developing Communication Skills, KRISHNAMOHAN & MEERA BANNERJEE, McMillan. 4. Business Communication, MALLIKA NAWAL - 2012, Cengage Learning India. 5. Speaking and Writing for Effective Business Communication, FRANCIS SOUNDARARAJ-2008, Macmillan					
Course Outcomes On the successful completion of the course, students will be able to <ol style="list-style-type: none"> 1. Develop knowledge, skills, and judgment around human communication that facilitate their ability to work collaboratively with others. 2. Familiarize with different types of Communication. 3. Successfully confront the different barriers of Communication. 4. Understand and practice different techniques of communication. 5. Become more self-confident and develop strong determination. 					

CO Number	CO Statement	Knowledge Level
CO1	Develop knowledge, skills, and judgment around human communication that facilitate their ability to work collaboratively with others.	K1,K2
CO2	Familiarize with different types of Communication.	K3,K4
CO3	Successfully confront the different barriers of Communication.	K2,K5
CO4	Understand and practice different techniques of Communication.	K4,K5
CO5	Become more self-confident and develop strong determination.	K5,K6

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	L(1)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)
CO2	S(3)	S(3)	S(3)	S(3)	M(2)	M(2)	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	M(2)	M(2)	L(1)	S(3)	M(2)	M(2)
CO4	L(1)	S(3)	S(3)	S(3)	L(1)	M(2)	S(3)	L(1)	M(2)	L(1)	S(3)	S(3)
CO5	M(2)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)
W.AV	2.2	2.6	2.8	2.2	2.4	2.6	2.4	2	2.2	2.4	2.6	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	M(2)	S(3)	S(3)	S(3)
CO2	M(2)	S(3)	M(2)	M(2)	M(2)
CO3	S(3)	L(1)	S(3)	L(1)	S(3)
CO4	M(2)	M(2)	M(2)	M(2)	M(2)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.4	2.2	2.4	2.2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - I					
Course Code:92016B	DSE-2B	MANAGEMENT INFORMATION SYSTEMS	T	Credits: 4	Hours: 5
Objectives	<ol style="list-style-type: none"> 1. Understand sound managerial concepts and principles in the development and operation of information systems 2. Apply systems analysis, IS design and project management concepts effectively 3. Improve business processes through the effective application of information technology concepts and practices 4. Gain knowledge on E-Commerce applications 5. Support the delivery, use, and management of information systems within an information systems environment. 				
Unit- I	FUNDAMENTALS OF INFORMATION SYSTEMS: Information systems in business- fundamentals of information systems solving business problems with information systems- Business Information systems- Transaction processing systems- management information systems and decision support systems- Artificial intelligence technologies in business- information system for strategic applications and issues in information technology.				
Unit – II	ISSUES IN MANAGING INFORMATION TECHNOLOGY: Managing information resources and technologies global information technology- management- planning and implementing change- integrating business change with IT- security and ethical challenges in managing IT- social challenges of information technology.				
Unit – III	INTRODUCTION TO E-BUSINESS: E-commerce frame work- Media convergence- Consumer applications- Organization applications- E-BUSINESS MODEL: Architectural frame work for E-commerce- Application services and transaction Models – B2C Transactions, B2B Transactions, Intra-Organizational Transactions. WWW Architecture: Client server structure of the web, e-Commerce architecture, Technology behind the web.				
Unit – IV	CONSUMER- ORIENTED E-COMMERCE: Consumer oriented Application : Finance and Home Banking- Home shopping- Home Entertainment- Mercantile Process Models- Consumers perspective- Merchants perspective.				
Unit – V	ELECTRONICS DATA INTERCHANGE (EDI): EDI Concepts, Applications in business – components of international trade - Customs Financial EDI- Electronic fund transfer- Manufacturing using EDI-Digital Signatures and EDI.				
Text Book: Management Information systems- managing information technology in the internet worked enterprise- jams. A O'Brien - Tata McGraw Hill publishing company limited, 2002.					
Reference Books: Management Information systems- S. Sadogopan.PHI 1998Edn. ISBN 81-20311809 Information systems for modern management - G.R. Murdick PHI, 2nd Edition. Management Information Systems by Jawadekar- Tata McGraw Hill (TMH) 2nd edition. Management Information Systems – Laudon &Laudon PHI ISBN 81-203-1282-1.1998. Management Information System by James.A.O'Brien,et al.					
Course Outcomes <ol style="list-style-type: none"> 1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions. 					

2. Design, implement and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
5. Support the delivery, use, and management of information systems within an information systems environment.

CO Number	CO Statement	Knowledge Level
CO1	Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.	K1,K2
CO2	Design, implement and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.	K3,K4
CO3	Communicate effectively in a variety of professional contexts.	K2,K5
CO4	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.	K4,K5
CO5	Support the delivery, use, and management of information systems within an information systems environment.	K5,K6

**On what level it correlated with COs &POs - based on that we have to give marks
Mapping Course Outcome VS Programme Outcomes**

S-Strong (3), M- Medium (2), L- Low (1)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S (3)	M(2)	M(2)	L(1)	M(2)	M(2)	S(3)	S(3)	S(3)	L(1)	S(3)	S(3)
CO2	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	L(1)	M(2)	M(2)	M(2)	M(2)
CO3	S(3)	M(2)	M(2)	S(3)	L(1)	M(2)	L(1)	S(3)	S(3)	S(3)	S(3)	S(3)
CO4	M(2)	L(1)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	M(2)	M(2)	L(1)	M(2)
CO5	S(3)	S(3)	M(2)	L(1)	M(2)	S(3)	M(2)	M(2)	L(1)	S(3)	S(3)	S(3)
W.AV	2.6	2.2	2.2	2	2	2.6	2.4	2.2	2.4	2.2	2.4	2.6

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	L(1)	S(3)	M(2)	L(1)
CO2	M(2)	S(3)	L(1)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	M(2)	M(2)	S(3)	L(1)
CO5	M(2)	S(3)	M(2)	L(1)	M(2)
W.AV	2.4	2.2	2.2	2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER – II					
Course Code 92021	CORE 5	HUMAN RESOURCE MANAGEMENT	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. Effectively manage and plan key human resource functions within organizations 2. Examine current issues, trends, practices, and processes in HRM 3. Contribute to employee performance management and organizational effectiveness 4. Develop employability skills for the Canadian workplace 5. Develop effective written and oral communication skills 				
Unit – I	Introduction To HRM: Human Resource – Meaning and Definition – Scope – Role of HRM – Line and Staff aspects of HRM – Functions of Personnel Management – Functions of HR Manager – Characteristics and Qualities of Performance Manager. Man Power Planning:- Definition – Need and Importance – Objectives – Process of Man Power Planning – Determining Man Power Requirement.				
Unit – II	Job Analysis : Job Analysis : Methods – Job Description – Specification – Job Design – Purpose of Job Design – Uses of Job analysis – Job Evaluation :- Objectives, Principles, Methods – Merits and Limitations. Recruitment and Selection Process – Estimating Man Power requirement – Methods of Recruitment – Recruitment Organization – Recruitment through Internet – Selection – Meaning, Need and Methods / Process.				
Unit – III	Training and Development: Training and Development – Need and Importance of Man Power Training and Development – Steps in Training / Development Activity – Types of Training . Management Development – Skills required for Managers – Objectives and Need for Development. Promotions and Transfers:- Purposes, Types and Promotions, Benefits and Limitations of Promotions – Demotion, Separation and Terminations. Performance Appraisal – purposes, Uses and Importance – Requisites of good Appraisal Plan – Methods and Steps of Performance Appraisal – Problems and Limitations in Appraisal – Traditional and modern methods of Appraisal.				
Unit – IV	Employee Compensation: Employee Compensation – Components of Remunerations – Factors influencing Remuneration – Administration of Wages And Salary :- Principles – Compensation plans – Payment methods. Incentives – Meaning and importance – Types of Incentives – Monetary and Non-Monetary Incentives – Merits and Limitations of Incentive Payments. Employee Benefits :- Objectives and Purposes of Fringe Benefits – Types of Benefits and Services – Time Related Benefits.				
Unit – V	Industrial Relations Industrial Relations:- Implications of Industrial Conflicts – Determinants of Industrial Relations. Safety, Health and Security programmes – Removing Stress and Burnout. Grievances and Grievance Handling:- Principles and Guidelines for Grievance Handling – Industrial Disputes and their Causes – Settling Disputes. Trade Union – Nature and Need – Functions – Collective Bargaining – Characteristics – Functions and importance of Collective Bargaining – Principles and Forms of Collective Bargaining.				

Text Book:

1. Fundamentals of Management, Robbins. S.P., Pearson, 2003.

Reference Books:

1. Essentials of Management, Koontz & Weirich, Tata McGraw Hill.
2. Management, Stoner & Wankal, PHI
3. Management, Robert Kreitner, ATTBS.
4. Management – A Global perspective, Weirich & Koontz, McGraw Hill.
5. Management, Helliregarl, Thomson Learning, 2002.

Course Outcomes

On the successful completion of the course, Students will be able to:

1. Demonstrate and understanding of key terms, theories, concepts and practices within the field of HRM
2. Demonstrate competence in development and problem solving skills
3. Provide innovative solutions to problems in the field of HRM
4. Be able to identify and appreciate the significance of various functions of HR
5. Evaluate HRM related social, cultural, ethical and environmental responsibilities and issues in global context.

CO Number	CO Statement	Knowledge Level
CO1	Demonstrate and understanding of key terms, theories, concepts and practices within the field of HRM	K1,K2
CO2	Demonstrate competence in development and problem solving skills	K2,K3
CO3	Provide innovative solutions to problems in the field of HRM	K5,K4
CO4	Be able to identify and appreciate the significance of various functions of HR	K1,K3
CO5	Evaluate HRM related social, cultural, ethical and environmental responsibilities and issues in global context	K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	S(3)	M(2)	M(2)	L(1)	S(3)	M(2)	L(1)	S(3)	L(1)	S(3)	S(3)
CO2	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	M(2)	L(1)
CO3	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	M(2)	S(3)	M(2)	S(3)	S(3)
CO4	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	M(2)	M(2)
CO5	S(3)	S(3)	L(1)	S(3)	M(2)	S(3)	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)
W.AV	2.6	3	2.2	2.8	2.2	2.6	2.4	2.2	2.6	2.4	2.4	2.2

Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	S(3)	L(1)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	M(2)	S(3)
CO4	S(3)	L(1)	M(2)	S(3)	L(1)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.6	2.4	2.2	2.6	2.2

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - II					
Course Code 92022	CORE 6	STRATEGIC AIRPORT PLANNING	T	Credits: 4	Hours: 4
Objectives	<p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <ol style="list-style-type: none"> 1. To Understand the concept of Airport Planning Process. 2. To Gain Knowledge in Airline Decisions and Airport Business. 3. To Learn the various types of Airport Planning. 4. To Acquire Knowledge on Airport Organization and Administration. 5. To Understand the Air Traffic Control Management and Infrastructure. 				
Unit- I	<p>Introduction to Airport planning</p> <p>Introduction – Context of Airport System Planning - Development of the Airport Planning Process – Challenges to the Traditional Planning Approach – Evolving Context of Airport Planning – Traditional Institutional Roles – Market Imperfections – Environmental Concerns – Economic Considerations – Institutional Changes in the Aviation Sector – Strategic View of Planning – The nature of Strategic Planning – Stakeholders, Goals and Objectives – Measuring System Performance – Risk and Uncertainty – Competition – Constraints.</p>				
Unit – II	<p>Airport Business</p> <p>The Ultimate Consumers – Airline Decisions – Other Aircraft Operators – National Government Roles – Implications for Airport Planning – Community Response: Airport Benefits & Disbenefits – Jurisdictional Issues – Economics of Airport Development: The Airport as a Business – Airport Revenues and Costs – Implications for Investment Strategies – Comparative Performance Measures – Public Investment Priorities – Managing Capacity Constraints.</p>				
Unit – III	<p>Types of Airport Planning</p> <p>Regional Airport System Planning: Metropolitan Airport Systems – System Planning Process – Activity allocation Models – Forecasting in a System Planning Context – National Airport System Planning: National Planning Concerns – Implementation Strategies – Institutional Considerations – Role of Analysis in Policy Formulation – Information Dissemination - Planning Principles and Processes – Planning Techniques and Practices – Airport System Design – Conclusions: Lesson</p>				

	from Hindsight – Adapting Creatively for the Future – Recommendations.
Unit – IV	Airport Organization and administration Airport Organization and administration: Airport ownership and Operation- Airport Organization chart- Duties of Airport Manager- Airport Manager and Public relations- The Airfield: Components of airport – Airfield Lighting-Navigational Aids- Air traffic Control and Surveillance facilities-Weather reporting facilities- Security infrastructure on airfields- Organization that influence airport regulatory policies.
Unit – V	Air Traffic Control Management and Infrastructure Air Traffic Control Management and Infrastructure: The Present day air traffic control management and operating infrastructure- The basics of Air Traffic Control- Future developments in ATC- Airport Terminal and Ground Access: Historical development of airport terminal- Components of airport terminal- Airport ground access-The economic, political, and social role of airports: The economic role of airports-Political roles-Environmental impact of airports- Social responsibilities.

Text Book:

1. Strategic Airport Planning - Robert E. Caves & Geoffrey D. Gosling – Elsevier Science Ltd.
2. Airport Planning & Management- Seth B Young and Alexander T wells- McGraw Hill
3. Airport Planning & Design – S.K. Khanna – G.G. Arora, S.S Jain

Reference Books:

1. Aviation Safety Programs A Management Hand Book – Richard H. Wood – Jeppesen Sanderson Inc.
2. Strategic Management – Gregory G. Dess and Alex Miller – McGraw Hill.
3. Strategic Management: An Integrative Perspective – A.C. Hax and NS – Majifu, Prentice Hall.
4. Strategic Management by Gupta C.B
5. Strategic Management Concepts by Frank T. Rothaermel

Course Outcomes

1. It enable the students to work in teams for the Airport Planning Process.
2. It enable the students to Gain Knowledge in Airline Decisions and Airport Business.
3. It enable the students to learn about the various types of Airport Planning.
4. It enable the students to acquire the skills in Airport Organization and Administration.
5. It enable the students to will Understand the Air Traffic Control Management and Infrastructure.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to work in teams for the Airport Planning Process.	K1,K2
CO2	It enable the students to Gain Knowledge in Airline Decisions and Airport Business.	K2,K2
CO3	It enable the students to Develop and Evaluate about the various types of Airport Planning.	K1, K2
CO4	It enable the students to Acquire the skills in Airport Organization and Administration.	K1, K5
CO5	It enable the students to Understand the Air Traffic Control Management and Infrastructure.	K4,K5

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S(3)	L(1)	L(1)	M(2)	S(3)	S(3)	M(2)	L(1)	L(1)	S(3)	L(1)	S(3)
CO2	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)
CO3	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)
CO4	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)
CO5	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)
W.AV	2.6	2.4	2.2	2.6	3	2.8	2.4	2.2	2.2	2.6	2.2	2.6

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M(2)	S(3)	S(3)	S(3)	S(3)
CO2	S(3)	S(3)	S(3)	M(2)	M(2)
CO3	M(2)	M(2)	M(2)	M(2)	S(3)
CO4	S(3)	L(1)	S(3)	M(2)	S(3)
CO5	S(3)	M(2)	S(3)	S(3)	M(2)
W.AV	2.6	2.2	2.8	2.4	2.6

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - II					
Course Code 92023	CORE 7	AIRLINE AND AIRPORT MARKETING	T	Credits: 4	Hours: 4
Objectives	<p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <p>Analyze existing conditions</p> <ul style="list-style-type: none"> λ Make an aviation demand forecast λ Determine facility requirements needed to accommodate this forecasted demand λ Develop and evaluate several alternatives to meet these facility requirements λ Develop the preferred alternative into a detailed Master Plan <ol style="list-style-type: none"> 1. To provide knowledge on the various Principles of Marketing and its application to the Airline Industry. 2. To Gain Knowledge about Product Life Cycle and Pricing Strategies. 3. To Learn the various Distribution Channel Strategies. 4. To Acquire Knowledge on Airport Marketing. 5. To Understand the Airport Business Enterprise functions. 				
Unit- I	<p>Introduction to Airline Marketing</p> <p>Airline Marketing: Marketing – Definition- Marketing Functions- Marketing Mix- The market for transport services- Market segmentation- The Marketing environment-PESTE Analysis: Political, Economic, Social, Technological and Environmental Factors- Airline Business and Marketing Strategies- Porters Competitive Forces- Cost Leadership Strategy- Airline alliances- Differentiation Strategy- Focus Strategies.</p>				
Unit – II	<p>Product Life Cycle and Pricing Strategies</p> <p>Product- Meaning- Product Life cycle- PLC in Aviation industry- Fleet and schedule related product features- Customer service related product features- Controlling product quality- The air freight product- Pricing and revenue management- Pricing Methods- Building blocks- Airline pricing- Uniform and differentiated pricing.</p>				
Unit-III	<p>Distribution channel strategies</p> <p>Distribution channel strategies- Types of channel- The travel agency distribution system- Brands Management- Brand building in airline industry- Brand strategies- Relationship marketing- Fundamentals- Components of relationship marketing strategy- Frequent Flyer Programmes- Airline selling , advertising and Promotional Policies</p>				
Unit-IV	<p>Airport marketing</p> <p>Airport marketing: Meaning – The Air Transport Value Chain- Actors of Air Transport Value Chain- SBU’s of Airport Enterprise- The Channel Leader Vs Gate</p>				

	Guardian- The traditional value proposition of Airport enterprises- The rise of Airport marketing for the Aviation related business- Choice of airport- Airport Market Positioning- Identifying partners for airport development.
Unit – V	Airport enterprise business New Paradigms for the Airport enterprise business- Airport Concessionaires- The Low Cost Airports. Non aviation business by airports- The Best Airport: A Case of Singapore Airport- Airport Loyalty Schemes- Bench marking airline’s experience – Benefits of ALP- Airport Marketing Plan- Goals and Objectives- London Airport the Best in Class Airport -A Case Study.

Text Book:

1. Airline Marketing and Management- Stephen Shaw- Ashgate Publishing Ltd.

Reference Books:

1. Fundamentals of Airline Marketing: Strategies for Success in a Hyper-competitive Environment -by Scott Ambrose , Blaise Waguespack
2. Airport Marketing – David Jarach- Ashgate Publishing Ltd.
3. Marketing Management- Philip Kotler- Pearson Education/PHI
4. Marketing Management- Rajan Saxena- Tata McGraw Hill.
5. Airlines Marketing: The fundamental concepts of airline industry marketing strategy by Davalsab ML.

Course Outcomes

1. It enables the students to gain knowledge about the Principles of Marketing and to apply it in real time situation in a Aviation Industry.
2. It enables the students to understand about the various segments of Air Transport Services thereby to make decision for to make analysis of the Market.
3. It enable the students to learn the various Distribution Channel Strategies.
4. It enable the students to acquire Knowledge on Airport Marketing.
5. It enable the students to Understand the Airport Business Enterprise functions.

CO Number	CO Statement	Knowledge Level
CO1	It enables the students to gain knowledge about the Principles of Marketing and to apply it in real time situation in an Aviation Industry.	K1,K2
CO2	It enables the students to understand about the various segments of Air Transport Services thereby to make decision for to make analysis of the Market.	K2,K4
CO3	It enables the students to formulate Distribution Channel strategies for marketing Airline related products.	K2, K3
CO4	It enables the students to Acquire Knowledge on Airport Marketing.	K3, K5
CO5	It enables the student to use marketing decisions in Airport Business Enterprise.	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	M(2)	M(2)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	L(1)
CO2	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	M(2)	S(3)
CO3	M(2)	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)
CO4	S(3)	L(1)	S(3)	M(2)	L(1)	S(3)	S(3)	S(3)	S(3)	M(2)	M(2)	S(3)
CO5	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	M(2)	S(3)	S(3)	S(3)	S(3)
W.AV	2.6	2.2	2.4	2.6	2.2	3	2.4	2.2	2.8	2.6	2.6	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	M(2)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	L(1)	S(3)	M(2)	M(2)	L(1)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.2	2.6	2.4	2.2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - II					
Course Code 92024	CORE 8	AIR TRAFFIC CONTROL	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. To Prevent collisions between aircraft 2. To Prevent collisions between aircraft in the maneuvering area and obstructions in that area 3. To Expedite and maintain an orderly flow of air traffic 4. To Provide advice and information useful for the safe and efficient conduct of flights. 5. To Notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required. 				
Unit- I	Human Factors in Air Traffic control 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 Behaviour – Skill Based, Rule Based, Knowledge – Based – Violations – Decision – Making – Action – Nature of intended action - Managing Human Error – Individual Blame or systemic causal factors.				
Unit – II	Information Processing and Behavioral Aspects 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 and behavioural aspects- selection and training.				
Unit–III	Communication and Team Management 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 learning – Communication style – Teams and Team work – Teams – Conformity – Compliance – Group Decision Making – Group Polarisation – Group Think – Cultural influences – Team Roles – Working with other teams.				
Unit–IV	ATM and CNS Infrastructure 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.				
Unit – V	Stress Management Stress – Causes of Stress – Noise and Vibration – Stress Recognition – Stress Management – Estimating Stress levels – Changing Attitudes and Behaviour – 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.				

Text Book:

1. Air Traffic Control: Human Performance Factors – Anne R. Isaac with Bert Ruitenber – Ashgate Publishing Ltd.

Reference Books:

1. Investigating Human Error – Barry Strauch – Ashgate Publishing Limited.
2. Staffing the ATM System – Hinnerk Eibfeldt, Mike C. Heil and Dana Broach – Ashgate Publishing Limited.
3. Innovation and Consolidation in Aviation – Graham Edkins and Peter Pfister – Ashgate Publishing Ltd.
4. Fundamentals of Air Transport Management BY P.S. Senguttuvan
5. Fundamentals of Air Traffic Control by Nolan M.S

Course Outcomes

1. It enable the students to understand the concept of air traffic management.
2. It enable the students to learn the components of air traffic management.
3. It enable the students to Gain knowledge on the functions of air traffic management.
4. It enable the students to Interpret transition from air traffic control to air traffic management.
5. It enable the students to Acquire the skills of air traffic control system capacity management.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to understand the concept of air traffic management.	K1,K2
CO2	It enable the students to learn the components of air traffic management.	K2,K2
CO3	It enable the students to Gain knowledge on the functions of air traffic management.	K1, K2
CO4	It enable the students to Interpret transition from air traffic control to air traffic management.	K1, K5
CO5	It enable the students to Acquire the skills of air traffic control system capacity management.	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	S(3)	M(2)	L(1)	M(2)	M(2)	L(1)	M(2)	S(3)	M(2)	M(2)
CO2	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)
CO3	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	M(2)	S(3)
CO4	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)
CO5	M(2)	S(3)	S(3)	L(1)	S(3)	L(1)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)
W.AV	2.6	2.4	2.8	2.2	2.4	2	2.8	2.2	2.8	2.6	2.4	2.6

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	S(3)	M(2)	L(1)	S(3)	M(2)
CO3	M(2)	S(3)	S(3)	L(1)	S(3)
CO4	L(1)	L(1)	S(3)	S(3)	L(1)
CO5	S(3)	M(2)	S(3)	S(3)	M(2)
W.AV	2.4	2.2	2.6	2.4	2.2

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - II					
Course Code 92025A	DSE 3: (i)	AVIATION INDUSTRY	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. To comprehend the key drivers, challenges, and trends shaping the airline industry, including factors like demand, competition, and regulations. 2. To examine the role of technology and innovation in improving efficiency, safety, and passenger experience within the airline industry. 3. To anticipate and adapt to future trends and disruptions in the airline industry, such as emerging technologies, changing travel patterns, and global events. 4. To learn how airlines manage various risks, including economic downturns, fuel price fluctuations, and global events, and develop strategies for risk mitigation. 5. To explore the regulatory environment and its impact on the airline industry, including government policies, safety regulations, and international agreements. 				
Unit- I	Evolution of Aviation The Evolution of Aviation - Growth Drivers - Issues and Challenges - Global Aviation Industry- Aviation Industry in India - An Overview - Aircraft Types and Structures - Aircraft Manufacturers. Deregulation–Impact of Deregulation in the airline industry.				
Unit – II	Airports Civil , Military - Training - Domestic/International - Passenger/Cargo Terminals - World Airlines - World's Major Airports – IATA / ICAO - National Aviation Authorities & Role of State and Central Governments - Airports Authority of India				
Unit – III	Ground handling Layout of an Airport & Ground Handling - Airport & Aircraft Security - Managerial Operations - Airline Catering & Various Bodies Handling of Unaccompanied minors and Disabled Passengers-Handling of Stretcher Passengers and Human Remains- Handling of CIP, VIP & VVIP				
Unit – IV	Airport services Airport Services - Standard Operations - Ramp Services & Airside Safety - Freight Warehouse Management Airline Terminal Management-Flight Information Counter/Reservation and Ticketing-Check In/Issue of Boarding pass-Customs and Immigration formalities-Co-ordination-Security Clearance-Baggage- Technological improvements in aviation industry.				
Unit – V	Crisis management Various Crisis at Airport - SOP for Bomb Threat - Mitigating Hijack Crisis Situation - Response to Acts of Unlawful Interference: Developing Plans – Investigation Methods & Procedures – Troubleshooting the issues – Handling Situational Awareness, Airside Safety–Culture of Safety–Issues in Air Safety–Accident and Incident Investigation.				
Text Book: 1. Flight: The Complete History of Aviation – Reg Grant, DK publisher, 2017.					
Reference Books: 1. Aisle Be Demand – Rishi Piparaiya, Jaico Publishing House, 2013. 2. Airport Planning and Management – Seth Young, Alexander T. Wells, McGraw Hill Education, 2011 3. Airline Industry --- Dr. Sumeet Suseelan- Himalaya Publishing House 4.P.S. Seguttuvan – Principles of Airport Management, Excel, 2007.					

5. Air Transportation: A Management Perspective" by John G. Wensveen

Course Outcomes

1. Regulatory Understanding: Given the highly regulated nature of the aviation industry, students gain a strong understanding of government policies, safety regulations, and compliance issues.
2. Economic Impact Understanding: Students gain an appreciation for the economic impact of the aviation industry, including its contribution to GDP, employment, and tourism.
3. Risk Management: Understanding risk and crisis management is crucial in aviation, and this knowledge can be valuable in various professional contexts.
4. Studying the aviation industry encourages strategic thinking and the ability to make informed decisions, which can be applied to management roles in aviation companies or other industries.
5. Students who study the aviation industry gain in-depth knowledge of this specialized sector, including its unique challenges, regulations, and business dynamics.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students Understand Regulatory aspects about the highly regulated nature of the aviation industry, students gain a strong understanding of government policies, safety regulations, and compliance issues.	K1,K2
CO2	It enable the students to Understand the economic impact of the aviation industry, including its contribution to GDP, employment, and tourism.	K2,K4
CO3	It enable the students to Understand the risk and crisis management is crucial in aviation, and this knowledge can be valuable in various professional contexts.	K1, K2
CO4	It enable the students to strategic thinking and the ability to make informed decisions, which can be applied to management roles in aviation companies or other industries.	K1, K4
CO5	It enable the students to the aviation industry gain in-depth knowledge of this specialized sector, including its unique challenges, regulations, and business dynamics.	K4,K5

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S(3)	M(2)	M(2)	L(1)	M(2)	M(2)	L(1)	S(3)	S(3)	L(1)	M(2)	M(2)
CO2	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	L(1)	S(3)	M(2)	S(3)	S(3)
CO3	L(1)	M(2)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)
CO4	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	L(1)	M(2)	S(3)
CO5	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	L(1)	M(2)
W.AV	2.2	2.4	2.6	2.2	2	2.4	2.2	2.4	3	2	2.2	2.6

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	L(1)
CO2	M(2)	S(3)	L(1)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	M(2)	S(3)	M(2)	L(1)
CO5	M(2)	L(1)	M(2)	S(3)	M(2)
W.AV	2.6	2.2	2.4	2.2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - II					
Course Code 92025B	DSE 3: (ii)	AVIATION RESOURCE MANAGEMENT	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. Understand how to allocate and utilize aviation resources, including human, financial, technological, and operational assets, to achieve optimal efficiency and effectiveness. 2. Learn techniques for recruiting, training, and developing skilled aviation professionals to ensure a well-trained and motivated workforce. 3. Understand the role of resource management in maintaining safety standards and compliance with aviation regulations, promoting a safe operational environment. 4. Gain the ability to plan for and manage resources during emergencies or disruptions, ensuring the continuity of operations and minimizing negative impacts. 5. It focuses on encouraging good teamwork practices within flight crew including understanding team dynamics, roles and responsibilities. 				
Unit- I	Introduction to aviation resource personnel Definition and scope of aviation resource management- the importance of efficient resource allocation in aviation industry. Key aviation resources 4M. Challenges and opportunities in aviation resource allocation. The role of crew resources management				
Unit – II	Safety of aviation personnel Safety issues in capital – cabin crew communication – service, teamwork and flight safety – flight attendants job performances and job satisfaction. Employee motivation and performance evaluation. Communication and teamwork, barriers to communication, stages of development of aviation teams, issues in managing teams.				
Unit – III	Stress Management Sleep and Fatigue management in aviation – Fatigue in air activity – Stress, causes of stress in aviation personnel management, impact of stress and fatigue on performance, strategies for managing stress and fatigue PTSD, Circadian rhythm – the physiological factor - crew concepts in the air ambulance services.				
Unit – IV	Job Requirements Job requirements of Airline Pilots – Pilot selection process – Personality test for traffic controllers – training of pilots and crew members, Recruitment and retention of aviation personnel, – the link between human factors and organizational learning.				
Unit – V	Culture Meaning and definition culture – Creating and implementing human factors in safety culture – cultural issues affecting aviation personnel, human assessment – CRM training in general aviation Structure of aviation operational information, management of aviation operational information – User innovation in Aviation operational information – Future of Aviation operational information.				
Text Book: <ol style="list-style-type: none"> 1. Management in the Airline Industry: Human Resource Management and Pilots (Routledge Research in Employment Relations) – Geraint Harvey, Routledge, 2007. 					
Reference Books: <ol style="list-style-type: none"> 1. Crew Resource Management: A Guide for Professional Pilots - Rexford Penn Craig V. Randall , CreateSpace Independent Publishing Platform, 2013 2. Crew Resource Management – Rexford Penn, The Rexford Penn Group, 2010. 3. Aviation Resource Management: Proceedings of the Fourth Australian Aviation Psychology Symposium 4. Aviation maintenance management- Harry.A.Kinnison- McGraw-Hill. 					

5. Evaluation of Level of Service at Airport Passenger Terminals – Anderson Correia, LAP Lambert Academic Publishing, 2009.

Course Outcomes

1. It enable the students to understand how to allocate and utilize aviation resources, including human, financial, technological, and operational assets, to achieve optimal efficiency and effectiveness.
2. It enable the students to Learn techniques for recruiting, training, and developing skilled aviation professionals to ensure a well-trained and motivated workforce.
3. It enable the students to Understand the role of resource management in maintaining safety standards and compliance with aviation regulations, promoting a safe operational environment.
4. It enable the students to Gain the ability to plan for and manage resources during emergencies or disruptions, ensuring the continuity of operations and minimizing negative impacts.
5. It enable the students to focuses on encouraging good teamwork practices within flight crew including understanding team dynamics, roles and responsibilities.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to understand how to allocate and utilize aviation resources, including human, financial, technological, and operational assets, to achieve optimal efficiency and effectiveness.	K1,K2
CO2	It enable the students to Learn techniques for recruiting, training, and developing skilled aviation professionals to ensure a well-trained and motivated workforce.	K2,K4
CO3	It enable the students to Understand the role of resource management in maintaining safety standards and compliance with aviation regulations, promoting a safe operational environment.	K1, K2
CO4	It enable the students to Gain the ability to plan for and manage resources during emergencies or disruptions, ensuring the continuity of operations and minimizing negative impacts.	K1, K4
CO5	It enable the students to focuses on encouraging good teamwork practices within flight crew including understanding team dynamics, roles and responsibilities.	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	M(2)	M(2)	S(3)	L(1)	S(3)	M(2)	S(3)	S(3)	M(2)
CO2	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	M(2)	S(3)
CO3	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)
CO4	M(2)	L(1)	S(3)	S (3)	L(1)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)
CO5	S(3)	S(3)	M (2)	S (3)	M(2)	S(3)	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)
W.AV	2.6	2.2	2.4	2.6	2.2	3	2.2	2.6	2.8	2.6	2.8	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	M(2)	M(2)	M(2)	S(3)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	S(3)	S(3)	M(2)	L(1)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.4	2.6	2.6	2.2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER – II					
Course Code 92026A	DSE 4 (i)	BUSINESS RESEARCH METHODS	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> To develop understanding of the basic framework of research process. To identify various sources of information for literature review and data collection. To demonstrate knowledge of research process by conducting a literature review in their research area interest. Define and develop a possible research interest area to be taken forward in their business research projects later in the second year of study. To conduct an independent publishable research project. 				
Unit – I	Introduction to Research Methodology: Research – meaning – scope and significance – Types of research – Research Process – Characteristics of good research – Scientific method – Problems in research – Identifying research problem – objectivity in research. – sampling design – meaning – concepts – steps in sampling – criteria for good sample design – Types of sample designs – Probability and non – probability samples.				
Unit – II	Hypothesis Test: Hypothesis: meaning – sources – Types – formulation Research design – Types – features of good design – measurement – meaning – need Errors in measurement – Tests of sound measurement Techniques of measurement – scaling Techniques – meaning – Types of scales – scale construction techniques.				
Unit – III	Data collection: Types of data – sources – Tools for data collection methods of data collection – constructing questionnaire – Pilot study – case study – Data processing:- coding – editing – and tabulation of data – Data analysis.				
Unit – IV	Test of Significance: Test of Significance:- Assumptions about parametric and non-parametric tests. Parametric Test – Chi square, T test, F Test and Z test – Non Parametric Test – U Test, Kruskal Wallis, Sign test. Introduction to ANOVA One way, Two way, Multivariable (No problems)				
Unit – V	Interpretation: Interpretation – meaning – Techniques of Interpretation – Report writing:- Significance – Report writing:- Steps in report writing – Layout of report – Types of reports – Oral presentation – executive summary – mechanics of writing research report – Precautions for writing report – Norms for using Tables, charts and diagrams – Appendix:- norms for using Index and Bibliography.				
Text Book: 1. Business Research Methods – Donald R. Cooper and Pamela S. Schindler – Tata McGraw Hill.					
Reference Books: <ol style="list-style-type: none"> Research Methods for management and Commerce – Rao K.V., Sterling Business Research Methods, Emory & Cooper Research Methodology, Kothari C.R. Business Research Methods, Emma Bell Harley and Alan Bryman Business Research Methods, William G. Zikmund, Barry J.Babin, Jon C.Carr, Mitch Griffin. 					

Course Outcomes:

1. Understand the basic frame work of research process
2. Develop a thorough understanding of the fundamental theoretical ideas and logic of research. These fundamental ideas underpin the approach to research, the vast range of research methods available and the researcher's choice of methods.
3. Analyze the basic concepts of various tools used for research
4. Apply research practice, research cycle in general through critical examination of methods associated with decision-making ,critical thinking and ethical judgment
5. Evaluatetheissuesinvolvedinplanning,designing,executing,evaluating and reporting research within a stipulated time period

CO Number	CO Statement	Knowledge Level
CO1	Understand the basic frame work of research process	K1,K2
CO2	Develop a thorough understanding of the fundamental theoretical ideas and logic of research. These fundamental ideas underpin the approach to research, the vast range of research methods available and the researcher's choice of methods.	K2,K3
CO3	Analyze the basic concepts of various tools used for research	K3,K4
CO4	Apply research practice, research cycle in general through critical examination of methods associated with decision-making ,critical thinking and ethical judgment	K4,K3
CO5	Evaluatetheissuesinvolvedinplanning,designing,executing,evaluating and reporting research within a stipulated time period	K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S (3)	M(2)	M(2)	L(1)	M(2)	M(2)	S(3)	S(3)	S(3)	L(1)	M(2)	M(2)
CO2	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	L(1)	M(2)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	M(2)	S(3)	L(1)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)
CO4	M(2)	L(1)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	M(2)	M(2)	M(2)	L(1)
CO5	S(3)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	L(1)	S(3)	S(3)	S(3)
W.AV	2.6	2.2	2.2	2	2	2.6	3	2.4	2.4	2.2	2.6	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	L(1)	S(3)	M(2)	L(1)
CO2	M(2)	S(3)	L(1)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	M(2)	M(2)	S(3)	L(1)
CO5	M(2)	S(3)	M(2)	L(1)	M(2)
W.AV	2.4	2.2	2.2	2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - II					
Course Code 92026B	DSE 4 (ii)	FINANCIAL AND MANAGEMENT ACCOUNTING	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> To introduce the accounting principles and concepts and about inflation and human resource accounting To know the final accounts concepts to prepare the statements and interpret the same and to know about depreciation accounting and its type To know the need and importance of ratio & cash flow analysis To familiarize the students with cost concepts, process and standard costing techniques and its importance for Business decisions To understand the cost volume profit analysis for making business decisions. 				
Unit- I	Introduction to Financial Accounting Financial Accounting–Definition–Accounting Principles–Concepts and conventions–Basics of Accounting: Accounting Rules –Journal–Ledger trial Balance–Preparation of Trading Profit and Loss Account and Balance Sheet (Problems)–Depreciation Methods.				
Unit – II	Financial Statement Analysis Financial Statement Analysis–Objectives–Rearranging the Financial Statement Information–Techniques of Financial Statement Analysis: Comparative Statements, Common–Size statement, Trend Percentage–Accounting Ratios: Liquidity, Profitability, Turnover and Market test ratios–Problems on computation and interpretation of various Accounting Ratios.				
Unit – III	Fund Flow Statement Analysis Fund Flow Statement Analysis –Meaning of ‘Fund’–Sources and Applications of Funds–Statement of Changes in Working Capital–Computation of Fund from Operations–Workings for Computation or various sources and uses–Preparation of Fund Flow Statement–Cash Flow Statement–Problems–Distinction between Fund Flow and Cash Flow Statement				
Unit – IV	Cost Accounting Cost Accounting–Meaning–Distinction between Financial Accounting and Cost Accounting–Cost Terminology: Cost, Cost Centre, Cost Unit–Elements of Cost–Classification of cost –Cost Sheet–Problems–Activity Basic Costing: Concept–Methodology, Applications and uses–Target Costing: Concept and Applications.				
Unit – V	Break Even Point And Budgeting Control Marginal Costing–Definition–distinction between marginal costing and absorption costing–Decision making under marginal costing system–Contribution, P/V ration, limiting factor, merging of safety Breakeven point–Problems on computation Breakeven point–Break even chart–Uses and limitation of Breakeven chart–Uses and limitation of Break even analysis. Budget, Budgeting and Budgeting Control – Distinction between Budgetary control and standard costing – Types of Budgets – Preparation of Production, Purchases and Cash Budget – Preparation of Flexible Budgets – Problems – Zero Base Budgeting.				
Text Book:					
1 Management Accounting – S.N. Maheswari					

Reference Books:

1. Financial & Management Accounting – Khan and Jain
2. Management Accounting – Brown and Howard
3. Management Accounting – Antony
4. Management Accounting – J. Batty
5. Financial Management by Dr. S.P Gupta

Course Outcomes

1. The students should be able to apply the principles and concepts to record financial transactions and to determine the current purchasing power and the current cost based on the conversion factor and converted value
2. To be able to prepare Profit & Loss account and Balance sheet and Depreciation statement under different methods
3. The students should be able to apply the ratios and interpret the financial status of a firm(s) and prepare cash flow statement and make interpretation on the same
4. The students should be able to prepare cost sheet, process cost account and to do variance analysis
5. To be able to apply the cost volume profit analysis technique for business decisions.

CO Number	CO Statement	Knowledge Level
CO1	The students should be able to apply the principles and concepts to record financial transactions and to determine the current purchasing power and the current cost based on the conversion factor and converted value	K1,K2
CO2	To be able to prepare Profit & Loss account and Balance sheet and Depreciation statement under different methods	K3,K4
CO3	The students should be able to apply the ratios and interpret the financial status of a firm(s) and prepare cash flow statement and make interpretation on the same	K2,K5
CO4	The students should be able to prepare cost sheet, process cost account and to do variance analysis	K4,K5
CO5	To be able to apply the cost volume profit analysis technique for business decisions.	K5,K6

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	L(1)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)
CO2	S(3)	S(3)	L(1)	M(2)	L(1)	S(3)	M(2)	L(1)	S(3)	L(1)	L(1)	M(2)
CO3	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	L(1)	S(3)	S(3)	S(3)
CO4	S(3)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	L(1)	M(2)
CO5	M(2)	L(1)	M(2)	M(2)	M(2)	S(3)	L(1)	S(3)	S(3)	S(3)	S(3)	M(2)
W.AV	2.4	2	2.2	2.4	2.2	2.4	2.2	2.4	2.2	2.4	2.2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	M(2)	S(3)	M(2)	S(3)
CO2	L(1)	S(3)	M(2)	S(3)	L(1)
CO3	S(3)	L(1)	S(3)	L(1)	S(3)
CO4	M(2)	S(3)	S(3)	S(3)	S(3)
CO5	M(2)	L(1)	M(2)	L(1)	M(2)
W.AV	2.2	2	2.6	2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - II					
Course Code 92027A	DSE 5 (i)	LOGISITICS AND AIR CARGO MANAGEMENT	T	Credits: 5	Hours: 5
Objectives	<ol style="list-style-type: none"> 1. To give an insight about Freight and Cargo management in various industries. 2. To understand the basic concepts of freight and Air cargo. 3. To familiarize the students with Air freight on imports and exports. 4. To provide details on documentation required for cargo transportation. 5. To familiarize students with SCM. 				
Unit- I	Introduction to Logistics: Logistics- Meaning- Scope and Significance- Functions of Logistics System – Transportation, Warehousing, Order processing, Information handling and procurement- Logistics management objectives- Customer service- Expectation and Fulfillment levels - Customer service for competitiveness - Service phases and attributes - Value added logistical services - Role of Government in logistics - Warehousing, Transportation and Packaging and Inventory valuation.				
Unit – II	Supply chain management: Supply chain management: Meaning – Supply chain linkages- Role of logistics in supply chain -E business solution to supply chain – Warehousing :- Functions of warehouse – Types - Site selection – Layout – Costing - Material handling system - Material storage system - Virtual warehouse - Warehouse decision models. Material handling systems:- Role of material handling in logistics - Material handling equipment systems - Material storage - storage principles and design – Benefits - Storage methods - Inventory Management :- Meaning- Functions - Reasons for carrying inventories - Inventory controls.				
Unit – III	Transportation: Transportation:- Transportation infrastructure - Freight management - Factors influencing freight cost - Transportation networks - Route planning - Containerization- Logistical Packaging: Packaging as utilization – Designs - Packaging materials - Packaging cost - Logistics information:- Needs, design and characteristics. Distribution and Logistics : Role of Logistics in distribution – Channel of Distribution – Requirements of Channel members – Channel members and their strategies – Logistics out sourcing – Third Party Logistics (3PL) and Fourth Party Logistics (4 PL) Services Contract.				
Unit – IV	Air Cargo Management: Significance of air transportation in Logistics: Utility created by air transportation in Logistics – Air Transportation as a means of conquering time and space – Features and facilities offered by Air Cargo-ways- Factors influencing growth in Air Logistics- Air Suitability for different Cargo- Innovative schemes/facilities to popularize air cargo – Logistics in India- Share of airways in cargo movement in India and world wide conventions covering the movement of dangerous goods by air.				
Unit – V	Documentation for Air Cargo Transport: Shipper’s Export Declaration, Certificate of Origin, Export license, Commercial Invoice, Certificate of origin, Bill of lading, Insurance certificate, Export Packing list, Import License, Consular invoice, Air way bills- format, boxes, contents, completion of Air waybill, mandatory information, Types of Air waybills (MAWB/HAWB) , Inspection certification, dock receipt, warehouse receipt and destination control statement- Unit Load devices, types, aircraft loading procedure- Load Control, Air Cargo Loading Limitations, Cargo needing special attention in handling live animals.				

Text Book:

1. Logistics Management -V.V.Sople – Pearson, 2001.

Reference Books:

1. Supply Chain Logistics Management -Donald J Bowersox,2001.
2. Alan Rushton and John Oxley – Hand book of Logistics and Distribution – Kogen page.
3. Coyle etal – The Management of Business Logistics, Thompson Learning.
4. Bowersox – Logistical Management – Mc Graw Hill, 2000.
5. Chi Chu,C.Leung, Van Hui & Cheung, 4th Party Cyber Logistics for Air Cargo, Spring,2004

Course Outcomes

- 1) To get familiarize on Logistics and Air cargo operations .
- 2) Student will learn the importance of and Supply Chain Management in Logistics.
- 3) Gain knowledge on Air Cargo Rates and Documentations
- 4) Student will be able to acquire knowledge in Cargo packaging and ground handling operations
- 5) Understand the types of transportation in logistics

CO Number	CO Statement	Knowledge Level
CO1	To get familiarize on Logistics and Air cargo operations .	K1,K2
CO2	Student will be able to acquire knowledge in Cargo packaging and ground handling operations	K2,K2
CO3	Gain knowledge on Air Cargo Rates and Documentations	K1, K2
CO4	Learn the importance of Air Cargo Transportation and the Functions	K1, K5
CO5	Understand the types of transportation in logistics	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S(3)	M(2)	M(2)	L (1)	M(2)	M(2)	L(1)	S(3)	S(3)	L(1)	S(3)	S(3)
CO2	M(2)	S(3)	S(3)	S(3)	M (2)	S(3)	M(2)	L(1)	S(3)	M(2)	L(1)	M(2)
CO3	L(1)	M(2)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)
CO4	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	L(1)	M(2)	M(2)
CO5	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)
W.AV	2.2	2.4	2.6	2.2	2	2.4	2.2	2.4	3	2	2.2	2.4

Mapping Course Outcome VS Programme Outcomes

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	L(1)
CO2	M(2)	S (3)	L(1)	S(3)	M(2)
CO3	S (3)	M (2)	S(3)	L(1)	S(3)
CO4	S (3)	M (2)	S(3)	M(2)	L(1)
CO5	M (2)	L (1)	M(2)	S(3)	M(2)
W.AV	2.6	2.2	2.4	2.2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - II					
Course Code 92027B	DSE 5 (ii)	PROMOTION MANAGEMENT	T	Credits: 5	Hours: 5
Objectives	<ol style="list-style-type: none"> 1. To understand the basic concepts of promotion management. 2. To acquire knowledge on promotional mix. 3. To gain knowledge on sales promotion and advertisement. 4. To acquire skills on personal selling. 5. To evaluate the performance of promotional activities. 				
Unit- I	Introduction to Promotion Management: Promotion – Meaning – Need – Promotion Plan – Steps in Promotional Planning – Marketing Strategy – Promotion and the Marketing Mix – Factors Determining Promotion Mix – Fitting Promotion in to Mix – Determining Promotional Opportunities – Demographic Environment – Socio-Cultural Environment – Legal Environment.				
Unit – II	Promotion Mix: Promotion Mix – Marketing Communication and Types of Communication System – Communication Appeal – Characteristics of the Source – Advertising – its role – Organizing Advertising – Planning and Advertising Campaign – The Campaign process – Setting objectives – Creativity in Advertisement – The Creativity Mix – Copy testing – Evaluating Advertisement effectiveness.				
Unit – III	Sales Promotion & Advertisement: Sales Promotion – Planning Sales Promotion – Techniques of Consumer Promotion – Sales Promotion Offer – Sales force – Sales Promotions – Trade Promotions – Public Relations – Tools of Public Relations. Promotional Media – News Paper – Magazines – Television – Radio – Out-of-Home Promotion – Strength and Weakness of Various Media. Advertisement Decisions – Advertisement Budget – Copy Testing – Methods – Evaluating Advertising Effectiveness. Developing Media Plan:- Setting Media Objectives – Designing Strategy – Choosing the Media – Determining Media Budget.				
Unit – IV	Personal Selling: Personal Selling – Types of Selling – Personal Selling Process – Style of Communication in Personal Selling – Qualities of Salesman – Role of Sales Person – Selling Process – Managing Sales Force – Role of Sales Manager – Setting Sales Objective – Motivating Sales force – Personal Selling and Promotional Mix – Pros and Cons on Personal Selling – Budgeting for Promotion – Advertisement Budgeting.				
Unit – V	Measuring Promotional Performance: Measuring Promotional Performance:- Measuring Advertising Performance – Measuring Performance of Sales Promotion – Measuring performance of Public Relations – Measuring performance of Personal Selling. Promoting through Direct Marketing – Methods of Direct Marketing – Types of Direct Marketing – Designing Direct Marketing Strategy – Evaluating Direct Marketing.				
Text Book: 1. Promotion Management- John .J.Burnett- AITBS.					
Reference Books: 1. Advertising- Theory & Practice- Vernon Fryburger- AITBS. 2. Advertising Excellence – Bovee & Thill – Mc Graw Hill International. 3. Sales Promotion- Tony Dakin. 4. Sales Promotion- Julian Cummins. 5. Integrated Advertising, Promotion, and Marketing Communications, Global Edition-by Kenneth E. Clow and Donald E Baack.					

Course Outcomes

- 1) Understand the concept and scope of Integrated Marketing communication
- 2) Analyze the perspective of consumer behavior in decision making process
- 3) Gain knowledge about the role of Ad agency and other marketing communication organizations
- 4) Gain insight in the development of media planning and strategy
- 5) Acquire in depth knowledge of the broadcast media, print media, and support media.

CO Number	CO Statement	Knowledge Level
CO1	Understand the concept of promotion in sales	K1,K2
CO2	Learn the types of promotional mix and strategies	K2,K4
CO3	Understand the term sales promotion and advertisement	K1,K2
CO4	Learn the importance and types of personal selling	K1, K4
CO5	Understand the concept of promotional performance	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	L (1)	L (1)	M(2)	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)
CO2	M (2)	S(3)	S(3)	S(3)	M (2)	S(3)	S(3)	L(1)	S(3)	M(2)	M(2)	S(3)
CO3	L(1)	M(2)	M(2)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	L(1)	L(1)	M(2)
CO4	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)
CO5	M(2)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)
W.AV	2	2.4	2.2	2.2	2	2.4	2.6	2.4	3	2.2	2	2.6

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	M(2)	S(3)	M(2)	S(3)
CO2	L(1)	S(3)	M(2)	S(3)	L(1)
CO3	S(3)	L(1)	S(3)	L(1)	S(3)
CO4	M(2)	S(3)	S(3)	S(3)	S(3)
CO5	M(2)	L(1)	M(2)	L(1)	M(2)
W.AV	2.2	2	2.6	2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III

Course Code 92031	CORE 9	BUSINESS ETHICS AND CSR	T	Credits: 4	Hours: 4
Objectives	1. To understand the Business Ethics and to provide best practices of business ethics. 2. Learn the values and implement in their careers to become a good managers. 3. To develop various corporate social Responsibilities and practice in their professional life. 4. To imbibe the ethical issues in corporate governance and to adhere to the ethical codes. 5. Learn Corporate Governance and values.				
Unit- I	Introduction to Business Ethics Business Ethics – Concept, Characteristics, Importance and Need for business ethics. Indian Ethos, Ethics and Values, Work Ethos- Sources of Ethics, Concept of Corporate Ethics- code of Ethics-Guidelines for developing code of ethics- Ethics Management Programme - Gandhian Approach in Management and Trusteeship, Importance and relevance of trusteeship principle in Modern Business, Gandhi's Doctrine of Satya and Ahimsa				
Unit – II	Indian Ethical Practices Ethics in Marketing and Advertising- Human Resources Management- Finance and Accounting- Production- Information Technology- Copyrights and Patents-				
Unit – III	Corporate Governance Corporate Governance: Concept- Importance- Principles of Corporate Governance- Regulatory Framework of Corporate Governance in India- SEBI Guidelines and clause 49- Audit Committee- Role of Independent Directors- Protection of Stake Holders- Changing roles of corporate Boards.- Elements of Good Corporate Governance, Failure of Corporate Governance and its consequences.				
Unit – IV	Introduction to Corporate Social Responsibility Corporate Social Responsibility: Concept, Scope & Relevance and Importance of CSR in Contemporary Society- Corporate philanthropy- Models for Implementation of CSR- Drivers of CSR- Prestigious awards for CSR in India. CSR and Indian Corporations- Legal Provisions and Specification on CSR- A Score Card, Future of CSR in India.-Role of NGO's and International Agencies in CSR, Integrating CSR into Business				
Unit – V	Areas of CSR and CSR Policy CSR towards Stakeholders-- Shareholders Creditors and Financial Institutions- Government, Consumers, Employees and Workers, Local Community and Society.- CSR and environmental concerns.-Designing CSR Policy- Factors influencing CSR Policy-Role of HR Professionals in CSR-CSR and Sustainable Development- CSR through Triple Bottom Line in Business				

Text Book:

- 1) Business Ethics and Corporate Governance-Dr.S.S. Khanka

Reference Books:

- 1) Corporate Crimes and Financial Frauds, Dr. Sumit Sharma, New Delhi India
- 2) R.C. Sekhar, Ethical choices in Business, Sage Publications, New Delhi
- 3) Business Ethics, Andrew Crane and Dirk Matten, Oxford University Press.
- 4) Business Ethics, Text and Cases, C.S.V. Murthy, Himalaya Publication House.
- 5) Business Ethics and Corporate Governance by B.N Ghosh

Course Outcomes

1. Students will be able to understand the business ethics.
2. The student will be able to analyze corporate social Responsibility.
3. The student will be able to analyze various ethical codes in corporate governance.
4. Student will be able to analyze the Employees conditions and Business Ethics.
5. Areas of CSR and CSR policy

CO Number	CO Statement	Knowledge Level
CO1	Understand the fundamentals of business ethics	K1,K2
CO2	Learn Indian business ethics	K2,K4
CO3	Gain knowledge of Corporate governance	K1, K2
CO4	Understand CSR	K1, K4
CO5	Areas of CSR and CSR policy	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	L(1)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)
CO2	S(3)	S(3)	L(1)	M(2)	L(1)	S(3)	M(2)	L(1)	S(3)	L(1)	M(2)	S(3)
CO3	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	L(1)	S(3)	L(1)	M(2)
CO4	S(3)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)
CO5	M(2)	L(1)	M(2)	M(2)	M(2)	S(3)	L(1)	S(3)	S(3)	S(3)	S(3)	S(3)
W.AV	2.4	2	2.2	2.4	2.2	2.4	2.2	2.4	2.2	2.4	2.2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	PSO5	S(3)	S(3)	M(2)	M(2)
CO2	L(1)	S (3)	M(2)	S(3)	S(3)
CO3	M(2)	M (2)	S (3)	S(3)	L(1)
CO4	S(3)	M (2)	S (3)	M(2)	M(2)
CO5	L(1)	L (1)	M (2)	S(3)	S(3)
W.AV	M(2)	2.2	2.6	2.4	2.2

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III

Course Code 92032	CORE 10	AVIATION RULES AND REGULATIONS	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1) To familiarize the regulatory frame work and inter relationship between various DGCA approved organizations 2) To provide knowledge on type certification, registration and airworthiness certificates 3) To educate DGCA requirements on various DGCA approved organizations and their role in aviation. 4) To learn aircraft defect reporting and rectification procedure. 5) To educate requirements on, flight testing and MEL 				
Unit- I	<p>Introduction OF Indian Aviation Introduction OF Indian Aircraft Act 1934 AND Aircraft Rules 1937- Introduction of Civil Aviation Requirements (CAR)-Sections of CAR and their subjects- procedure of issue and revision/amendment -Various circulars issued by DGCA-Aeronautical information circular (AIC) - Airworthiness Advisory circular(AAC)- Modification –Types of modifications and the procedure of issue of mandatory modifications- Log Books –Significance, types, Information contained, maintenance and preservation of log books.</p>				
Unit – II	<p>Aircraft Certification Type certificate-Requirements and procedure of issue/re-validation of Type certificate, Restricted Type certificate (RTC) and Supplemental Type certificate (STC) by DGCA-Registration of Aircraft –Categories of registration, Requirements and procedure for issue /Validation of certificate of Registration (C of R), Procedure of issue of Temporary C of R, Procedure of registration for change of ownership, Registration fees, Registration markings and occasions of cancellation of C of R - Certificate of Airworthiness (C of A) –Requirements and procedure for issue/Validation of C of A, Validity of C of A, Requirements and procedure for Renewal of C of A and conditions for continued validity C of A and occasions of cancellation of C of A. - Relationship of airworthiness review certificate with C OF A</p>				
Unit – III	<p>Approval of Organisation Approval of Organisation – categories of organisation, Requirements and procedure of initial approval, validity and renewal procedure- CAR -145 organisation AND scope of approval-CAR-M organisation and scope of approval-Certificate relating to maintenance and fitness for flight-Special flight permit –Purpose, occasions, procedure of issue of special flight permit by DGCA- Weighment of aircraft –Requirement , occasions procedure and preparation of weight schedule. Establishment of safety management system and requirements.</p>				
Unit – IV	<p>Aircraft Maintenance Management Aircraft Defect recording, reporting, rectification, analysis and investigation procedure-Aircraft Incident and Accident –Reporting and investigation procedure-Licensing of personnel: -Licensing of Aircraft Maintenance Engineers, - procedure and conditions for issue / renewal and privileges of licenses. Aero mobile license and RTR license for use and operation of radio equipment used in aircraft –requirement and procedure-Aerodrome licensing requirement and procedure.</p>				
Unit – V	<p>Aircraft Manual Flight testing of aircraft –Requirement, procedure, test flight data and their evaluation, Qualification and experience requirement of pilots carrying out test flight of aircraft Minimum Equipment List (MEL) –Significance of MEL, parts to be included and not to be included, categories of MEL items, preparation and approval procedure and usage of MEL by operators- Documents to be carried on board the Indian registered civil aviation aircraft-Exit Row seating in passenger aircraft-Requirements and conditions for allotment of exit row seat.</p>				

Text Book:

1. AIRCRAFT MANUAL-(VOL-1) -Sterling Book House Mumbai

Reference Books:

1. CIVIL AVIATION REQUIREMENTS(SECTION-2)-Sterling Book House Mumbai
2. CAR-66 (DGCA web site-www.gov.in)
3. CAR-21(DGCA web site-www.gov.in)
4. CAR-M(DGCA web site-www.gov.in)
5. CAR-145(DGCA web site-www.gov.in)

Course Outcomes

1. Student will be able to compile regulatory frame work of DGCA, procedure of modification and requirement of various logbooks
2. Student will be able to discuss DGCA requirements on aircraft design/type certification, registration and certificate of airworthiness.
3. Student will be able to analyze functions of DGCA approved organisations, special flight permit and weight requirements
4. Acquire knowledge on procedure of sequence of actions to deal with aircraft defects
5. Student will be able to explain the requirements on flight testing, evaluation of flight-test reports and MEL items of aircraft

CO Number	CO Statement	Knowledge Level
CO1	Student will be able to compile regulatory frame work of DGCA, procedure of modification and requirement of various logbooks	K1,K2
CO2	Student will be able to discuss DGCA requirements on aircraft design/type certification, registration and certificate of airworthiness.	K2,K4
CO3	Student will be able to analyse functions of DGCA approved organisations, special flight permit and weight requirements	K1, K2
CO4	Acquire knowledge on procedure of sequence of actions to deal with aircraft defects	K1, K4
CO5	Student will be able to explain the requirements on flight testing, evaluation of flight-test reports and MEL items of aircraft	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	S(3)	M(2)	M(2)	M(2)	M(2)	M(2)	L(1)	M(2)	M(2)	M(2)	L(1)
CO2	S(3)	M(2)	S(3)	L(1)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)
CO3	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	M(2)	M(2)	M(2)	M(2)	M(2)
CO4	M(2)	M(2)	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)
CO5	L(1)	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)
W.AV	2.2	2.6	2.4	2.2	2.6	2.4	2.8	2.2	2.6	2.6	2.4	2.2

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	M(2)	S(3)	M(2)	S(3)
CO2	M(2)	S(3)	L(1)	S(3)	L(1)
CO3	S(3)	L(1)	S(3)	L(1)	S(3)
CO4	S(3)	S(3)	M(2)	S(3)	M(2)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.6	2.4	2.2	2.4	2.2

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III					
Course Code 92033	CORE 11	AIRPORT OPERATIONS MANAGEMENT	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. To Understand the Roles and responsibilities of Station Manager. 2. To Gain Knowledge in Passenger Handling. 3. To Learn the Baggage Handling Process. 4. To Acquire Knowledge on Airline Catering. 5. To Understand the importance of Airside Safety. 				
Unit- I	<p>Roles and responsibilities of Station Manager: Meaning of station, Organizational structure of an Airline; An Airlines function; A station's function ,Role of a Station Manager; Becoming a Station Manager: Basic Management Skills; Responsibilities of the Station Manager; Coordination and cooperation with other organizations; Hard and soft skills; Airline Operators committee (AOC), ground handling, operational aspects, managerial aspects, occupational health and safety hazards. Emergency Planning: contingency planning and emergency response plans; other event response planning; types of emergencies and ERPs, security emergency response; safety emergency response; health emergency response; emergency medical assistance at the airport; the basics of budgets and cost control, airport revenue.</p>				
Unit – II	<p>Passenger Handling: Simplifying passenger handling: Registration, seat allocation and confirmation; Passenger ID verification ; Document verification ; Baggage suitability ; Baggage labeling and drop-off; Passenger boarding ; Simplifying Passenger Travel Programme(SPT); Fast travel programme: CUTE and CUSS; Special customer handling; Pregnant women; Blind passengers; Unaccompanied minors ; Inadmissible and deportees ; VIPs ; ; passengers with reduced mobility, irregular operations handling (IROPS), delays and cancellations.</p>				
Unit – III	<p>Baggage Handling: The baggage service office; the role of baggage services staff; baggage service training skills; customer service skills; baggage security; baggage theft; passengers and baggage reconciliation; type of baggage tags; elements of a baggage tag number; the license plate concept; bar codes; function of the license plate concept; check-in; make up; transfer; claim area; Baggage allowance, excess baggage, and cabin/carry on baggage ; identifying baggage problems; local baggage committee; baggage management in tracing; baggage management systems; MITA, interim expenses, baggage claims, damaged baggage, pilferage, baggage loss.</p>				
Unit – IV	<p>Airline Catering : Development; Production; Assembly ; Storage ; Transportation of in-flight meals ;passengers assessment; product and service development; the flight production unit; transportation; storage; service; cleaning up; important operational aspects; ramp security; delays/ cancellations; expected food safety standards; cleaning and maintenance of rotatable equipments; cost control measures; checking procedures; In-flight meals; Cleanliness; Catering equipment; Hygiene Audits and IATA Catering Quality Assurance (ICQA) ; Food Composition; Food Security; Food Hygiene; Passenger and Crew food – related Information; Standard In-flight Catering Agreement (SICA)</p>				
Unit – V	<p>Airside Safety: Managing and improving safety: safety management systems, risk management systems, tools in mitigating safety risks. Safety at the airside: safety awareness, the threats to airside safety; accidents on the ramp; common causes of the ramp accidents; airports design and safety responsibility; personal and the staff's safety; basic health and safety instructions; safety personal protective equipment (PPE), personal protection instructions, the role in airside safety, manual handling techniques (the proper way to lift), safety</p>				

precautions: checking ground service equipment (GSE) for safety, around the aircraft; risks on and near the aircraft; adverse conditions; driving on the ramp; aircraft refueling; fuelling with passengers on board. Emergency situations: being prepared, emergency responses, airport fire training; fire prevention; what to do if a fire or a fire warning occurs; collisions and accidents. Foreign object damage: danger of foreign objects at the airside, aircraft damage reporting.

Text Book:

1. Airport Operations - 3rd edition by Mc Graw, Norman Ashford

Reference Books:

1. IATA Airport Handling Manual (AHM).
2. Airlines Marketing: The fundamental concepts of airline industry marketing strategy by Davalsab ML.
3. AIRPORT MARKETING-by Anne Graham and Nigel Halpern.
4. Airline ancillary services and incompatibilities within alliances.
5. Global Aviation and Hospitality Management Hardcover – 1 January 2008 by Gagandeep Singh

Course Outcomes

1. It enable the students to Understand the Roles and responsibilities of Station Manager.
2. It enable the students to Gain Knowledge in Passenger Handling.
3. It enable the students to learn about the Baggage Handling Process.
4. It enable the students to acquire Knowledge on Airline Catering.
5. It enable the students to Understand the importance of Airside Safety.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to Understand the Roles and responsibilities of Station Manager.	K1,K2
CO2	It enable the students to Gain Knowledge in Passenger Handling.	K2,K4
CO3	It enable the students to learn about the Baggage Handling Process.	K1, K2
CO4	It enable the students to acquire Knowledge on Airline Catering.	K1, K4
CO5	It enable the students to Understand the importance of Airside Safety.	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	M(2)	M(2)	S(3)	L(1)	S(3)	M(2)	S(3)	M(2)	M(2)
CO2	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	L(1)
CO3	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)	S(3)	S(3)	M(2)	S(3)
CO4	M(2)	L(1)	S(3)	S (3)	L(1)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)
CO5	S(3)	S(3)	M (2)	S (3)	M(2)	S(3)	M(2)	M(2)	S(3)	S(3)	M (2)	S(3)
W.AV	2.6	2.2	2.4	2.6	2.2	3	2.2	2.6	2.8	2.6	2.4	2.2

S-Strong (3), M- Medium (2), L- Low (1)

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	M(2)	M(2)	M(2)	S(3)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	S(3)	S(3)	M(2)	L(1)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.4	2.6	2.6	2.2	2.4

Mapping Course Outcome VS Programme Specific Outcomes

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III					
Course Code 92034	CORE 12	AIRSIDE PLANNING	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> To Understand the various Components of Airport, Airport Categories and Environmental Factors. To Gain Knowledge about Runway ,Taxiway and its Markings and Configurations . To Learn the various Airport Operations in the Airside and Airport Terminal To Acquire Knowledge on Airport Lighting and Support Services. To Understand the Air Traffic Control and Navigational Aids . 				
Unit- I	Airport General: Airport Definition- History and Development of Airport, Principles of Airport Layout, Categories of Airport, Principles of Airport Management, Functions of Airport, Aerodrome Reference Point ,Meaning of Green Field Airport, Environmental Factors, Air Freedom Rights, Functions of - ICAO, IATA, DGCA, AAI .				
Unit – II	Runway & Taxiway: Runway Configuration, Runway Orientation, Runway Markings, Relationship between Aircraft and Airport, Aeroplane Parts , Aircraft Characteristics, Field Length Regulations, Weight Components, Taxiway Configuration, Taxiway Markings, Stop way and Clearway, Load Classification Number.				
Unit – III	Airport Operations: Lay out of Apron, Holding Apron, Terminal Apron, Aircraft Parking Configuration, Terminal Configuration, Terminal Passenger Flows, Ramp Safety, Ramp Ground Support Equipments, Definition of Gate and Gate Capacity, Airport Congestion and Delay, Airport Slot, Sources of Airport Revenue, Airport Charges, Hub and Spoke Strategies, Long Haul and Short Haul Operations.				
Unit – IV	Airport Lighting and Support Services: Visual Approach Slope Indicator (VASI), Precision Approach Path Indicator (PAPI), Approach Lighting System, Runway Lighting System, Taxiway Lighting System, Obstruction Lighting System, Aerodrome Beacon, Airport Lighting, Airport Security System, Purpose of X-Ray Unit , Lounge Area Requirements, Precaution taken during Fueling , Airport Recue Services, Goods Prohibited for Carriage by Air.				
Unit – V	Air Traffic Control & Navigational Aids: ATC- General, Need for Air Traffic Control, Air Traffic Control Network, Air Traffic Control Aids, ATC and Surveillance Facilities, Air Traffic Services- Objectives and its Features, Air Space Classes, ATS Routes, Controlled Airspace and Uncontrolled Air Space, Terms Used in ATC Operations, Visual Flight Rules (VFR) and Instrument Flight Rules (IFR), Role of Meteorology in Aviation , Role of Telecommunication in Aviation, Flight Plan and its Content, Briefing Centre and its functions, Brief Description and use of NDB,VOR,DME , Marker Beacon and ILS.				
Text Book 1. Airport Engineering- Norman Ashford & Paul H Wright.					
Reference Books: <ol style="list-style-type: none"> Airport Planning & Management- Seth B Young & Alexander T.Wells Air Traffic Control by Max Mulder Airport Planning & Design – S.K.Khanna- M.G.Arora- S.S.Jain Airport Economics- P.S.Senguttuvan Aerodrome Design Manual. 					

Course Outcome

1. It enable the students to Understand the various Components of Airport, Airport Categories and Environmental Factors.
2. It enable the students to Gain Knowledge about Runway ,Taxiway and its Markings and Configurations .
3. It enable the students to learn the various Airport Operations in the Airside and Airport Terminal.
4. It enable the students to acquire Knowledge on Airport Lighting and Support Services.
5. It enable the students to understand the Air Traffic Control and Navigational Aids.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to Understand the various Components of Airport, Airport Categories and Environmental Factors.	K1,K2
CO2	It enable the students to Gain Knowledge about Runway, Taxiway and its Markings and Configurations .	K2,K4
CO3	It enable the students to learn the various Airport Operations in the Airside and Airport Terminal.	K1, K2
CO4	It enable the students to acquire Knowledge on Airport Lighting and Support Services.	K1, K4
CO5	It enable the students to Understand the Air Traffic Control and Navigational Aids.	K4,K5

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S(3)	L(1)	L(1)	M(2)	S(3)	S(3)	M(2)	L(1)	L(1)	S(3)	M(2)	M(2)
CO2	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	M(2)
CO4	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	L(1)	S(3)
CO5	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)
W.AV	2.6	2.4	2.2	2.6	3	2.8	2.4	2.2	2.2	2.6	2.2	2.6

S-Strong (3), M- Medium (2), L- Low (1)

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M(2)	S(3)	S(3)	S(3)	S(3)
CO2	S(3)	S(3)	S(3)	M(2)	M(2)
CO3	M(2)	M(2)	M(2)	M(2)	S(3)
CO4	S(3)	L(1)	S(3)	M(2)	S(3)
CO5	S(3)	M(2)	S(3)	S(3)	M(2)
W.AV	2.6	2.2	2.8	2.4	2.6

Mapping Course Outcome VS Programme Specific Outcomes

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III					
Course Code 92035A	DSE 6 (i)	STRATEGIC AVIATION MANAGEMENT	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> 1. To acquire skills to analyze market competition, assess competitive strengths and weaknesses and formulate strategies to enhance the airline competitive position. 2. To learn techniques to translate strategic plans into actionable initiatives and design a mechanism for continuous monitoring, evaluation and adjustment of strategies. 3. To understand the value of strategic alliances and partnerships in sharing resources and accessing new markets and managing associated risks. 4. To develop a comprehensive understanding of aviation industry structure and challenges. 5. To cultivate leadership qualities to guide organization through economic downturn and unforeseen challenges. 				
Unit- I	Introduction to Strategic Management Strategic Management – Meaning, Definition – Strategic Planning – Elements of Strategy – Strategic Management Process – Designing Vision, Mission, and Objectives – Environmental Analysis – Components of External and Internal Environment – Macro and Micro Environment – Techniques of Environmental Scanning.				
Unit – II	Industry Analysis Industry Analysis : Michal Porter’s Analysis – Uses of Industry Analysis – Competitive Analysis – Forces Shaping Competition – Internal Analysis – Resources – Capabilities and Competitiveness – Competitive Advantages – Approaches to Internal Analysis: SWOT Analysis – Value Chain – Financial Analysis – The Concept of Synergy – Corporate Level Strategies: Growth Strategies – Types of Growth and No Growth Strategies – Strategies for specific situations – Fragmented Industries – Declining Markets – Emerging Industry.				
Unit – III	Business Strategies Business Level Strategies :- Porter’s Competitive Strategies – Building Competitive advantages – Acquiring Core Competence – Low Cost Leadership – Differentiation Strategy – Niche Strategy – Best Cost Producer Strategy – Miles and Snow Typology. Strategy formulation and Choice – Objectives- Single or Multiple Business – Corporate Strategy choice:- Port Folio Analysis – BCG Matmix – GE Multifactor Matrix, Product Market Evaluation – Directional Policy Matrix – Factors influencing Choice – Formulating Strategies under uncertainties – Response to uncertainties.				
Unit – IV	Strategy implementation Strategy implementation:- Mickinseys 7’s Frame work – Resource Allocation – Strategy Structure relationship – Types of Organizational Structure – Functional Structure – product and Geographic structure – Project Structure – Factors influencing organizational structure – Instituting TQM :- Tools and Techniques. Behavioural issues in strategy implementation:- Power –Leadership style and culture change – Values and Culture – Ethics and Strategy – Managing Resistance to Change Managing Conflict – Linking Performance and pay to strategies.				
Unit – V	Information Systems Strategy Execution Through Support System – Information System – Bench Marking – Out Sourcing, Knowledge Management- Internal System – E-Commerce and E-Business.				

Strategy Evaluation and Control :- Importance – Criteria for Evaluation – Strategic Control : Types of Control – Employee level Control, Corporate Governance Control, Implementation Control – Operation Controls, Control process.

Text Book:

1. Strategic Management -Hill Jones- Wiley India.

Reference Books:

1. Triant G. Flowers and Sharon. L. Oswal – Designing and Executing Strategy in Aviation Management, Ashgate Publishing Company Ltd.,
2. VSP.RAO and V.Hari Krishna – Strategic Management – Excel Books.
3. Global Aviation and Hospitality Management Hardcover – 1 January 2008 by Gagandeep Singh.
4. John. A. Peance And Richard Robinson – Strategy Management – Tata Mc Graw Hill.
5. Strategic Management Concepts by Frank T. Rothaermel

Course Outcomes

1. It enable the students to acquire skills to analyse market competition, assess competitive strengths and weaknesses and formulate strategies to enhance the airline competitive position.
2. It enable the students to learn techniques to translate strategic plans into actionable initiatives and design a mechanism for continuous monitoring, evaluation and adjustment of strategies.
3. It enable the students to understand the value of strategic alliances and partnerships in sharing resources and accessing new markets and managing associated risks.
4. It enable the students to develop a comprehensive understanding of aviation industry structure and challenges.
5. It enable the students to cultivate leadership qualities to guide organization through economic downturn and unforeseen challenges

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to acquire skills to analyse market competition, assess competitive strengths and weaknesses and formulate strategies to enhance the airline competitive position.	K1,K2
CO2	It enable the students to learn techniques to translate strategic plans into actionable initiatives and design a mechanism for continuous monitoring, evaluation and adjustment of strategies.	K2,K4
CO3	It enable the students to understand the value of strategic alliances and partnerships in sharing resources and accessing new markets and managing associated risks.	K1, K2
CO4	It enable the students to develop a comprehensive understanding of aviation industry structure and challenges.	K1, K4
CO5	It enable the students to cultivate leadership qualities to guide organization through economic downturn and unforeseen challenges.	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	L(1)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)
CO2	S(3)	S(3)	S(3)	S(3)	M(2)	M(2)	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	M(2)	M(2)	L(1)	S(3)	M(2)	M(2)
CO4	L(1)	S(3)	S(3)	S(3)	L(1)	M(2)	S(3)	L(1)	M(2)	L(1)	S(3)	S(3)
CO5	M(2)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	M(2)	S(3)	S(3)	M(2)	S(3)
W.AV	2.2	2.6	2.8	2.2	2.4	2.6	2.4	2	2.2	2.4	2.4	2.6

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	M(2)	S(3)	S(3)	S(3)
CO2	M(2)	S(3)	M(2)	M(2)	M(2)
CO3	S(3)	L(1)	S(3)	L(1)	S(3)
CO4	M(2)	M(2)	M(2)	M(2)	M(2)
CO5	M(2)	S(3)	M(2)	S(3)	M(2)
W.AV	2.4	2.2	2.4	2.2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III

Course Code 92035B	DSE 6 (ii)	SUPPLY CHAIN MANAGEMENT	T	Credits: 4	Hours: 4
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Objectives	<ol style="list-style-type: none"> 1. Gain a deep understanding of the components and stakeholders in the supply chain, including suppliers, manufacturers, distributors, retailers, and customers. 2. Explore how to integrate various functions within an organization, such as procurement, production, logistics, and demand forecasting, to create a seamless and efficient supply chain. 3. Risk Management: Develop skills in identifying and mitigating supply chain risks, including supply disruptions, demand volatility, geopolitical issues, and environmental factors. 4. Explore strategies for building strong and collaborative relationships with suppliers, including negotiation skills, performance monitoring, and strategic partnerships. 5. Develop a mindset of continuous learning in the ever-evolving field of supply chain management to stay current with industry trends and innovations.
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Unit- I	<p>Introduction to supply chain management Role of Logistics and Supply chain Management: Scope and Importance- Evolution of Supply Chain - Decision Phases in Supply Chain - Competitive and Supply chain Strategies – Drivers of Supply Chain Performance and Obstacles.</p>
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Unit – II	<p>Supply chain network Role of Distribution in Supply Chain – Factors influencing Distribution network design – Design options for Distribution Network Distribution Network in Practice-Role of network Design in Supply Chain – Framework for network Decisions.</p>
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Unit – III	<p>Logistics in Supply Chain Role of transportation in supply chain – factors affecting transportations decision – Design option for transportation network – Tailored transportation – Routing and scheduling in transportation.</p>
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Unit – IV	<p>Sourcing and coordination in supply chain Role of sourcing supply chain supplier selection assessment and contracts- Design collaboration - sourcing planning and analysis - supply chain co-ordination - Bull whip effect – Effect of lack of co-ordination in supply chain and obstacles – Building strategic partnerships and trust within a supply chain.</p>
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Unit – V	<p>Supply chain and information technology The role IT in supply chain- The supply chain IT frame work Customer Relationship Management – Internal supply chain management – supplier relationship management – future of IT in supply chain – E-Business in supply chain.</p>
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Text Book:

1. Sunil Chopra, Peter Meindl and Kalra, “Supply Chain Management, Strategy, Planning, and Operation”, Pearson Education, 2010.

Reference Books:

1. Jeremy F.Shapiro, “Modeling the Supply Chain”, Thomson Duxbury, 2002.
2. Srinivasan G.S, “Quantitative models in Operations and Supply Chain Management, PHI, 2010
3. David J.Bloomberg , Stephen Lemay and Joe B.Hanna, “Logistics”, PHI 2002.
4. James B.Ayers, “Handbook of Supply Chain Management”, St.Lucle press, 2000.

5. Logistics Management -V.V.Sople – Pearson, 2001.

Course Outcomes

1. Students will gain a clear understanding of the significance of supply chain management in today's business world and its impact on overall organizational success.
2. Students will learn how to design and optimize distribution networks to ensure efficient product flow from manufacturers to end customers..
3. They will learn about different transportation network design options and how to tailor transportation solutions to specific supply chain needs.
4. Students will understand the role of sourcing in the supply chain, including supplier selection, assessment, and contract management.
5. Students will learn how information technology plays a pivotal role in modern supply chains, streamlining operations and enhancing communication

CO Number	CO Statement	Knowledge Level
CO1	Students will gain a clear understanding of the significance of supply chain management in today's business world and its impact on overall organizational success.	K1,K2
CO2	Students will learn how to design and optimize distribution networks to ensure efficient product flow from manufacturers to end customers..	K2,K4
CO3	They will learn about different transportation network design options and how to tailor transportation solutions to specific supply chain needs	K1, K2
CO4	Students will understand the role of sourcing in the supply chain, including supplier selection, assessment, and contract management.	K1, K4
CO5	Students will learn how information technology plays a pivotal role in modern supply chains, streamlining operations and enhancing communication.	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S(3)	M(2)	M(2)	L (1)	M(2)	M(2)	L(1)	S(3)	S(3)	L(1)	S(3)	S(3)
CO2	M(2)	S(3)	S(3)	S(3)	M (2)	S(3)	M(2)	L(1)	S(3)	M(2)	L(1)	M(2)
CO3	L(1)	M(2)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)
CO4	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	L(1)	M(2)	M(2)
CO5	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)
W.AV	2.2	2.4	2.6	2.2	2	2.4	2.2	2.4	3	2	2.2	2.4

Mapping Course Outcome VS Programme Outcomes

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	L(1)
CO2	M(2)	S (3)	L(1)	S(3)	M(2)
CO3	S (3)	M (2)	S(3)	L(1)	S(3)
CO4	S (3)	M (2)	S(3)	M(2)	L(1)
CO5	M (2)	L (1)	M(2)	S(3)	M(2)
W.AV	2.6	2.2	2.4	2.2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III					
Course Code 92036A	DSE 7 (i)	CUSTOMER RELATIONSHIP MANAGEMENT	T	Credits: 5	Hours: 5
Objectives	<ol style="list-style-type: none"> 1. To make the student familiar with CRM concepts, CRM in marketing, analytical CRM, CRM implementation process. 2. To understand and describe a customer relationship management application. 3. To understand how it has been successfully implemented in various organizations and what does it take to ensure a successful implementation. 4. To participate and interact meaningfully in a corporation where CRM has been implemented. 5. To be able to participate in an implementation of CRM by understanding the business case and importance of implementing such a system in an organization. 				
Unit- I	CRM concepts CRM concepts: Acquiring customers, customer loyalty, and optimizing customer relationships. CRM defined: success factors, the three levels of Service/ Sales Profiling, Service Level Agreements (SLAs), creating and managing effective SLAs.				
Unit – II	CRM in Marketing CRM in Marketing: One-to-one Relationship Marketing, Cross Selling & Up Selling, Customer Retention, Behaviour Prediction, Customer Profitability & Value Modeling, Channel Optimization, Event-based marketing. CRM and Customer Service: The Call Centre, Call Scripting, Customer Satisfaction Measurement.				
Unit – III	Sales Force Automation Sales Force Automation - Sales Process, Activity, Contact, Lead and Knowledge Management. Field Force Automation. CRM links in e-Business: E-Commerce and Customer Relationships on the Internet, Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Supplier Relationship Management (SRM), Partner relationship Management (PRM).				
Unit – IV	Analytical CRM Analytical CRM: Managing and sharing customer data - Customer information databases, Ethics and legalities of data use. Data Warehousing and Data Mining concepts. Data analysis: Market Basket Analysis (MBA), Click stream Analysis, Personalization and Collaborative Filtering.				
Unit – V	CRM Implementation CRM Implementation: Defining success factors, preparing a business plan - requirements, justification, processes. Choosing CRM tools: Defining functionalities, Home grown versus outsourced approaches. Managing customer relationships: conflict, complacency, Resetting the CRM strategy. Selling CRM. Internally: CRM development Team, Scoping and prioritizing, Development and delivery, Measurement.				

Text Book:

1. Stanley A.Brown: Customer Relationship Management, John Wiley & Sons, Canada Ltd.

Reference Books:

1. Paul greenberg: crm at the speed of light: capturing and keeping customers in internet real time
2. Jill dyche: the crm handbook: a business guide to customer relationship management, addison wesley information technology series.
3. Review on customer relationship management.-Ramaswamy, et al: harvard business
4. Jagdish Seth, et al: Customer Relationship Management.
5. Marketing Management- Rajan Saxena- Tata McGraw Hill.

Course Outcomes

1. Apply the concept of CRM, the benefits delivered by CRM, the contexts in which it is used, the technologies that are deployed and how it can be implemented.
2. Implement how CRM practices and technologies enhance the achievement of marketing, sales and service objectives throughout the customer life-cycle stages of customer acquisition, retention and development whilst simultaneously supporting broader organizational goals.
3. Implement various technological tools for data mining and also successful implementation of CRM in the Organizations
4. Design customer relationship management strategies by understanding customers' preferences for the long-term sustainability of the Organizations.
5. Gain knowledge on Marketing strategies.

CO Number	CO Statement	Knowledge Level
CO1	Apply the concept of CRM, the benefits delivered by CRM, the contexts in which it is used, the technologies that are deployed and how it can be implemented.	K1,K2
CO2	Implement how CRM practices and technologies enhance the achievement of marketing, sales and service objectives throughout the customer life-cycle stages of customer acquisition, retention and development whilst simultaneously supporting broader organizational goals.	K2,K2
CO3	Implement various technological tools for data mining and also successful implementation of CRM in the Organizations	K1, K2
CO4	Design customer relationship management strategies by understanding customers' preferences for the long-term sustainability of the Organizations.	K1, K5
CO5	Gain knowledge on Marketing strategies	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S (3)	M(2)	M(2)	L(1)	M(2)	M(2)	S(3)	S(3)	S(3)	L(1)	M(2)	M(2)
CO2	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	L(1)	M(2)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	M(2)	S(3)	L(1)	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)
CO4	M(2)	L(1)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	M(2)	M(2)	M(2)	S(3)
CO5	S(3)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	L(1)	S(3)	S(3)	M(2)
W.AV	2.6	2.2	2.2	2	2	2.6	3	2.4	2.4	2.2	2.4	2.6

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	L(1)	S(3)	M(2)	L(1)
CO2	M(2)	S(3)	L(1)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	S(3)
CO4	S(3)	M(2)	M(2)	S(3)	L(1)
CO5	M(2)	S(3)	M(2)	L(1)	M(2)
W.AV	2.4	2.2	2.2	2	1.8

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER – III					
Course Code 92036B	DSE 7 (ii)	QUANTITATIVE TECHNIQUES	T	Credits: 5	Hours: 5
Objectives	1. Identify and use various criteria for solving problems in different decision situations. 2. Describe models and analyse the different types of transportation and assignment models. 3. Define Sequencing and highlight the various types of Sequencing models; 4. Explain the different approaches to Network analysis; 5. Apply various techniques in solving waiting line and Replacement problems.				
Unit- I	Decision Model & Linear Programming Definition of Decision Models & Decision variables -Types of Decision Models - Steps involved in Decision Modeling- Linear Programming- Mathematical Model of LPP- Solving LP model by Graphical method- Application of LP in Management.				
Unit – II	Transportation and Assignment models Initial solutions using North-West Corner Method, Matrix Minima and Vogel's Approximation Method-Optimal Solutions by Modified Distribution Method (Non-Degenerate Only)- Assignment Problems.				
Unit – III	Sequencing Sequencing of 'n' jobs and '2' machines - 'n' jobs and '3' Machines- 'n' jobs and 'm' machines				
Unit – IV	Network Models PERT & analyzing the PERT network-CPM – critical path method				
Unit – V	Waiting Line Models and Replacement Theory Structure of waiting line system-Queuing models-Replacement Policy for Equipment which Deteriorates gradually-Replacement of items that fail suddenly				
Text Book: 1. Operations Research Theory & Applications ,Sharma J.K Macmillan India Ltd, New Delhi 2007					
Reference Books: 1. Quantitative Techniques in Management, ND Vohra, TMH, 2007 2. Introduction to Management Science, David R. Anderson, Dennis J. Sweeney, Thomas, Williams, Thomson Learning, 2005. 3. Kanti Swarup, Gupta R.K. - Operations Research 4. P.R. Vittal - Operations Research 5. Introduction to Operations Research – F S Hiller and G J Leiberman.					
Course Outcomes <ol style="list-style-type: none"> Identify different types of decision-making environments and choose the appropriate decision making approaches for each. Also Identify, formulate and solve Linear Programming Problems graphically, mathematically and by using excel solver. Solve optimization problems like transportation and assignment problem mathematically and by using excel solver. Identify and solve problems using the sequencing techniques. Develop critical thinking and use PERT and CPM techniques to improve decision making. Understand the Replacement theory and Queuing theory in decision making. 					

CO Number	CO Statement	Knowledge Level
CO1	Identify different types of decision-making environments and choose the appropriate decision making approaches for each. Also Identify, formulate and solve Linear Programming Problems graphically, mathematically and by using excel solver.	K1,K2
CO2	Solve optimization problems like transportation and assignment problem mathematically and by using excel solver	K3,K4
CO3	Identify and solve problems using the sequencing techniques.	K2,K5
CO4	Develop critical thinking and use PERT and CPM techniques to improve decision making.	K4,K5
CO5	Understand the Replacement theory and Queuing theory in decision making.	K5,K6

**On what level it correlated with COs &POs - based on that we have to give marks
Mapping Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	L(1)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)
CO2	S(3)	S(3)	L(1)	M(2)	L(1)	S(3)	M(2)	L(1)	S(3)	L(1)	S(3)	L(1)
CO3	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	L(1)	S(3)	L(1)	S(3)
CO4	S(3)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	M(2)	S(3)	L(1)
CO5	M(2)	L(1)	M(2)	M(2)	M(2)	S(3)	L(1)	S(3)	S(3)	S(3)	S(3)	S(3)
W.AV	2.4	2	2.2	2.4	2.2	2.4	2.2	2.4	2.2	2.4	2.4	2.2

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	M(2)	S(3)	M(2)	S(3)
CO2	L(1)	S(3)	M(2)	S(3)	L(1)
CO3	S(3)	L(1)	S(3)	L(1)	S(3)
CO4	M(2)	S(3)	S(3)	S(3)	S(3)
CO5	M(2)	L(1)	M(2)	L(1)	M(2)
W.AV	2.2	2	2.6	2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER – III					
Course Code 92037A	DSE 8 (i)	TRAVEL AND TOURISM MANAGEMENT	T	Credits: 4	Hours: 4
Objectives	<ol style="list-style-type: none"> To understand the historical evaluation of the travel trade including the significant role of pioneers like Thomas Cook To Learn the process of setting up a comprehensive travel agency considering operational requirements and legal regulations To Acquire and develop a comprehensive understanding of the travel and tourism industry, including its various sectors and their interrelationship To emphasize the importance of geography in creating a well rounded itineraries and offer diverse experiences To Assess the resources and steps involved in itinerary planning while adhering the best practices and avoiding pitfalls. 				
Unit- I	Historical Perspective of Travel Industry Travel Trade – Historical Perspectives – Emergence of Thomas Cook and American Express Company – Types of Tour Operators – Wholesale and Retail Travel Agency Business – Linkages and Integration with the Principal Service Providers.				
Unit – II	Travel and Tour Operation Business Travel Agency and Tour Operation Business – Functions of Travel Agency – Setting up a full fledged Travel Agency – Sources of Income of Travel Agency – Diversification of Business – Travel Insurance, Forex, Cargo & MICE – Documentation – IATA Accreditation – Recognition from Government.				
Unit – III	Travel Planning and Tour Package Geography in Travel Planning – Country Code – Gravel Formalities . Itinerary Planning & Development – Meaning, Importance and Types of Itinerary – Resources and Steps for Itinerary Planning – Do’s and Dont’s of Itinerary Preparation – Tour Formulation and Designing Process – FITs & Group Tour Planning and Components – Special Interest Tours (SITs). Tour Packaging & Costing – Importance, Classifications and Components of Packages Tours – Concepts of Costing – Types – Components of Tour Cost – Preparation of Cost Sheet, Tour Pricing – Pricing Strategies – Tour Packages – Case Studies.				
Unit – IV	Travel Trade Association Tourism Trends - Role and Responsibility of Travel Trade Associations: Objectives – Roles and Functions of UFTAA, PATA, TAAI, IATO, IRACTE, IAAI – ICCA, IHRA, ITDC, DOT, UNWTO, WTTC, IAPA, ICCA .				
Unit – V	Ancillary Services Travel Industry Sector – Accommodation Sector – Transportation Sector – Ancillary Services – The Sales Distribution Systems.				
Text Book: <ol style="list-style-type: none"> Chand, M. (2002), Travel Agency Management : An Introductory Text, Anmol Publications. 					
Reference Books: <ol style="list-style-type: none"> Holloway.J.C. (2002), The Business of Tourism, Prentice Hall, London, pp.220- 279. Roday . S. Biwal. A & Joshi. V. (2009) Management in the Airline Industry: Human Resource Management and Pilots (Routledge Research in Employment Relations) – Geraint Harvey, Routledge, 2007. Negi.J (2005), Travel Agency Operations: Concepts and Principles, Kanishka, New Delhi. Air Passenger Demand Forecasting for Airports – RizaOnurYazici, LAP Lambert Academic Publishing, 2011. 					

5. Effect of Service Quality on Air Passenger's Overall Satisfaction, LAP Lambert Academic Publishing, 2011.

Course Outcomes

1. It enable the students to understand the historical evaluation of the travel trade including the significant role of pioneers like Thomas Cook.
2. It enable the students to Learn the process of setting up a comprehensive travel agency considering operational requirements and legal regulations.
3. It enable the students to Acquire and develop a comprehensive understanding of the travel and tourism industry, including its various sectors and their interrelationship.
4. It enable the students to emphasize the importance of geography in creating a well rounded itineraries and offer diverse experiences.
5. It enable the students to Assess the resources and steps involved in itinerary planning while adhering the best practices and avoiding pitfalls.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to understand the historical evaluation of the travel trade including the significant role of pioneers like Thomas Cook.	K1,K2
CO2	It enable the students to Learn the process of setting up a comprehensive travel agency considering operational requirements and legal regulations.	K2,K4
CO3	It enable the students to Acquire and develop a comprehensive understanding of the travel and tourism industry, including its various sectors and their interrelationship.	K1, K2
CO4	It enable the students to emphasize the importance of geography in creating a well rounded itineraries and offer diverse experiences.	K1, K4
CO5	It enable the students to Assess the resources and steps involved in itinerary planning while adhering the best practices and avoiding pitfalls.	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	S(3)
CO2	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	M(2)	S(3)
CO3	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)
CO4	S(3)	M(2)	S(3)	M(2)	L(1)	S(3)	S(3)	M(2)	S(3)	M(2)	M(2)	M(2)
CO5	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	S(3)
W.AV	2.6	2.8	2.4	2.6	2.4	3	2.4	2.6	2.4	2.6	2.6	2.8

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	M(2)	M(2)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	M(2)
CO4	M(2)	L(1)	M(2)	M(2)	S(3)
CO5	M(2)	S(3)	M(2)	S(3)	S(3)
W.AV	2.4	2.2	2.4	2.2	2.6

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III					
Course Code92037B	DSE 8 (ii)	SERVICES MARKETING	T	Credits: 4	Hours: 4
Objectives	1. To provide students with the concepts, functions, and techniques of the craft of marketing services. 2. Identify critical issues in design including the nature of service products and markets, building the service model, and creating customer value; 3. Identify critical issues in service delivery including identifying and managing customer service experiences, expectations, perceptions and outcomes; 4. Demonstrate ability in evaluating service designs; 5. To provide an in depth appreciation and understanding of the unique challenges inherent in managing and delivering quality services.				
Unit- I	Services Marketing: Services Marketing- meaning- nature of services- Types and importance- Goods & Services- Comparison- Features of Services marketing 4- Need for Services Marketing-Emerging Key Services-Marketing Mix- Product Mix- Price Mix- Promotion Mix-Place Mix-Total Quality Management- Dimensions of TQM-Effects of TQM- Quality Circles.				
Unit – II	Bank marketing: Bank marketing- Users of Banking services-Factors influencing the behaviour of users- MIS in Banking service-Segmenting Bank Market-Marketing Mix for Banking Services- Insurance Marketing- Concepts-Users of Insurance-Behavioural profile of Users- Market segmentation- Insurance products- Product planning and development- Marketing Mix for Insurance.				
Unit – III	Transport Marketing: Transport Marketing- Users of Transport services- Behaviour of users- Segmenting Transport Market-Products of Railways: Passenger Traffic- Freight Traffic-Marketing Mix for Railways: Product Mix, Promotion Mix, Price Mix, Place Mix- Road Transport Marketing- Marketing Management of Civil Aviation- Marketing Mix for Air Transport. Tourism Marketing – Users of Tourism Services- Product planning and development- Segmenting Tourism Market- Tourism Product- Features of Tourism Product.				
Unit – IV	Hotel Marketing: Hotel Marketing- Hotel- Motel- Hotel Types- Hotel Marketing- Marketing Vs Selling the Hotel services- Users of Hotel industry- Behaviour of users- Marketing segmentation for Hotel- Marketing Mix for Hotel- Hospital Marketing: Concepts- Types of Hospitals- Emerging trends in Medicare- Marketing Medicare- Marketing mix for Medicare.				
Unit – V	Personal care marketing: Personal care marketing- the concept-Users of personal care services- Behavioural Profile of Users- Marketing Mix for Personal Care Organisation- Consultancy Marketing- Rationale of consultancy marketing- Users of consultancy services- Behavioural profile of users- Market segmentation- Marketing mix.				

Text Book:

1. Services Marketing- S.M. Jha – Himalaya Publishing Company 1998, Mumbai.

Reference Books:

1. Services Marketing- Indian experiences- Ravishankar, South Asia Publication 1998, Delhi.
2. Services Marketing- Text & Readings- P.K.Sinha & S.C.Sahoo- Himalaya , Mumbai.
3. Services Marketing- Lovelock- Prentice Hall.
4. Services Marketing- Gousalves- Prentice Hall.
5. Services Marketing- Principles & Practice- PALMER, Prentice Hall.

Course Outcomes

1. It enable the students to understand and explain the nature and scope of services marketing and present about this in a professional and engaging manner.
2. It enable the students to use critical analysis to perceive service shortcomings with reference to ingredients to create service excellence
3. It enable the students to Provide a theoretical and practical basis for assessing service performance using company examples and report on this in a professional, logical and coherent way
4. It enable the students to Identify and discuss characteristics and challenges of managing service firms in the modern world including cultural implications
5. It enable the students to Discuss key linkages between marketing and other business functions in the context of designing and operating an effective service system.

CO Number	CO Statement	Knowledge Level
CO1	Understand and explain the nature and scope of services marketing and present about this in a professional and engaging manner.	K1,K2
CO2	Use critical analysis to perceive service shortcomings with reference to ingredients to create service excellence;	K2,K4
CO3	Provide a theoretical and practical basis for assessing service performance using company examples and report on this in a professional, logical and coherent way;	K1, K2
CO4	Identify and discuss characteristics and challenges of managing service firms in the modern world including cultural implications	K1, K4
CO5	Discuss key linkages between marketing and other business functions in the context of designing and operating an effective service system.	K4,K5

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	S(3)	L(1)	L(1)	M(2)	S(3)	S(3)	M(2)	L(1)	L(1)	S(3)	M(2)	M(2)
CO2	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)
CO3	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	M(2)
CO4	M(2)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)
CO5	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	S(3)	M(2)
W.AV	2.6	2.4	2.2	2.6	3	2.8	2.4	2.2	2.2	2.6	2.6	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M(2)	S(3)	S(3)	S(3)	S(3)
CO2	S(3)	S(3)	S(3)	M(2)	M(2)
CO3	M(2)	M(2)	M(2)	M(2)	S(3)
CO4	S(3)	L(1)	S(3)	M(2)	S(3)
CO5	S(3)	M(2)	S(3)	S(3)	M(2)
W.AV	2.6	2.2	2.8	2.4	2.6

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - III

Course Code		92038A - Internship or 92038B - Mini Project	Credits:	Hours:	I	E
			4	-	25	75
	Internship or Mini Project.					

SEMESTER - IV					
Course Code 92041A	DSE 9 (i)	AVIATION AND AIRPORT SECURITY	T	Credits: 4	Hours: 5
Objectives	1. Understand the current international security standards and best practices 2. Cultivate technical, operational and executive management skills 3. Learn about crisis management and risk assessment 4. To enable the Students to learn about the importance of Safety and Security in Air Transportation 5. To learn about the techniques and methodologies used in protecting passengers, crew, baggage, cargo, mail, ground personnel, aircraft and property of Airports.				
Unit- I	A National Security Asset: 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 Perspectives – Trend begins – Aviation Regulations – Airport Security–New Carrier Rules–New Airport Operator Rules–Resistance Fades – Public Law 93–366–Threat Warnings – President’s 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.				
Unit – II	Aircraft as Missiles: Aircraft as Missiles: Early Hijackings – Terrorist Hijackings Spread – Initial Public Responses – 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: Usama Bin Ladin – Europe – Japan – Peru – Russia – US – Domestic Terrorism – Nuclear Terrorism. The Best Defense: Introduction – Counterterrorist Units – Enforcement – Central, Defense Intelligence Agency.				
Unit – III	Screening: Screening: The last Line of Defense – Introduction – Facilities – Screening Checkpoint 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 & Active Millimeter-Wave Imaging – Selecting an X-Ray Unit – Sizers – Film and Laptops – Details of X-Ray Units – US standard for Radiation Exposure – New Computer Software – Trace – Detection technology – Taggants – Conclusion.				
Unit – IV	Cargo Carrier Responsibility 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 & Unknown Shipper – Vacuum chambers – Inspection of Cargo – International Air Cargo Standards – Ireland’s Air cargo Security Program – TSA Inspection of Airports – Conclusion – A Slippery slope: Introduction – Fourth Amendment – Administrative Search Exception – Balancing Approach – Less Intrusive Alternatives – Stop and Frisk Exception – Individual Stop				

	and Frisk Search – Selectee 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.
Unit – V	Technological Improvements: Technological Improvements: Some Intrusive and Some Not: Introduction – Gore Commission – Microwave Holographic Imaging – Body Orifice Security Scanner – Flight Vu™ Aircraft Data Scanner – New Generation of Video security Systems – Biosimmer™ 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 / Biologicals – Conclusion – Another Foundation: Introduction – Access Control – Exterior Alarm Sensors – Control Room – No Power / Security – Media Intrusion – Computer Security – Conclusion.

Text Book:

1. Aviation and Airport Security - Kathleen M. Sweet – Pearson Education Inc.

Reference Books:

1. Aviation in Crisis – Ruwantissa I.R. Abeyratne – Ashgate Publishing Ltd.
2. Aviation Safety Programs – Richard H. Wood – Jeppesen Sanderson Inc.
3. Air Traffic Control by Max Mulder
4. Fundamentals of Air Traffic Control by Nolan M.S
5. Airport Planning & Management- Seth B Young & Alexander T.Wells

Course Outcomes

1. It enable the students to have a broad understanding of commercial aviation safety
2. It enable the students to have an understanding of the history behind the regulatory environment
3. It enable the students to Assess safety related cases
4. It enable the students to understand the impact of security on airports and airlines
5. It enable the students to have a foundation aviation systems, data recording and reporting

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to have a broad understanding of commercial aviation safety	K1,K2
CO2	It enable the students to have an understanding of the history behind the regulatory environment	K2,K4
CO3	It enable the students to Assess safety related cases	K1, K2
CO4	It enable the students to understand the impact of security on airports and airlines	K1, K4
CO5	It enable the students to have a foundation aviation systems, data recording and reporting	K4,K5

On what level it correlated with COs & POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	L(1)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	L(1)	M(2)	M(2)	M(2)
CO2	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)
CO3	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	L(1)	S(3)	S(3)
CO4	S(3)	S(3)	M(2)	M(2)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	L(1)
CO5	S(3)	M(2)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	M(2)	S(3)	S(3)
W.AV	2.6	2.2	2.6	2.8	2.4	2.8	2.4	3	2.2	2.2	2.6	2.4

S-Strong (3), M- Medium (2), L- Low (1)

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M(2)	S(3)	S(3)	S(3)	S(3)
CO2	S(3)	S(3)	S(3)	M(2)	M(2)
CO3	M(2)	M(2)	M(2)	M(2)	S(3)
CO4	S(3)	L(1)	S(3)	M(2)	S(3)
CO5	S(3)	M(2)	S(3)	S(3)	M(2)
W.AV	2.6	2.2	2.8	2.4	2.6

Mapping Course Outcome VS Programme Specific Outcomes

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - IV

Course Code 92041B	DSE 9 (ii)	AVIATION ANCILLARY SERVICES	T	Credits: 4	Hours: 5
Objectives	<ol style="list-style-type: none"> 1. To Understand the various ancillary services in the aviation sector, including their roles, significance, and impact on the overall business model. 2. To Gain insights into how ancillary services, such as baggage fees, in-flight entertainment, and loyalty programs, contribute to airlines' revenue streams and profitability 3. To Explore pricing strategies for ancillary services, considering factors such as demand elasticity, consumer preferences, and cost structures, to optimize revenue generation. 4. To Examine how technology and digital platforms can be leveraged to market and deliver ancillary services more effectively, as well as to personalize offerings. 5. To Learn how ancillary services can improve the overall customer experience, from booking to post-flight, and how these services can differentiate airlines in a competitive marketing. 				
Unit- I	Introduction to ancillary services- Meaning and significance of ancillary services. Classification of airline ancillary services:-baggage, seat assignment, cabin upgrade, WIFI, boarding privileges, premium seat. Role and Responsibilities of Ground Handlers - Ground Handling: Self Handling vs. Outsourcing - Ground Handling: Case Studies at India and Abroad - IATA Ground Handling Council				
Unit – II	Market segmentation Market segmentation and application of market segmentation in ancillary services. Ancillary revenue and its categories. Passenger Handling: Departure Concourse - Passenger Handling: Transit and Arrivals - Passengers’ Baggage Handling - Specialized Handling of Passengers: VVIPs, VIPs, Physically Challenged				
Unit – III	Cargo services Cargo Services at Export Shed - Cargo Services at Import Shed- Cargo Services at Transit Shed - Cargo Aircraft Handling, Air Cargo -Concept- Cargo Handling-Booking of Perishable Cargo and Live Animals - Industry Relation - Airway Bill.				
Unit – IV	Catering services Catering: Preparation, Escort and Security, Inter-terminus Transfers - Medical Services, Accommodation and Hospitality, Information Dissemination. - Airport Operations - Airport Management. pricing models for ancillary services: unbundling, bundling, and a la carte pricing. Factors influencing pricing decisions: market demand, competition and value perception.				
Unit – V	Security and role of technology in aviation Planning and Design Considerations for Security at Airports - Annex 17: SARPs (Standard and Recommended Practices) - Access Control and Alarm Monitoring Mechanisms, Security Screening Infrastructure and Procedures. Role of technology in marketing, selling and delivering of services				
Text Book: <ol style="list-style-type: none"> 1. Air Passenger Demand Forecasting for Airports – RizaOnurYazici, LAP Lambert Academic Publishing, 2011. 					
Reference Books: <ol style="list-style-type: none"> 1. Evaluation of Level of Service at Airport Passenger Terminals – Anderson Correia, LAP Lambert Academic Publishing, 2009. 2. Effect of Service Quality on Air Passenger’s Overall Satisfaction, LAP Lambert Academic Publishing, 2011. 					

3. Aviation maintenance management- Harry.A.Kinnison- McGraw-Hill.
4. Risk management & Error reduction in aviation maintenance- Manoj S. Patarkar and James Taylor- Ashgate publishing Ltd.
5. Aviation Safety Programs – Richard H. Wood – Jeppesen Sanderson Inc.

Course Outcomes

1. It enable the students to understand the various ancillary services in the aviation sector, including their roles, significance, and impact on the overall business model.
2. It enable the students to Gain insights into how ancillary services, such as baggage fees, in-flight entertainment, and loyalty programs, contribute to airlines' revenue streams and profitability
3. It enable the students to Explore pricing strategies for ancillary services, considering factors such as demand elasticity, consumer preferences, and cost structures, to optimize revenue generation.
4. It enable the students to Examine how technology and digital platforms can be leveraged to market and deliver ancillary services more effectively, as well as to personalize offerings.
5. It enable the students to Learn how ancillary services can improve the overall customer experience, from booking to post-flight, and how these services can differentiate airlines in a competitive marketing.

CO Number	CO Statement	Knowledge Level
CO1	It enable the students to understand the various ancillary services in the aviation sector, including their roles, significance, and impact on the overall business model.	K1,K2
CO2	It enable the students to Gain insights into how ancillary services, such as baggage fees, in-flight entertainment, and loyalty programs, contribute to airlines' revenue streams and profitability	K2,K4
CO3	It enable the students to Explore pricing strategies for ancillary services, considering factors such as demand elasticity, consumer preferences, and cost structures, to optimize revenue generation.	K1, K2
CO4	It enable the students to Examine how technology and digital platforms can be leveraged to market and deliver ancillary services more effectively, as well as to personalize offerings.	K1, K4
CO5	It enable the students to Learn how ancillary services can improve the overall customer experience, from booking to post-flight, and how these services can differentiate airlines in a competitive marketing.	K4,K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	M(2)	M(2)	S(3)	M(2)	L(1)	M(2)	S(3)	L(1)	L(1)
CO2	S(3)	S(3)	S(3)	M(2)	S(3)	L(1)	S(3)	L(1)	S(3)	L(1)	S(3)	S(3)
CO3	M(2)	M(2)	M(2)	S(3)	L(1)	L(1)	M(2)	M(2)	L(1)	S(3)	L(1)	M(2)
CO4	L(1)	L(1)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	L(1)	M(2)	S(3)
CO5	S (3)	M(2)	M (2)	S(3)	M(2)	L(1)	M(2)	M(2)	S(3)	S(3)	M(2)	M(2)
W.AV	2.2	2	2.4	2.4	1.8	1.6	2.4	1.8	2.4	2.2	1.8	2.2

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	M(2)	M(2)	S(3)	S(3)
CO3	M(2)	L(1)	S(3)	L(1)	S(3)
CO4	L(1)	S(3)	M(2)	M(2)	L(1)
CO5	M(2)	S(3)	L(1)	M(2)	M(2)
W.AV	2	2.4	2.2	2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER – IV					
Course Code 92042A	DSE 10 (i)	FUTURE AVIATION SYSTEMS	T	Credits: 4	Hours: 5
Objectives	<ol style="list-style-type: none"> To Understand the various systems in the Future Aviation Industry. To Gain Knowledge in Crew Resource Management and Leadership Skills. To Learn the various Human Factors in Aviation. To Acquire Knowledge on Air Traffic Management and CNS Systems. To Understand the Aircraft Ergonomics and Interior Design 				
Unit – I	Introduction to Future Aviation Systems: Commercial aircraft –synthesis – top-level synthesis – subsystem synthesis – Interfaces – SE in the manufacturing process. Privatization - Liberalization in Europe - Challenges in Asia / Pacific – Gate to-gate concepts. The role of airports in the world – commercial and privatization of airports - IT in support of business development – Information management is a business issue – the challenge to move to value based IT procurement. Attitudes to security – Designing for security– Screening hold baggage – Cargo.				
Unit – II	CRM and leadership Introduction- Cultural factors- Cockpit automation-Integration of off –the-shelf components. Cockpit display objective-Laws for cockpit instrument display design. Resource Management – Crew Culture – The Grid – CRM implementation – The Gap – one CRM program history – Integration of effort – CRM and leadership – systems approach – future directions. The inevitability of change – Changes in technology – changes in air traffic control concepts				
Unit – III	Human Factors in Aviation Changes within human factors – development in human factors – The human machine interface and certification. The nature of traffic flow management – caveat – basic cognitive issues –mental models – information presentation issues-coding flows-selection or background issues-basic training issues-automation impacts- training and system changes-continual change.				
Unit – IV	ATM & CNS Systems Introduction- Air Traffic control today : Conventional ATC system-the future air traffic management system- Surveillance-air traffic management - oceanic operations - emerging concepts - free flight - ATM strategy for 2000+ -Benefits of the future air traffic management system & airlines - general aviation community- Indirect benefits. The FANS committee– ATM – The FANS - Planning for implementation- The Asia / Pacific implementation.				
Unit – V	Aircraft Ergonomics Introduction –The psychological impact-the functional impact-Industrial Design-the stages of design-short term impact- the passenger in control –passenger communications-mobility in the aircraft-the architecture of the interior-special zones-personalizing travel-developing world wide norms- the complementary services-Ergonomic principles.				
Text Book: 1.Developing the Future Aviation System – Rodney Baldwin – Ashgate Publishing Ltd.					
Reference Books: <ol style="list-style-type: none"> Building Safe Systems in Aviation – Norman Macleod – Ashgate Publishing Ltd. Incident Command: Tales from the Hot Seat – Rhona Flin and Kevin Arbuthnot – Ashgate Publishing Ltd. Patterns in Safety Thinking – Geoffrey R. McIntyre – Ashgate Publishing Ltd. Developing the Future Aviation System by Ron Baldwin Fundamentals of Air Traffic Control by Nolan M.S 					

Course Outcomes:

1. It enable the student to Understand the various systems in the Future Aviation Industry.
2. It enable the student to Gain Knowledge in Crew Resource Management and Leadership Skills.
3. It enable the student to learn about the various Human Factors in Aviation.
4. It enable the student to acquire the skills in Air Traffic Management and CNS Systems.
5. It enable the student to Understand the Aircraft Ergonomics and Interior Design.

CO Number	CO Statement	KnowledgeLevel
CO1	It enable the student to Understand the various systems in the Future Aviation Industry.	K1,K2
CO2	It enable the student to Gain Knowledge in Crew Resource Management and Leadership Skills.	K2,K3
CO3	It enable the student to learn about the various Human Factors in Aviation.	K3,K4
CO4	It enable the student to acquire the skills in Air Traffic Management and CNS Systems.	K4,K3
CO5	It enable the student to Understand the Aircraft Ergonomics and Interior Design .	K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	M(2)	M(2)	S(3)	M(2)	M(2)	M(2)	S(3)	M(2)	M(2)
CO2	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	S(3)	M(2)	S(3)	S(3)
CO3	M(2)	M(2)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	S(3)	M(2)
CO4	S(3)	L(1)	S(3)	M(2)	L(1)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)
CO5	S(3)	S(3)	M(2)	S(3)	S(3)	S(3)	M(2)	S(3)	M(2)	S(3)	M(2)	S(3)
W.AV	2.6	2.2	2.4	2.6	2.4	3	2.4	2.6	2.4	2.6	2.6	2.4

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	M(2)	M(2)	S(3)	M(2)
CO3	S(3)	M(2)	S(3)	L(1)	M(2)
CO4	M(2)	L(1)	M(2)	M(2)	S(3)
CO5	M(2)	S(3)	M(2)	S(3)	S(3)
W.AV	2.4	2.2	2.4	2.2	2.6

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER – IV					
Course Code 92042B	DSE 10 (ii)	CABIN CREW MANAGEMENT	T	Credits: 4	Hours: 5
Objectives	<ol style="list-style-type: none"> 1. Define the cabin crew profession, its origins and current practices 2. Identify aircraft types and relevant cabin crew functions 3. Manage passenger interactions in a variety of circumstances 4. Recall emergency ad safety procedures 5. To obtain a position in which students can use customer care and emergency 				
Unit – I	INTRODUCTION Cabin crew-meaning -responsibilities of cabin crew-minimum requirement of cabin crew- senior cabin crew-definition-job responsibilities-line check cabin crew- procedure to be followed while cabin crew at base for duty- organisational chart of an airline - cabin crew skills- crew team -communication crew leadership - crew performance assessment - cabin crew training -validity of training - cabin crew competency card - breath analyzer - meaning				
Unit – II	OBJECTIVE AND JOB RESPONSIBILITIES Objective of cabin crew training -responsibilities of cabin crew safety training manager -CRM training method - safety and emergency procedures instructor responsibilities - qualification criteria for SEP instructor - recurrent training - responsibilities of CRM instructor- responsibilities of First Aid instructor- dangerous goods -definition -aviation security (AVSEC).				
Unit – III	STANDARD OF CABIN CREW Initial training and objectives -practical notes - training material- case studies - medical standards need for cabin crew on board-CRM for cabin crew-flight deck crew- initial training -aircraft type training - recurrent training - differences training- familiarisation flight - Refresher training - senior cabin crew training - safety and emergency response procedure instructor training - practical training - components of all the training - general principal of cabin crew training.				
Unit – IV	SOFT SKILLS / PERSONALITY DEVELOPMENT Introduction-positive thinking skill-self-image building skill- self motivation skill- self-confidence-stress management - time management--team building skill- customer relationship management - conflict management -professionalism etiquette- cross culture learning skill.				
Unit – V	GROOMING Daily grooming tips-types of skin and skin care tips - hair care tips- makeup requirements- hair do- practical's-makeup removal -manicure and pedicure- uniform regulation - walking and sitting style.				
Text Book: Airline Cabin Crew-Published by					
Reference Books: <ol style="list-style-type: none"> 1. Cabin Crew Airhostess by Fly Sky Aviation. Edition 2020. 2. Crew Resource Management 2nd Edition: Barbara Kanki, Robert Helmreich& Jose Anca; Academic Press, 2010. 3. Global Aviation And Hospitality Management Hardcover – 1 January 2008 by Gagandeep Singh 4. Personality Development and soft skills by Barun Mitra 5. Personality Development and Soft skills by Dr. Shikha Kapoor 					

Course Outcomes:

1. Understand the cabin crew profession, its origins and current practices.
2. Describe aircraft types and cabin crew functions.
3. Manage passenger interactions in a variety of circumstances.
4. Recall emergency and safety procedures.
5. It enable the students to improve the Grooming style and leadership skills.

CO Number	CO Statement	Knowledge Level
CO1	Understand the cabin crew profession, its origins and current practices.	K1,K2
CO2	Describe aircraft types and cabin crew functions.	K2,K3
CO3	Manage passenger interactions in a variety of circumstances.	K3,K4
CO4	Recall emergency and safety procedures.	K4,K3
CO5	It enable the students to improve the Grooming style and leadership skills.	K5

On what level it correlated with COs &POs - based on that we have to give marks

Mapping Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	M(2)	M(2)	M(2)	M(2)	M(2)	S(3)	M(2)	L(1)	M(2)	S(3)	S (3)	M(2)
CO2	S(3)	S(3)	S(3)	M(2)	S(3)	L(1)	S(3)	L(1)	S(3)	L(1)	M(2)	S(3)
CO3	M(2)	M(2)	M(2)	S(3)	L(1)	L(1)	M(2)	M(2)	L(1)	S(3)	S(3)	M(2)
CO4	L(1)	L(1)	S(3)	M(2)	L(1)	M(2)	S(3)	S(3)	S(3)	L(1)	M(2)	L(1)
CO5	S (3)	M(2)	M (2)	S(3)	M(2)	L(1)	M(2)	M(2)	S(3)	S(3)	S(3)	S(3)
W.AV	2.2	2	2.4	2.4	1.8	1.6	2.4	1.8	2.4	2.2	2.6	2.2

S-Strong (3), M- Medium (2), L- Low (1)

Mapping Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S(3)	S(3)	S(3)	M(2)	S(3)
CO2	M(2)	M(2)	M(2)	S(3)	S(3)
CO3	M(2)	L(1)	S(3)	L(1)	S(3)
CO4	L(1)	S(3)	M(2)	M(2)	L(1)
CO5	M(2)	S(3)	L(1)	M(2)	M(2)
W.AV	2	2.4	2.2	2	2.4

S-Strong (3), M- Medium (2), L- Low (1)

SEMESTER - IV						
Course Code	CORE 13	92043A - Dissertation Work or 92043B - Internship Programme	Credits: 8	Hours: 20	I 50	E 150
	Dissertation Work or Internship Programme.					

PG Programme

19.1 Passing minimum

- A candidate shall be declared to have passed each course if he/she secures not less than 40% marks in the End Semester Examinations and 40% marks in the Internal Assessment and not less than 50% in the aggregate, taking Continuous Assessment and End Semester Examinations marks together.
- The candidates not obtain 40% in the Internal Assessment are permitted to improve their Internal Assessment marks in the subsequent semesters (2 chances will be given) by writing the CIA tests and by submitting assignments.
- Candidates, who have secured the pass marks in the End-Semester Examination and in the CIA but failed to secure the aggregate minimum pass mark (E.S.E + C I.A), are permitted to improve their Internal Assessment mark in the following semester and/or in University examinations.
- A candidate shall be declared to have passed the Project/Dissertation/Internship if he/she gets not less than 40% in the End Semester Examinations and 40% marks in the Internal Assessment and not less than 50% in the aggregate in each of the Project/Dissertation/Internship Report and Viva-Voce.
- A candidate who gets less than 50% in the Project/Dissertation/Internship Report must resubmit the thesis. Such candidates need to take again the Viva-Voce on the resubmitted Project report.

19.2 Grading

The following table gives the marks, Grade points, Letter Grades, and classifications meant to indicate the overall academic performance of the candidate.

Conversion of Marks to Grade Points and Letter Grade (Performance in Paper/ Course)

RANGE OF MARKS	GRADE POINTS	LETTER GRADE	DESCRIPTION
90 - 100	9.0 – 10.0	O	Outstanding
80 - 89	8.0 – 8.9	D+	Excellent
75 - 79	7.5 – 7.9	D	Distinction
70 - 74	7.0 – 7.4	A+	Very Good
60 - 69	6.0 – 6.9	A	Good
50 - 59	5.0 – 5.9	B	Average
00 - 49	0.0	U	Re-appear
ABSENT	0.0	AAA	ABSENT

- a) Successful candidates passing the examinations and earning a GPA between 9.0 and 10.0 and marks from 90 – 100 shall be declared to have Outstanding (O).
- b) Successful candidates passing the examinations and earning a GPA between 8.0 and 8.9 and marks from 80 - 89 shall be declared to have Excellent (D+).
- c) Successful candidates passing the examinations and earning a GPA between 7.5 – 7.9 and marks from 75 - 79 shall be declared to have Distinction (D).
- d) Successful candidates passing the examinations and earning a GPA between 7.0 – 7.4 and marks from 70 - 74 shall be declared to have Very Good (A+).
- e) Successful candidates passing the examinations and earning a GPA between 6.0 – 6.9 and marks from 60 - 69 shall be declared to have Good (A).
- f) Successful candidates passing the examinations and earning a GPA between 5.0 – 5.9 and marks from 50 - 59 shall be declared to have an Average (B).
- g) Candidates earning a GPA between 0.0 and marks from 00 - 49 shall be declared to have Re-appear (U).
- h) Absence from an examination shall not be taken as an attempt.

From the second semester onwards the total performance in a semester and continuous performance starting from the first semester are indicated respectively as Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA). These two are calculated by the following formulate

$$\text{GRADE POINT AVERAGE (GPA)} = \frac{\sum_i C_i G_i}{\sum_i C_i}$$

GPA = Sum of the multiplication of Grade Points by the credits of the courses
Sum of the credits of the courses in a Semester

19.3 Classification of the final result

CGPA	Grade	Classification of Final Result
9.5 – 10.0	O+	First Class – Exemplary*
9.0 and above but below 9.5	O	
8.5 and above but below 9.0	D++	First Class with Distinction*
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
0.0 and above but below 5.0	U	Re-appear

The final result of the candidate shall be based only on the CGPA earned by the candidate.

- a) Successful candidates passing the examinations and earning a CGPA between 9.5 and 10.0 shall be given Letter Grade (O+), and those who earned a CGPA between 9.0 and 9.4 shall be given Letter Grade (O) and declared to have First Class –Exemplary*.
- b) Successful candidates passing the examinations and earning a CGPA between 7.5 and 7.9 shall be given Letter Grade (D), those who earned a CGPA between 8.0 and 8.4 shall be given Letter Grade (D+), those who earned a CGPA between 8.5 and 8.9 shall be given Letter Grade (D++) and declared to have First Class with Distinction*.

- c) Successful candidates passing the examinations and earning a CGPA between 6.0 and 6.4 shall be given Letter Grade (A), those who earned a CGPA between 6.5 and 6.9 shall be given Letter Grade (A+), those who earned a CGPA between 7.0 and 7.4 shall be given Letter Grade (A++) and declared to have First Class.
- d) Successful candidates passing the examinations and earning a CGPA between 5.0 and 5.4 shall be given a Letter Grade (B), and those who earned a CGPA between 5.5 and 5.9 shall be given a Letter Grade (B+) and declared to have passed in Second Class.
- i) Candidates who earned a CGPA between 0.0 and 4.9 shall be given Letter Grade (U) and declared to have Re-appear.
- e) Absence from an examination shall not be taken as an attempt.

$$\text{CUMULATIVE GRADE POINT AVERAGE (CGPA)} = \frac{\sum_n \sum_i C_{ni} G_{ni}}{\sum_n \sum_i C_{ni}}$$

CGPA = Sum of the multiplication of Grade Points by the credits of the entire Programme

Sum of the credits of the courses for the entire Programme

Sum of Grade Points X credits of the entire Programme

Where 'Ci' is the Credit earned for Course i in any semester; 'Gi' is the Grade Point obtained by the student for Course i and 'n' refers to the semester in which such courses were credited.

CGPA (Cumulative Grade Point Average) = Average Grade Point of all the Courses passed starting from the first semester to the current semester.

Note: * The candidates who have passed in the first appearance and within the prescribed Semesters of the PG Programme are alone eligible for this classification.