MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL
(Formerly West Bengal University of Technology)
Syllabus of BBA in Aviation Hospitality Services & Management

BBA in Aviation Hospitality Services & Management

Introduction

Bachelor of Business Administration (BBA) in Aviation Hospitality and Services Management is a dynamic undergraduate program designed to prepare future leaders for the rapidly evolving aviation, travel and service industries. This professional degree integrates core business principles with specialized knowledge in aviation operations, tourism development, and hospitality services, offering students a unique triple advantage in interconnected global industries.

The program combines theoretical knowledge with practical training, featuring state-of-the-art facilities including flight simulators, hotel training labs, and global distribution systems. Students benefit from industry partnerships, international exposure, and extensive internship opportunities across airlines, hotels, travel companies, and tourism organizations. The curriculum is crafted to meet international standards and industry requirements, with inputs from leading professionals and organizations like IATA, UNWTO, and various hospitality chains.

This four-year full-time program emphasizes experiential learning, professional development, and global perspectives. Students develop not only technical expertise but also essential soft skills, cross-cultural competencies, and business acumen required for success in these service-oriented industries. The program's integrated approach ensures graduates are well-prepared to pursue diverse career opportunities or entrepreneurial ventures in aviation, tourism, and hospitality sectors, while also laying a strong foundation for higher studies.

The degree stands out for its comprehensive coverage of three interrelated sectors, offering students the flexibility to specialize in their area of interest while maintaining a holistic understanding of the entire travel and tourism ecosystem. This unique combination makes graduates particularly valuable to employers looking for versatile professionals who understand the interconnected nature of modern travel and hospitality industries.

Program Objectives

- To develop comprehensive understanding of airline and airport operations
- To develop comprehensive expertise in integrated operations across aviation, tourism, and hospitality sectors, ensuring understanding of their interconnected nature and synergies
- To build professional competence in managing complex service operations, including aviation safety, tourism development, and hospitality excellence
- To foster global business acumen through understanding of international regulations, cross-cultural management, and worldwide industry practices in all three sectors
- To enhance practical skills through hands-on training in aviation systems, tourism operations, and hospitality services, supported by state-of-the-art facilities and industry internships
- To cultivate leadership and entrepreneurial capabilities for managing sustainable businesses in aviation, tourism, and hospitality sectors, with focus on innovation and strategic thinking
- To develop strong analytical and problem-solving abilities through exposure to real-world challenges and opportunities in the integrated travel, tourism, and hospitality ecosystem

Program Outcomes

- Graduates will demonstrate operational competence in managing integrated tourism and hospitality services at Indian airports, with specific focus on domestic aviation regulations and local service requirements
- Students will be able to develop and execute culturally-appropriate tourism packages that showcase India's diverse heritage while meeting international service standards and sustainability practices
- Graduates will possess expertise in managing hospitality operations across diverse Indian market segments, from luxury hotels to budget accommodations, with strong understanding of local customer preferences
- Students will demonstrate proficiency in using industry-specific technology platforms common in Indian aviation, tourism, and hospitality sectors, including domestic booking systems and operations software
- Graduates will show capability in managing multicultural teams and delivering service excellence in the Indian context while meeting international standards across all three sectors

- Students will develop entrepreneurial skills to identify and capitalize on business opportunities in India's growing aviation, tourism, and hospitality markets, with focus on regional market dynamics and local regulations

Curriculum Structure

SEMESTER 1

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS101	Foundations of Aviation Management	4	1	0	5
2.		BAHS102	Essentials of Hospitality Operations Management	4	1	0	5
3.	**Minor**	MIM101	Principles of Management	3	0	0	3
4.	**GE**		Anyone from GE Basket A or D	3	0	0	3
5.	**AECC**	AECC101	English & Professional Communication	2	0	0	2
6.	**SEC**	SEC101	Life Skills & Personality Development	2	0	0	2
7.	**VAC**	VAC181A/ VAC181B/ VAC181C	Yoga Health & Wellness Sports	0	0	2	2
Total Credits							**22**

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS201	Introduction to Food and Beverages	4	1	0	5
2.		BAHS202	Crew Resource Management in Aviation	4	1	0	5
3.	**Minor**	MIM201A/ MIM201B	Organization Behaviour/ Business Ethics & Corporate Governance	3	0	0	3
4.	**GE**		Anyone from GE Basket B or E	3	0	0	3
5.	**AECC**	AECC201	Modern Indian Language & Literature	2	0	0	2
6.	**SEC**	SEC201	IT Skills	2	0	0	2
7.	**VAC**	VAC281A/ VAC281B/ VAC281C/ VAC281D	Critical Thinking / NSS/ Mental Health/ Environmental Studies	0	0	2	2
Total Credits							**22**

SEMESTER 2

SEMESTER 3

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS301	Principles of Tourism Management	4	1	0	5
2.		BAHS302	Operations Research in Aviation	4	1	0	5
3.	**Minor**	MIM301A/ MIM301B	Principles of Marketing / Business & Sustainability	4	0	0	4
4.	**GE**		Anyone from GE Basket C or F	3	0	0	3
5.	**AECC**	AECC301	The Constitution, Human Rights and Law	2	0	0	2
6.	**SEC**	SEC301	Understanding Basics of Cyber Security	2	0	0	2
Total Credits							**21**

SEMESTER 4

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS401	Introduction to Inflight catering	4	1	0	5
2.		BAHS402	Front Office Operations and Housekeeping	3	1	0	4
3.		BAHS403	Application of Accounting In Aviation	3	1	0	4
4.	**Minor**	MIM401A/ MIM401B	Human resource management / Corporate Social Responsibility	3	1	0	4
5.		MIM402A/ MIM402B	Sales and distribution management/ E-Commerce	3	1	0	4
6.	**AECC**	AECC401A/ AECC401B	Society Culture and Human Behavior / Universal Human Values (UHV)	2	0	0	2
Total Credits							**23**

SEMESTER 5

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS501	Aviation Logistics and Supply Chain Operations	4	1	0	5
2.		BAHS502	Business Law in Aviation	4	1	0	5
3.		BAHS503	Airport Ground Handling and Management	3	1	0	4
4.	**Minor**	MIM501	Financial Management	4	0	0	4
5.		MIM502	Entrepreneurship	4	0	0	4
Total Credits							**22**

SEMESTER 6

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS601	Internship in Aviation Logistics and Supply Chain Operations	0	0	5	5
2.		BAHS602	Internship in Hospitality Front Office Operations and Housekeeping	0	0	5	5
3.		BAHS603	Internship In Hospitality Operations Management	0	0	4	4
4.	**Minor**	MIM601	Customer relationship management	4	0	0	4
5.		MIM602A/ MIM602B	Career Planning and management / Managing Workplace Diversity	4	0	0	4
Total Credits							**22**

SEMESTER 7

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS701	Air Fares and Air Ticketing	3	2	0	5
2.		BAHS702	Application of AI in Aviation Business	4	1	0	5
3.	**Minor**	MIM701A/ MIM701B	Consumer Behaviour / Exploring Business Opportunity	4	0	0	4
4.		MIM702A/ MIM702B	Strategic Management / Intellectual Property Rights	4	0	0	4
5	**SEC**	SEC781	Capstone Project	0	0	4	4
Total Credits							**22**

SEMESTER 8

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS801	Research Methodology in Aviation	4	1	0	5
2.		BAHS802	Medical Tourism in Aviation	4	1	0	5
3.	**SEC**	SEC881	Research Project	0	0	12	12

Total Credits	**22**

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Semester-I

SUBJECT NAME: Foundations of Aviation Management **Total Credit: 5**

SUBJECT CODE: BAHS101

Aim of the Course: The aim is to understand aviation industry components, operations, regulations, and future trends in a well-rounded manner and set the basis for understanding complexities and interrelations for special studies in aviation management.

Course Objectives: The course starts with the basics of the aviation industry, looking at the scope, major players involved, operations, safety and security concerns, and future trends within the industry. Students will learn about airlines, airports, air traffic control, regulations, the importance of safety, security, sustainability, and innovation. They will then be able to apply learned basic aviation management principles in real-world situations.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To identify the scope, key segments, and regulatory framework of the aviation industry.	M1, M2, M3	3
CO2	To explain airline business models, organizational structures, and operational considerations.	M2	2,5
CO3	To outline airport functions, passenger/cargo handling, and air traffic management.	M3	2
CO4	To demonstrate safety protocols, risk management and crisis response of aviation.	M4	2
CO5	To identify and imagine the future of aviation in terms of sustainability, technological advancements, and emergence of trends.	M5	3,6

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Introduction to the Aviation Industry:** Introduction to the Aviation Sector: Scope and Economic Significance, Classification of Airlines: Scheduled vs. Non-Scheduled-Domestic vs. International-Commuter-Short-Haul-Long-Haul-and Low-Cost Carriers, Importance of air cargo transportation, Key Aviation regulatory agencies-IATA-ICAO-FAA -DGCA-AAI, Aircraft classifications and critical performance parameters	10	15
M2	**Airline Industry Dynamics & Management:** Passenger airlines as a service-oriented industry, Evolution of commercial aviation and the effects of deregulation, Airline organizational structure and key personnel roles (flight crew, cabin crew, ground operations), Strategic airline partnerships and alliances, Training programs and workplace culture within the aviation industry	10	15
M3	**Airport Management & Air Traffic Control:** Airport infrastructure and service operations, The handling of the passenger and cargo, Air traffic services and its air traffic management systems, An overview of airports' security activities and regulatory measures, Overview of major aircraft manufacturer and aircraft class	10	15
M4	**Aviation Safety, Security & Crisis Management:** Ensuring and Providing Safety and Security in Aviation: The Role of Regulators, Airside Safety Protocols and the Development of a Safety-Culture in Airline Operations, Crisis Management and Response in Airlines, Investigating Aviation Accidents and Incidents, Trends and Future Regulatory Developments in Aviation Safety.	10	15

M5	**Innovation and Sustainability in Aviation:** Environmental concerns in aviation: Carbon emissions, noise pollution, and ecological impact, Advancements in sustainable aviation and green airport initiatives, The role of artificial intelligence (AI)- the Internet of Things (IoT)- and automation in aviation operations, Future business strategies and innovations shaping the airline industry	10	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Air Transportation: A Management Perspective – John G. Wensveen, Routledge.
2. Fundamentals of International Aviation– Suzanne K. Kearns, Routledge.
3. Aviation Management: Global and National Perspectives– Ratandeep Singh, Kanishka Publishing House.
4. Airline e-Commerce: Log on. Take off.– Michael Hanke, Routledge.
5. IATA Annual Reports (Industry trends & economic impact).
6. ICAO Safety Reports (Aviation safety & security trends).
7. FAA Regulations Handbook (ATC & airspace management).
8. DGCA Publications (India) (Indian aviation policies & guidelines).

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Semester-I

SUBJECT NAME: Essentials of Hospitality Operations Management **Total Credit: 5**

SUBJECT CODE: BAHS102

Aim of the Course: The aim is to provide a fundamental understanding of the hospitality industry, and hotel operations.

Course Objectives: This course gives a fundamental understanding of hotel operations, preparing a student for entry-level positions and further study in hospitality. It introduces industry history, types of lodges, hotel organization, and core operational areas, including key concepts like the guest cycle and menu planning. Students develop necessary entry-level skills, from understanding staff roles and cleaning procedures to customer service. Upon successful completion, students are equipped to enter entry-level hotel employment or further their education in hospitality.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To Define and illustrate familiarity with the hospitality industry, especially hotel operations and types of lodging.	M1, M2	1,2
CO2	To discover core hotel operations (front office, housekeeping, F&B) and their interrelationships.	M3, M4, M5	4
CO3	To develop essential hospitality concepts, such as the guest cycle, room types, menu planning, service sequence, and customer service.	M3, M5	4,6
CO4	To interpret basic skills for entry-level hotel positions (staff position, housekeeping, front-line direct contacts).	M2	2
CO5	To evaluate and elaborate the operation procedure of the hotel sector.	M3, M4, M5	5, 6

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Introduction to the Hospitality Industry:** Hospitality Industry Origin & Growth; Evolution and Growth of Hotel Industry Globally; Evolution and Growth of Hotel Industry in India; Classification of Hotels and Other Lodging Types.	10	15
M2	**Hotel Organization:** Organization Charts; Key Departments in Hotels - Front Office, Housekeeping, Food & Beverage Service, Kitchen, Engineering & Maintenance, Accounts, Human Resource, Sales & Marketing, Purchase & Store, Security; Interdepartmental Communication.	8	12
M3	**Basic Front Office Operations:** Front Office Sections and Front Office Layouts; Front Office Department Organizational Structure, Front Office Personnel Duty and Responsibility; Types of Rooms; Room Rate and Meal Plan; Guest Cycle.	8	10
M4	**Housekeeping Basic Operations:** Layout and Sections of Housekeeping Department; Organizational Chart and Duties and responsibilities of Housekeeping Staff; Housekeeping Inventories - Cleaning Equipment, Cleaning Agent, Guest Supplies, Linen; Cleaning of Guest Rooms and Public Areas; Contracts and Outsourcing in Housekeeping.	14	18
M5	**Basic F&B Service Operations:** Types of F&B Service Outlets, Organization Chart & Duties and Responsibilities of F&B Personnel; Food & Beverage Service Areas and Equipments; Menu - Types and Courses, Types of Services and Sequence of Service.	10	15
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Hotel Front Office Operations and Management by Jatashankar R. Tewari, Oxford Higher Education.
2. Front Office Management by S K Bhatnagar, Frank Bros.

3. Food and Beverage Service by John Cousins, Dennis Lillicrap, Suzanne Weekes, Hodder Education.
4. Food and Beverage Service by R. Singaravelavan, Oxford Higher Education.
5. Hotel Housekeeping Operations and Management by G. Raghubalan, Smritee Raghubalan, Oxford Higher Education.
6. Hotel Housekeeping by Malini Singh, McGraw Hill

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Semester- II

SUBJECT NAME: Introduction to F&B Operations **Total Credit: 5**
SUBJECT CODE: BAHS201

Aim of the Course: The aim is to provide the student with a core concept of food and beverage service operation

Course Objectives: This course provides foundational knowledge of food and beverage operations, students will be able to apply food service principles, perform cover laying and à la carte service, and describe various service styles. They will identify and describe non-alcoholic beverages, explain alcoholic beverage preparation and classification, and show their knowledge of wines (winemaking, classification, regions) and beers (production, types, faults, storage, brands). Students will also describe distilled spirit production (whiskey, brandy, rum, gin, vodka, tequila), identify types and brands, understand liqueurs, and prepare cocktails. They'll also grasp cellar management, types of bars and designs, and procedures for bar control.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To apply fundamental food service principles and techniques, including various service styles.	M1	3
CO2	To define non-alcoholic and alcoholic beverages, including production, classification, and key characteristics.	M2,M3,M4	1
CO3	To classify wines from major regions, learn about beer production and types, and identify major distilled spirits and liqueurs.	M3,M4	2,3
CO4	To develop classic cocktails and understand bar operations, which	M4,M5	3,6

	include cellar management and control procedures.		
CO5	To develop basic food and beverage service skills.	M1	3,6

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Food Service:** Mise En Scene, Mise En Place, Cover Laying, A la Carte Service Procedure, Breakfast, Brunch and Afternoon Tea, Room Service, Gueridon Service.	10	15
M2	**Beverage:** Non-alcoholic Beverage - Coffee, Tea, Milk Based Drinks, Aerated Drinks, Juices, Syrups, Natural Mineral Water; Alcoholic Beverages - Methods of Preparing Alcoholic Beverages, Classification of Alcoholic Beverages.	12	15
M3	**Fermented Alcoholic Beverages:** Wine - Winemaking and Classification; Wines of France, Italy, Spain, Portugal, Australia - Laws, Region, Grapes and Famous Wines; Beer - Production Process, Types, Faults, Storage and Beer Brands.	10	15
M4	**Distilled Alcoholic Beverages:** Whiskey, Brandy, Rum, Gin, Vodka, Tequila - Production Process, Types and Brand Names; Liqueurs - Flavour, Colour, Base & Origin, Classic Cocktails.	12	15
M5	**Bar Operations:** Cellar - Location, Temperature, Storage procedures, Bar - Types, Bar Design, Bar Records and Control	6	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Food and Beverage Service by John Cousins, Dennis Lillicrap, Suzanne Weekes, Hodder Education.
2. Food and Beverage Service by R. Singaravelavan, Oxford Higher Education.
3. Textbook of Food and Beverage Service by S.N. Bagchi, Anita Sharma, Aman Publications
4. Food and Beverage Service by Bruce H. Axler, Carol A. Litrides, Wiley

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Semester- II

SUBJECT NAME: Crew Resource Management (CRM) in Aviation **Total Credit: 5**

SUBJECT CODE: BAHS202

Aim of the Course: The aim is to provide the aviation professional with the Crew Resource Management (CRM) skills and knowledge required to optimize team performance and enhance safety in complex aviation environments.

Course Objectives: On completion, students will have a comprehensive understanding of Crew Resource Management (CRM) principles, human performance limitations, effective communication and decision-making, managing conflict, crises, and how to integrate CRM in the whole spectrum of aviation, the effects of technology, ethical/legal aspects, and even through case studies to contribute towards a safety culture.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To apply Crew Resource Management (CRM) principles for enhancing safety and team performance in aviation.	M1	3
CO2	To analyze human factors and their effect on aviation operations.	M1,M2	4
CO3	To develop appropriate communication, decision-making, and conflict-resolution skills.	M3	3,6
CO4	To compose Crew Resource Management (CRM) across different aviation domains and technologies.	M4,M5	6
CO5	To create a proactive and collaborative safety culture.	M4,M5	6

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Fundamentals of Crew Resource Management:** Introduction to Crew Resource Management (CRM), History and Development of CRM in Aviation, Human Factors in Aviation Safety, Principles of Teamwork and Communication, Error Management and Decision-Making Models, Regulatory Framework for CRM (ICAO, FAA, EASA).	10	15
M2	**Human Performance and Limitations:** Physiological and Psychological Factors Affecting Crew Performance, Stress and Fatigue Management, Situational Awareness and Workload Management, Cognitive and Behavioral Skills for Effective Crew Coordination, Leadership and Followership in Aviation, Role of Cultural Differences in CRM.	12	15
M3	**Communication, Decision-Making & Conflict Resolution:** Communication Strategies for Flight and Ground Crew, Barriers to Effective Communication, Assertiveness and Conflict Resolution in High-Stress Environments, Decision-Making Under Pressure, Adaptive and Flexible Decision Strategies, Enhancing CRM through Technology and Simulation-Based Training.	12	15
M4	**Crisis Management and Aviation Safety:** Understanding Crisis in Aviation, Emergency Procedures and CRM in High-Risk Situations, Accident Investigation and Lessons from Case Studies, Threat and Error Management (TEM) Model, Risk Assessment and Mitigation Strategies, Ethical and Legal Considerations in CRM.	8	15
M5	**Sophisticated CRM Applications and Emerging Trends:** Integration of CRM into Airline Operations and Maintenance, CRM for Air Traffic Management and Ground Operations, Automation and Artificial Intelligence roles in CRM, Trends in the Future of CRM Training and Implementation, Industry Best Practices and International Insights on the Effectiveness of CRM.	8	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Handbook of Aviation Human Factors- ed. John A. Wise V. David Hopkin Daniel J. Garland, CRC Press
2. Crew Resource Management- ed. Barbara G. Kanki, Robert L. Helmreich and José Anca, Academic Press.
3. Safety Management Systems in Aviation- Alan Stolzer and Carl Halford, Ashgate.
4. Advances in Human Aspects of Aviation- Steven J Landry, CRC Press

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Semester- III

SUBJECT NAME: Principles of Tourism Management **Total Credit: 5**

SUBJECT CODE: BAHS301

Aim of the Course: The aim is to provide comprehensive knowledge of the tourism industry and its management principles, preparing them for careers in the tourism sector.

Course Objectives: The course objective is that the student will understand core concepts and categories in tourism; analyze the structure of the tourism industry and its stakeholders; apply tourism planning principles and models; effectively manage tourism destinations, including branding and impacts of tourism, as well as how to promote sustainable tourism practices.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To define core tourism concepts, categories, and the industry's structure and stakeholders.	M1,M2	1
CO2	To Apply tourism planning principles and models for effective development.	M3	3
CO3	To demonstrate tourism destinations, including branding and marketing.	M3,M4	2
CO4	To analyze tourism impacts on multiple sectors.	M5	4
CO5	To measure sustainable practices within the tourism industry.	M5	5

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**An Overview of Tourism Management -** Concepts and definitions in Tourism, History and future prospects in tourism development, Forms and categories of tourism (domestic tourism, international tourism, mass tourism, niche tourism, etc.)	10	15
M2	**The Tourism Industry and Its Stakeholders -** Key sectors: transportation, accommodation, attractions and travel intermediaries; Tourism sector stakeholders; Role of governments, important Tourism Organizations (WTO, IATA, PATA, TAAI, ITDC and NGOs); Tourism policies and legal frameworks.	10	15
M3	**Planning of tourism -** Definition and elements; Tourism planning principles; Tourism planning levels, Types of long-term planning and approaches; The Tourism Optimization Management Model (TOMM); Tourism Area Life Cycle (TALC).	10	15
M4	**Destination management -** Definition, roles and research process; Destination management research process; 8 C's for destination management research; 4 A's model; Visitor management: Critical concepts & current issues, Reasons for visitor planning; ADVICE model; Expectation Confirmation theory; Destination Branding steps and importance.	12	15
M5	**Tourism Impacts -** Economic, Socio-Cultural, and Environmental Impact; Concepts of sustainable tourism development; Community-based tourism and ecotourism; Corporate Social Responsibility (CSR) in the tourism industry; Managing over tourism and tourism crisis management	8	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Introduction to Tourism, A.K.Bhatia.
2. Marketing and Managing Tourism Destinations, Alastair M. Morrison.
3. Tourism Management, Stephen J. Page.
4. Visitor management in tourism destinations, Albrecht, Julia N.
5. Tourism Management: Principles, Practices, Philosophies, Dr. R. C. Dutt and Dr. B. S. Bhatia.

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Semester- III

SUBJECT NAME: Introduction to Operations Research **Total Credit: 5**
SUBJECT CODE: BAHS302

Aim of the Course: The aim is to Learn optimization techniques for better decision-making, focusing on aviation applications and emerging trends in Operations Research.

Course Objectives: The course covers different optimization techniques for decision-making purposes. It helps students to understand different methods to solve real-world problems under various techniques. The course also helps to understand how to utilize resources under the basic constraints of time and money.
At the end of the course, it helps students to understand how to increase efficiency and productivity.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To identify Operations Research (OR) methodologies to solve real-world problems.	M1	3
CO2	To formulate and solve optimization problems using various techniques.	M2,M3	6
CO3	To analyze and evaluate results of making informed decisions.	M3,M4	4,5
CO4	To interpret aviation-specific challenges faced in industry.	M4,M5	2
CO5	To illustrate emerging trends in OR, including AI applications and their impact on aviation	M5	2

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Operations Research Introduction:** Historical development and evolution of OR, applications and scope in business, engineering, and aviation, operations research models and methods, decision-making in uncertainty and risk, and mathematical model structure in OR.	8	10
M2	**Optimization Methods in OR:** Linear programming (LP), graphical methods for LP, Real-world optimization problems in airline operations.	4	07
M3	**Network Models, Transportation & Assignment Problems:** Introduction to network models (shortest path, maximum flow, minimum cost flow), transportation and assignment problems in logistics and airline management, Hungarian method for assignment problems, case studies on crew scheduling and route planning in aviation, operations research for air traffic flow management.	12	15
M4	**Queuing Theory, Simulation & Decision Analysis:** Introduction to queuing systems and service mechanisms, Markov chains and stochastic processes in decision-making, Monte Carlo simulation techniques for risk analysis, game theory and competitive strategies in business and aviation, simulation-based models for airport operations and passenger flow.	12	15
M5	**Inventory Management** Classification of Inventory, Different models in inventory management.	4	08
M6	**Aviation Operations Research & Emerging Trends:** Flight scheduling and revenue management of airlines, air traffic control and flow management optimization, multi-objective optimization of aircraft trajectory planning, 4D trajectory optimization and artificial intelligence-based OR in aviation, sustainable aviation and airline decision support systems.	10	15
	SUBTOTAL	50	70

	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. PK Gupta. Operations Research. S Chand. 1976
2. S. Kalavathy. Operations research. Vikas Publishing House 2013
3. V. K. Kapoor. Operations research concept, problem & solution. Sultan Chand & Sons 2017
4. Majumder, Nandi. Operations Research, Pen and Paper Academy, 2024
5. J.K Sharma. Operations Research, Pearson, Latest Edition.

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Semester- IV

SUBJECT NAME: Introduction to Inflight Catering **Total Credit: 5**

SUBJECT CODE: BAHS401

Aim of the Course: The aim is to comprehensively understand inflight catering holistically. This includes food safety, logistics, service, beverage pairing, and waste management.

Course Objectives: This course helps students to ensure food safety using HACCP; manage on-board logistics and galley operations; provide exceptional inflight service in all cabin classes; understand beverage service and food pairing including Asian cuisines; and manage waste and recycling for an appreciation of the complexity and challenge in inflight catering.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To relate food safety principles and HACCP in inflight catering.	M1	1
CO2	To illustrate on-board service operations.	M2,M3	2
CO3	To organize high standard inflight meal and beverage service.	M3,M4	3
CO4	To develop beverage knowledge and food pairing skills.	M4	3,6
CO5	To examine waste management and recycling procedures.	M5	4

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Food Management:** The Nature of Hazards, Food Safety, and Handling Practices in Flight Catering-Control Measures for Microorganisms, Temperature, Atmosphere, Antimicrobial Ingredients, Moisture, Irradiation, Probable Causes of Food Poisoning, Training; Hazard Analyzed-and Critical Control Point (HACCP)-HACCP Principles.	12	15
M2	**On-board Storage and Reheating:** Service Level and Galley Supply, Service Trolleys and Carts, Galley Location and Design, Galley Equipment-Cold Storage, Operational Procedures.	8	10
M3	**Service on Board:** Cabin Design and Operation-Staffing Level and Training-Staffing Level, Cabin Crew Training, and Flight Service Procedure-First Class Meal Service, Business Class Meal Service, and Economy Class Meal Service.	12	15
M4	**Beverage and Wine Pairing Service:** Alcoholic Beverage Service-Wine, Beer, Spirits, Liqueurs, Cocktails; Food & Wine Pairing-Guidelines for Pairing Food, Wine and Food suggestions, Wines with Asian Foods.	10	15
M5	**Off-Loading and Recycling-Unloading Procedures:** Washing of Ware and Equipment, Refurbishment, Sources of Waste, Waste Handling Systems-Bins, Through Conveyor, Auger Screw System, River Waste System, Vacuum Waste System.	8	15
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Flight Catering, Peter Jones, Taylor & Francis
2. Food and Beverage Service by John Cousins, Dennis Lillicrap, Suzanne Weekes, Hodder Education.
3. Food and Beverage Service by R. Singaravelavan, Oxford Higher Education.
4. Food and Beverage Operations to Management, Tarun K. Bansal, Ik International Publishing House.

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Semester- IV

SUBJECT NAME: Front Office Operations and Housekeeping **Total Credit: 4**

SUBJECT CODE: BAHS402

Aim of the Course: The aim is to provide a comprehensive understanding of front office and housekeeping operations and management in hospitality settings.

Course Objectives: This course prepares the student to run front office and housekeeping operations in hospitality organizations. The student will be able to handle front desk procedures, front office management, including PMS, night audit, performance evaluation, and yield management, housekeeping supervision, which includes cleaning techniques, linen and laundry operations, and budgeting for these departments. This is to help develop skilled professionals who can ensure guest satisfaction, optimize revenue, and maintain efficient workflows.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To apply guest handling skills.	M1	3
CO2	To assess front office management and revenue management skills.	M2,M5	5
CO3	To inspect housekeeping operations and control desk management.	M3	4
CO4	To outline the linen and laundry operations efficiently.	M4	2
CO5	To develop and maintain budgets for front office and housekeeping.	M2,M4,M5	3,6

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Front Desk Operations:** Reservation - Types, Source, Mode; Registration - C Form, Check-in Process; Guest Services - Guest Room Change, Left Luggage Handling, Complaint Handling; Front Office Accounting - Accounts, Vouchers, Folio; Check-out and Settlement.	12	15
M2	**Front Office Management:** PMS - Modules of Front Office, Micros PMS; Night Audit - Night Auditor, Night Audit Process, Night Audit Reports; Evaluation of Hotel Performance - Occupancy Percentage, ARR, ADR, REVPAR; Yield Management - Elements, benefits, Strategies.	12	15
M3	**Housekeeping Supervision:** Housekeeping Control Desk - Forms, Formats, Registers, Key Handling; Cleaning of Different Surfaces - Glass, leather, Rubber, Wood, Metals, Ceramics, Stone.	10	15
M4	**Linen & Laundry Operations:** Linen & Uniform Room - Storage of Linen, Linen Exchange, Par Stock, Linen Control; Laundry Operations - Laundry Equipments, Laundry Agents, Laundry Cycle.	8	10
M5	**Budgeting:** Budget - Types, Advantages, Limitations, Importance, Budget Cycle, Budgetary Control, Steps of Preparing Housekeeping and Front Office Budget.	8	15
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Hotel Front Office Operations and Management by Jatashankar R. Tewari, Oxford Higher Education.
2. Front Office Management by S K Bhatnagar, Frank Bros.
3. Hotel Housekeeping Operations and Management by G. Raghubalan, Smritee Raghubalan, Oxford Higher Education.
4. Hotel Housekeeping by Malini Singh, McGraw Hill.

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Semester- IV

SUBJECT NAME: Introduction to Accounting **Total Credit: 4**

SUBJECT CODE: BAHS403

Aim of the Course: The aim is to teach the core accounting principles and practices that range from bookkeeping to financial statements, including transaction recording, depreciation, bank reconciliation, partnerships, and financial analysis, building financial literacy.

Course Objectives: This course will set strong roots in accounting as one learns core principles, transaction management, financial statement preparation including an income statement and balance sheet, and how to analyze those statements. It will be applied through various business ventures including partnerships and non-profits ending with the student being financially literate in the art of decision-making.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To apply the basics of accounting principles and concepts.	M1	3
CO2	To show financial transactions using proper accounting methods.	M2,M3	1,2
CO3	To interpret and develop the key financial statements.	M3,M4	2,3,6
CO4	To analyze financial information to make informed business decisions.	M3,M4,M5	4
CO5	To apply accounting principles to different forms of organizational structure.	M5	3

DETAILED SYLLABUS:

MODULE NO.	**NAME OF THE TOPIC**	**HOURS**	**MARKS**
M1	**Introduction to Accounting:** Nature of accounting; Users of accounting information; Financial & Cost Accounting; Qualitative characteristics of accounting information; Double-entry bookkeeping system – Basic accounting equation, meaning of assets, liabilities, equity, revenue and expenses;	12	15

	Accounting Cycle - Recording of transactions: Journal, Ledger and preparation of Trial Balance; Bases of accounting: Cash basis and Accrual basis; Basic concepts and conventions		
M2	**Depreciation:** The nature of depreciation - The accounting concept of depreciation - Methods Of computing depreciation: straight-line method and diminishing balance method - - change in method of charging depreciation - Reserves and provisions: Meaning; Objective; Types & Accounting , Application in Aviation and Hospitality	8	10
M3	**Bank Reconciliation Statement:** Banking transactions in the Cash Book and Bank Pass Book; Causes of Disagreement between the balances as per Cash Book and Bank Statement; Practical steps for preparation of Bank Reconciliation Statement	10	15
M4	**Partnership Accounts:** Partnership- admission, retirement, treatment of Goodwill, revaluation of assets & liabilities (with/without alteration of books), treatment of reserve and adjustment relating to capital; treatment of Joint Life Policy, Death of a partner, Dissolution of Firm	8	15
M5	**Final Accounts of Trading and Non-Trading Organization:** Preparation of Financial Statements: Manufacturing, Trading, P/L A/c and Balance Sheet. Preparation of financial statements of non-profit organizations, Application in Aviation and Hospitality	12	15
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Hanif & Mukherjee, Financial Accounting, TMH
2. Arun Kumar, Financial Management, Khanna Publishing House
3. Sukla, Grewal, Gupta: Advanced Accountancy, Vol. I, S. Chand
4. Sehgal & Sehgal, Advanced Accountancy, Vol. I, Taxman Publication
5. Mukherjee and Mukherjee, Financial Accounting Volume I, Oxford Publication
6. Tulsian, Financial Accounting, Pearson

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Semester- V

SUBJECT NAME: Aviation Logistics and Supply Chain Operations **Total Credit: 5**

SUBJECT CODE: BAHS501

Aim of the Course: The aim is to arm students with a holistic understanding of aviation logistics and supply chain operations, thus equipping them to manage and optimize complex processes within the air cargo industry.

Course Objectives: This course offers a complete picture of aviation logistics, combining fundamental supply chain management concepts with air transport operations. It includes air cargo handling, multimodal logistics, regulatory environments, technology developments, and sustainability in aviation logistics.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To explain the core principles of aviation logistics and supply chains.	M1, M2	2
CO2	To interpret air cargo operations and required documentation.	M2	2
CO3	To evaluate technology's impact and relate regulatory frameworks.	M3	2,5
CO4	To analyze the sustainability challenges and future trends.	M4,M5	4
CO5	To apply logistics principles to aviation-related problems.	M1,M5	3

DETAILED SYLLABUS:

MODULE NO.	**NAME OF THE TOPIC**	**HOURS**	**MARKS**
M1	**Aviation Logistics & Supply Chain Fundamentals:** Aviation Logistics & Supply Chain: Introduction, Evolution & history of air cargo logistics, Role of air cargo in world trade, Main stakeholders: Airlines- freight forwarders- customs- and ground handlers, Basics of Supply Chain &	10	15

	Logistics, Supply chain integration within aviation, Demand forecasting & inventory control for airlines & MRO, Lean vs. agile logistics strategies		
M2	**Air Cargo Operations & Multimodal Transportation:** Airport cargo handling: Processes & infrastructure, Aircraft load planning & Unit Load Device (ULD) management, Air freight vs. sea, rail & road transport comparison, Intermodal & multimodal transport in aviation, Air Waybill (AWB) & Bill of Lading (BOL), Customs & clearance procedures	12	15
M3	**Technology, Risk & Regulatory Compliance in Aviation Logistics:** E-AWB (Electronic Air Waybill) & digital freight systems, RFID, IoT & Blockchain in air cargo, AI & Big Data for logistics optimization, International regulatory agencies (ICAO, IATA, FAA, WCO), Compliance with global trade regulations & trade agreements (WTO, FTAs)	12	15
M4	**Sustainability & Environmental Impact of Aviation Logistics:** Carbon emissions & environmental impact, Sustainable aviation fuel (SAF) & eco-friendly logistics practices, Waste management & reverse logistics in air cargo	8	10
M5	**Future Trends & Industry Innovations in Aviation Logistics:** AI, automation & robotics in cargo handling, E-commerce influence on air freight logistics, Future challenges & opportunities in aviation supply chains	8	15
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Aviation Logistics- Michael Sales, Kogan Page
2. Aviation Logistics- Dr. R. Reena, Dr. P. Annamuthu, Dr. R. Sangeetha
3. Aviation, Air Cargo and Logistics Management: A Manual for Air Cargo Handlers and Shippers- Emmy Arsonval Maniriho, Notion Press
4. The Air Logistics Handbook: Air Freight and the Global Supply Chain- Michael Sales, Routledge

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Semester- V

SUBJECT NAME: Business Law **Total Credit: 5**
SUBJECT CODE: BAHS502

Aim of the Course: To provide students with a fundamental understanding of various business laws and regulations that govern commercial operations in India, enabling them to make informed business decisions while ensuring legal compliance.

Course Objectives: This course aims to familiarize students with the essential legal frameworks governing business operations in India, developing their understanding of various contract types and their implications. Students will learn about rights and obligations under different commercial laws, and gain knowledge of consumer protection and company formation procedures.

COURSE OUTCOMES		**MODULE MAPPING**	**BLOOMS TAXONOMY**
CO1	This module covers contract fundamentals, including essential elements, types, implications, formation, and discharge.	M1	2,4,5
CO2	covers sales law, including contract formation, warranties, and unpaid seller/hire purchase rights.	M2	2,3,4
CO3	To explores negotiable instruments, covering their definition, features, procedures, and the handling of dishonor.	M3	1,2,3
CO4	To examines consumer protection, including rights, redressal procedures, and the effectiveness of consumer councils.	M4	2,3,4
CO5	It covers company formation and governance, including company types, formation processes, and analysis of key documents and meeting procedures.	M5	2,4

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**INDIAN CONTRACT ACT 1872** Elements of contract -Offer and Acceptance - Consideration - Legal capacity -Intention to create legal relations - Free Consent -Legality of the Object - Possibility of Performance - Void and Voidable Agreement-Contingent Contract -Discharge of Contract-Indemnity and Guarantee- Quasi Contract -Bailment and Pledgement - Agency Contract.	18	25
M2	**SALE OF GOODS ACT 1930** Formation of contracts of sale-Goods and their classification, price -Conditions & Warranties-Performance the contract of sale - Unpaid seller and his rights-Hire Purchase agreement, Auction	8	10
M3	**NEGOTIABLE INSTRUMENT ACT 1881** Definition of negotiable instruments-Features-Types of negotiable instruments -Dishonor of a Negotiable Instrument, Cases in Aviation and Hospitality	8	10
M4	**CONSUMER PROTECTION ACT 1986** Concept - Consumer protection Councils -Dispute Redressal Procedures, Cases in Aviation and Hospitality	8	15
M5	**COMPANIES ACT 2013** Concept -Type of Companies- Steps in formation of a company- Concept and features of AOA, MOA and Prospectus – Meetings	8	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Sen & Mitra: Commercial Law, World Press.
2. Pathak: Legal Aspect of Business, TMH.
3. Tejpal Sheth: Business Law, 3/e, Pearson.
4. Das & Ghosh: Business Regulatory Framework, Ocean Publication, Delhi.
5. Pillai & Bagavathi: Business Law, S Chand
6. Tulsian: Business Law, TMH.

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Semester- V

SUBJECT NAME: Airport Ground Handling and Management **Total Credit: 4**

SUBJECT CODE: BAHS503

Aim of the Course: This course is aimed at giving the students a comprehensive understanding of airport ground handling, ranging from passenger and ramp services to security, technology, and risk management, in preparation for careers in this field.

Course Objectives: This course will provide a comprehensive overview of airport ground handling to prepare students for related careers. Students will learn passenger and ramp operations, technology integration, security and risk management, and crisis planning, in short, a powerful understanding of the field and its future trends.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To develop and apply efficient passenger handling procedures to enhance customer experience.	M1,M2	3,6
CO2	To formulate efficient ramp operations and optimal turnaround time for aircraft and resources.	M3	6
CO3	To compose technological and innovative solutions for enhancing ground operations.	M4	6
CO4	To define and organize security measures at ground handling operations.	M5	1,2
CO5	To develop and implement crisis management and business continuity plans.	M5	3,6

DETAILED SYLLABUS:

MODULE NO.	**NAME OF THE TOPIC**	**HOURS**	**MARKS**

M1	**Introduction to Airport Ground Handling:** Airport as an Operating System, Airport Structure and Functions, National and International Airport Systems. Ground Handling- Main Stakeholders: Airlines-Ground Service Providers- Airport Authorities, Cooperation between Airlines, Regulators, and Ground Handling Companies. Ground Handling Licensing and Safety Standards, Airport Service Level Agreements (SLAs).	10	10
M2	**Passenger Handling and Airport Services:** Passenger Handling Procedures: Check-in, Boarding, and Disembarkation, Baggage Handling and Screening, Special Assistance (PRMs, VIPs, Unaccompanied Minors). Customer Service and Passenger Experience Management, Passenger Journey Mapping, Queue Management and Service Efficiency, Crisis Handling and Conflict Resolution. Terminal and Concourse Management, Airport Configuration and Crowd Management, Optimization of Passenger Flow, Utilization of Self-Service Kiosks and E-Gates.	10	15
M3	**Ramp and Airside Operations:** Ramp Operations and Aircraft Turnaround Management, Marshalling, Aircraft Docking, and Pushback Procedures, Ground Power Units, Refueling, De-icing, and Aircraft Servicing, Turnaround Coordination and Efficiency Improvements. Emergency Response and Safety Procedures, Airport Emergency Plans and Crisis Management, Firefighting and First-Aid Procedures, Aircraft Incident Handling and Safety Compliance.	10	15
M4	**Technology and Innovation in Ground Handling:** Automation of Ground Handling, Intelligent Airport Ideas and IoT Integration. Digital Transformation of Airport Operations, Real-Time Monitoring and Tracking of Airport Processes, Blockchain for Passenger and Cargo Handling, Sustainability in Ground Handling, Carbon Footprint Reduction Strategies	10	15
M5	**Security, Risk Management, and Future Trends:** Airport Security and Risk Management, Perimeter Security and Airside Access Control, Passenger and Baggage Screening Procedures, Counterterrorism Strategies and Cybersecurity Threats. Crisis Management and Business Continuity, Airport Disruption Handling (Strikes, Pandemics,	10	15

	Weather Conditions), Emergency Drills and Simulation Exercises, Business Continuity Planning for Airport Operators.		
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Airport Ground Handling - Carvalho Philip
2. Aircraft Ground Handling - Subash S. Narayanan
3. Airport and Aviation Security - Amelia K. Voegel
4. Passenger and Baggage Handling - Bindu. C, Jose Francis & Thamburu Sunny
5. IATA Ground Operations Manual (IGOM)

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Semester- VI

Sl.	Type	Code	Subject Name	Credits			Total Credits
				L	T	P	
1.	**Major**	BAHS601	Aviation Logistics and Supply Chain Operations II (Industry Exposure)	0	0	5	5
2.		BAHS602	Hospitality Front Office Operations and Housekeeping II (Industry Exposure)	0	0	5	5

3.		BAHS603	Essentials of Hospitality Operations Management II (Industry Exposure)	0	0	4	4
4.	**Minor**	MIM601	Customer relationship management	4	0	0	4
5.		MIM602A/ MIM602B	Career Planning and management / Managing Workplace Diversity	4	0	0	4
Total Credits							**22**

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Semester- VII

SUBJECT NAME: Air Ticketing & Air Fares **Total Credit: 5**
SUBJECT CODE: BAHS701

Aim of the Course: This course covers all aspects of air ticketing, from fundamentals to future trends, including reservations, pricing, and technology, preparing students for travel industry careers.

Course Objectives: This course provides an overview of air ticketing in its evolution, reservation systems, pricing strategies, and future trends. Students will learn ticketing fundamentals, fare calculations, and the impact of technology to prepare them for careers in the travel industry.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To define the basics of air ticketing and its evolution.	M1,M3	1
CO2	To demonstrate airline reservation systems and billing processes.	M2	2

CO3	To analyze airfare types, pricing strategies, and terminology.	M1,M3	4
CO4	To construct and calculate airfares, including complex scenarios.	M3,M4	3
CO5	To discover current trends and technologies impacting the air ticketing.	M5	4

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Fundamentals of Air Ticketing:** Evolution of Air Ticketing – From paper tickets to e-tickets, Types of Air Tickets – One-way, Round-trip, Multi-city, Classification of Tickets – Economy, Business, First Class, Ticket Formats – OPTAT, ATB, ET, Ticketing Rules – Voids, Exchanges, Refunds, Ticket Endorsements – LTA, PTA, MCO	6	10
M2	**Airline Reservation System and Billing Mechanism:** Steps in Online Air Ticket Reservations – PNR creation, SSR codes, Ticket issuance, Introduction to VMDP (Vendor Managed Distribution Platform), Billing & Settlement Plan (BSP) – Concept, Benefits, Mechanism, Roles & Responsibilities of BSP Manager.	12	15
M3	**Airfare Types, Pricing Strategies, and Terminologies:** Types of Airfares – Normal, Special, Group, Inclusive Tour, Airfare Terminologies – COC, Transit, STPC, Stopover, IATA Airport and Airline Codes, Primary & Secondary Fare Codes, Principles of Air Pricing – Yield Management, Factors Affecting Air Pricing – Fuel costs, demand, seasonality, exchange rates, Types of Flight Trips – One-way, Round-trip, Open-jaw, Circle-trip, Code-share and Interline Pricing.	12	20
M4	**Air Fare Construction and Calculation Methods:** Basic Principles of Fare Construction, One-Way and Round-Trip Fare Construction, Fare Calculation Elements – Maximum Permitted Mileage (MPM), Ticketed Point Mileage (TPM), Extra Mileage Allowance (EMA), Higher Intermediate Point (HIP), Excess Mileage Surcharge (EMS), Special Fare Construction Rules – Stopover surcharges, Backhaul check, Open-Jaw fares.	12	15

M5	**Industry Trends, Automation, and Future Developments:** Technological Innovations in Air Ticketing, Automation in Fare Calculation and AI-based Pricing, Emerging Trends – Dynamic Pricing, NDC (New Distribution Capability), Impact of COVID-19 on Airline Pricing, Future of Airline Distribution Systems.	8	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Air Travel Ticketing and Fare Construction by Jagmohan Negi, Kanishka Publishers
2. A Dictionary of Travel and Tourism Terminology by Allan Beaver, CABI
3. Air Transport and Tourism Interrelationship, Operations and Strategies by M.R. Dileep, Ajesh Kurien, Taylor & Francis.

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Semester- VII

SUBJECT NAME: Application of AI in Aviation Business **Total Credit: 5**

SUBJECT CODE: BAHS702

Aim of the Course: This course covers the applications of AI in aviation, focusing on airport operations and customer service. Participants learn AI fundamentals, its use in areas like security and baggage handling, improving passenger experience, and analyzing customer feedback. Ethical and social implications are also addressed. The goal is to understand and responsibly implement AI solutions in aviation

Course Objectives: The course aims to get acquainted with Artificial Intelligence and its usage in the operation of activities within the aviation sector. Students will master how to utilize AI tools such as chatbots, and virtual machines within security management, ticketing, ground-level customer handling and data analysis for future use and feedback systems. Students will be exposed to generative AI as an immediate tool for the management of customers.

COURSE OUTCOMES	**MAPPED MODULE**	**BLOOM'S TAXONOMY**

CO1	To relate AI basics and its specific applications in the aviation sector.	M1,M2	1
CO2	To analyze how AI improves airport ground operations.	M2,M3	1,4
CO3	To apply AI to improve customer service and passenger experience.	M3,M4	3
CO4	To analyze the ethical and social implications of AI in aviation.	M5,M6	4
CO5	To develop a basis for responsibly implementing and managing AI solutions in the aviation sector.	M5	3,6

DETAILED SYLLABUS:

MODULE NO.	NAME OF THE TOPIC	HOURS	MARKS
M1	**Introduction to AI** Artificial intelligence: introduction, Large Language Model (LLM), Intelligent Agent, Machine learning and tools available in the market, Introduction to Generative AI.	6	10
M2	**AI in Airport Operation Management:** Introduction to AI in Aviation, AI Applications in Airport Operations, AI-driven Security and Surveillance Systems, Predictive Analytics for Flight Scheduling, Chatbots and Virtual Assistants in Customer Service, AI in Baggage Handling and Tracking, IoT and AI in Smart Airports, Biometric and Facial Recognition Systems, Case Studies of AI Implementation in Global Airports, Future Trends in AI and Aviation Industry.	10	15
M3	**AI in Customer Service:** Introduce AI in Customer Service; Role of AI in Enhancing Passenger Experience; AI Tools for Customer Handling; AI in Booking Management Systems; AI-driven Baggage Management; Online Query Handling with AI; AI-powered Feedback and Complaint Resolution; Data Security and Privacy in AI-driven Services; Challenges and Limitations of AI in Customer Service.	8	10

M4	**Ground Level Customer Handling:** Introduction, AI Applications in Check-in and Boarding Processes, Automation in Passenger Check-in and Verification, Biometric and Facial Recognition in Boarding, Smart Kiosks and Self-service Technologies, Predictive Analytics for Reducing Delays and Congestion, AI in Lost and Found Baggage Management, AI in Security Screening and Immigration Processes.	10	15
M5	**Customer Data and Feedback Analysis by AI:** AI in Customer Feedback Analysis, Role of AI in Enhancing Customer Insights, Virtual Interfaces for Customer Feedback Collection, AI-driven Sentiment Analysis, Natural Language Processing (NLP) for Feedback Interpretation, Machine Learning for Predictive Customer Behavior, AI-powered Surveys and Automated Response Systems, Data Mining Techniques for Customer Insights, AI in Social Media and Online Review Analysis, Personalized Customer Engagement through AI.	10	10
M6	**AI ethics and Social issues:** Introduction to AI Ethics and Social Responsibility, Social Impact of AI on Employment and Society, Ethical Theories and AI Decision-making, Legal Frameworks for AI Ethics, Responsible AI Practices in Aviation and Business, Transparency and Accountability in AI Systems, Bias and Fairness in AI-driven Decision Making, AI and Cybersecurity Concerns, Ethical Challenges in AI-driven Customer Service, Corporate Social Responsibility (CSR) and AI.	6	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Mitchell, Melanie. Artificial intelligence: guide for thinking humans. Pelican Books.
2. Elaine, Rich., Kevin Knight and Shivashankar B Nair. Artificial intelligence. McGrew Hill Education.
3. Stuart J. Russell and Peter Norvig. Artificial intelligence: modern approach.Pearson India Education.
4. Recado V Pilon, Artificial Intelligence in Commercial Aviation, Use Cases and Emerging Strategies, Routledge.

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Semester- VIII

SUBJECT NAME: Business Research Methods **Total Credit: 5**

SUBJECT CODE: BAHS801

Aim of the Course: This course will instruct students in all the phases of the research process, including concept, design, data collection and analysis, hypothesis testing, and report writing.

Course Objectives: This course would allow the learner to design and conduct research projects. Students are going to study core research concepts, literature review, problem formulating, sampling, data collecting and analysis, hypothesis testing, and ethical research practices leading toward effective reporting in research.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To develop a research problem and design a research study	M1,M2	3,6
CO2	To Compose a comprehensive literature review	M1,M2,M3	6
CO3	To apply appropriate sampling and data collection techniques	M4,M5	3
CO4	To analyze data appropriately using relevant statistical techniques	M5	4
CO5	To formulate and test hypotheses	M5	6
CO6	To interpret findings, and communicate research findings effectively, and ethically.	M6	2

DETAILED SYLLABUS:

MODULE NO.	**NAME OF THE TOPIC**	**HOURS**	**MARKS**
M1	**Foundations of Research:** Concepts, Objectives, Importance, Basic steps of Research; criteria of a good research; Limitations of Research and Problems or hurdles in Research; Role of Research in Functional Areas: Finance, Marketing, HRD and other areas of Social sciences & Business Organisations; Applications of Research.	6	10

M2	**Research Types and Process:** Types of research from different perspectives-Pure & Applied; Exploratory, Explanatory, Descriptive, Causal, Experimental, Empirical; Longitudinal & Cross-sectional; Qualitative and Quantitative Research; Research Methods and Research Methodology; Research Process; Research design- concept and types.	10	15
M3	**Research Problem, Literature Survey and Measurement Particulars:** Problem Identification & Formulation, Various Aspects for Locating the Research Gap; Survey of related Literature- concepts, necessity and sources-reviews, research databases, web etc.; Literature review-primary and secondary sources, Application & Importance of literature review in identifying research problems. Measurement-- Logic in research: Positivism & Empiricism; Deductive and Inductive theory; Validity and Reliability; Levels of measurement – Nominal, Ordinal, Interval, Ratio; Constructs, Variables-Concepts and types, Data-types;	8	10
M4	**Sampling in Research:** Concepts of Statistical Population, Sample, Sampling Frame, Sampling Error, Sample Size, Characteristics of a good sample; Types and Applicability of Probability and Non-Probability Sampling : --Simple random, Systematic, Stratified, Cluster; Quota, Snowball, Judgmental, Purposive, Convenience; Multi-stage sampling; Determining size of the sample–Practical considerations in sampling and sample size.	10	15
M5	**Data collection, Data Analysis and Hypothesis Testing:** Data -Types and collection; Tools and techniques of data collection - questionnaire, schedule, interview, observation, case study, survey etc. Concept of Central Tendency—Mean, Median, Mode, Skewness, Kurtosis. Concepts on Parameter & Statistics and Time Series Concepts and Applicability of Univariate, Bivariate, Multivariate analysis ; frequency distribution, histogram, bar charts, pie charts; Regression Analysis, Introductory concepts on Discriminant Analysis, Factor Analysis & ANOVA; Introductory concepts and Applicability of Parametric and Non-parametric Tests: t-test, F-test, Z-test, Chi-square test; Hypothesis – Qualities of a good Hypothesis –Null & Alternative Hypothesis; Hypothesis Testing – Confidence Limit & Interval; Type-I & Type-II errors; Testing of Hypothesis of Association.	10	10

M6	**Interpretation and Representation of Research:** Applications of Research Methodology using statistical & software packages; Research report formulation; Paper Writing; Layout of a Research Report and Research Paper; References and Bibliography; Ethical issues related to Research and publishing; Plagiarism and Self-plagiarism	6	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. D.R. Cooper and P.S. Schindler: Business Research Methods, Tata McGraw –Hill
2. C.R. Kothari, and Gaurav Garg: Research Methodology – Methods and Techniques, New Age International
3. Dr Deepak Chawla & Dr Neena Sondhi : Research Methodology -Concepts and Cases, Vikas Publishing
4. R. Panneerselvam : Research Methodology ,PHI.
5. S N Murthy and U Bhojanna: Business Research Methods, Excel Books.
6. U. Sekharan and R Bougie: Research Methods for Business: John Wiley and Sons
7. P Mishra: Business Research Methods, Oxford University Press
8. J.K.Das. Statistics for Business Decision, Academic Publications, Latest Edition

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL
(Formerly West Bengal University of Technology)
Syllabus of BBA in Aviation Hospitality Services & Management

Semester- VIII

SUBJECT NAME: Medical Tourism **Total Credit: 5**
SUBJECT CODE: BAHS802

Aim of the Course: The aim is to equip students with an all-rounded understanding of the medical tourism industry, be it in history, drivers, logistics, and ethics, as well as future trends, thus enabling participants to understand and navigate the complex arena of medical tourism successfully.

Course Objectives: This course enables participants to define and explain medical tourism, analyze its drivers and stakeholders, and evaluate patient decisions. They will understand medical travel logistics, ethical and legal considerations, and impacts on health systems. Accreditation, specializations, digital health, and emerging trends will be covered. Participants will apply this knowledge and assess the future of medical tourism.

COURSE OUTCOMES		**MAPPED MODULE**	**BLOOM'S TAXONOMY**
CO1	To Define and explain medical tourism, its evolution, and related concepts.	M1,M2	1,2
CO2	To analyze patient decision-making factors and describe medical travel logistics, encompassing ethical and legal considerations.	M2	4
CO3	To illustrate the implications of medical tourism on health systems, the role of accreditation bodies, and major specializations in the field.	M3	2
CO4	To analyze the application of digital health technologies and telemedicine in medical tourism.	M3,M4	4
CO5	To identify emerging trends, apply knowledge to real-world scenarios, and critically assess the future of medical tourism.	M5	3

DETAILED SYLLABUS:

MODULE NO.	**NAME OF THE TOPIC**	**HOURS**	**MARKS**
M1	**Principles of Medical Tourism:** Definition and scope of medical tourism, history of development, medical, health, and wellness tourism, key types (elective, dental, cosmetic, reproductive, transplant), and important destinations worldwide.	10	15
M2	**Drivers and Stakeholders:** Key decision-making factors (cost, quality, accessibility), the role of governments and healthcare providers, medical tourism facilitators, accreditation (JCI, NABH, TEMOS), main specializations: elective surgery, dental, cosmetic, fertility treatments, wellness services.	10	15

M3	**Logistics and Patient Experience:** Travel planning essentials (visas, documentation), insurance coverage, patient journey management, pre-treatment planning, post-procedure care, integration of hospitality services, digital health technologies and telemedicine, coordination between home and destination providers.	10	15
M4	**Risks and Ethical Concerns:** Medical risks and complications, legal issues on cross border healthcare, regulation, ethical issues on transplant and surrogacy, patient safety and informed consent, potential effects on local health systems, handling cultural issues, and crisis management protocols.	12	15
M5	**Future Trends:** Future sustainable practices, international health crises, technological advancements like AI and robotics, telemedicine, new emerging hubs, regulation evolutions, models of health care personalization, new international medical travel trends.	8	10
	SUBTOTAL	50	70
	INTERNAL EXAMINATION	4	30
	TOTAL	50	100

Suggested Readings:

1. Health and Medical Tourism- John Connell, CAB International
2. Medical Tourism and Wellness: Hospitality Bridging Healthcare- Frederick J. DeMicco, Apple Academic Press
3. Handbook of Medical Tourism Program Development- Maria K Todd, CRC Press
4. Medical Tourism: A Reference Handbook- Stephanie Watson, Kathy Stolley, ABC-CLIO
5. Risks and Challenges in Medical Tourism: Understanding the Global Market for Health Services- (Eds) Jill R. Hodges, Ann Marie Kimball, Leigh Turner, Praeger