

BHARATHIAR UNIVERSITY : COIMBATORE-46
MBA – AIRLINE & AIRPORT MANAGEMENT
(For the SDE students admitted from the academic year 2011-12 & onwards)
(Annual Pattern)

SCHEME OF EXAMINATIONS

SECOND YEAR

S.No.	TITLE	MARKS	Exam Duration
1.	Management Information Systems	100	3 Hrs
2.	Airline and Airport Operations	100	3 Hrs
3.	Strategic Airport Planning and Marketing	100	3 Hrs
4.	Air Traffic Control	100	3 Hrs
5.	Aircraft Maintenance Management	100	3 Hrs
6.	Airline Marketing and Strategic Airline Alliances	100	3 Hrs
7.	Aviation Safety and Security	100	3 Hrs
8.	Aviation Legal Environment	100	3 Hrs
9.	Aviation Resource Management	100	3 Hrs

Note: For First year,
the scheme of Examinations and syllabi of MBA(SDE) from the academic year 2011-12
be followed.

Eligibility : Degree or Equivalent

Duration : Two Years

Objective: The objective of this module is to provide the participants with a good knowledge on Management Informations System and its advantages..

Unit-I

Foundations of Information Systems: A framework for business users - Roles of Information systems - System concepts - Organization as a system - Components of Information Systems - IS Activities - Types of IS.

Unit-II

IS for operations and decision making: Marketing IS, Manufacturing IS, Human Resource IS, Accounting IS and Financial IS - Transaction Processing Systems- Information Reporting System - Information for Strategic Advantage.

Unit-III

DSS and AI: DSS models and software: The decision making process - Structured, Semi Structured and Unstructured problems; what if analysis, Sensitivity analysis, Goal-seeking Analysis and Optimizing Analysis. Overview of AI, Neural Networks, Fuzzy Logic Systems, Genetic Algorithms - Expert Systems.

Unit-IV

Information Technology: Managing Information Resources and technologies – IS architecture and management - Centralized, Decentralized and Distributed - EDI, Supply chain management & Global Information technology Management.

Unit-V

Security and Ethical Challenges: IS controls - facility control and procedural control - Risks to online operations - Denial of service, spoofing - Ethics for IS professional - Societial challenges of Information technology

References:

1. James A O'Brien, "Management Information Systems", Tata McGraw Hill, Fourth Edition, 1999.
2. Effy Oz, "Management Information Systems", Vikas Publishing House, Third Edition, 2002.
3. Kenneth C Laudon and Jane P Laudon, –Management Information System//, 9th Edition, PHI, New Delhi, 2006.
4. Waman S Jawadekar , "Management Information System Text and cases", Third Editions, Tata McGraw-Hill ,2007.
5. R.Srinivasan, –Strategic Management//, IInd edition, Prentice Hall of India, New Delhi.
6. M.Senthil, –Management Information System//, 2003.

Objective: The objective of this module is to provide the participants with a good knowledge on Airport and Airline Operations and its services.

Unit-I

History of Aviation- Development of Air transportation in India-Major players in Airline Industry-Swot analysis in Airline Industry-Market potential of Indian Airline Industry—Current challenges in Airline Industry-Completion in Airline Industry-IATA & ICAO

Unit-II

Airport planning-Operational area and Terminal planning, design, and operation-Airport operations-Airport functions-Organization structure of Airline and Airports sectors-Airport authorities-Global and Indian scenario of Airport management – DGCA –AAI.

Unit-III

International trends-Emerging Indian scenario-PPP- Public Private Participation in Indian Airports-Environmental regulations-Private participation in International developments-Environment regulations-Regulatory issues-Meteorological services for Aviation-Airport fees, rates, and charges.

Unit-IV

Airline Terminal Management-Flight Information Counter/Reservation and Ticketing-Check In/Issue of Boarding pass-Customs and Immigration formalities-Co-ordination-Security Clearance-Baggage and -Handling of Unaccompanied minors and Disabled Passengers-Handling of Stretcher Passengers and Human Remains-Handling of CIP,VIP & VVIP-Co-ordination of Supporting Agencies /Departments.

Unit-V

Concept of Logistics- Role of Ware Housing-trend in material handling-Global Supply Chain-Quality concept and Total Quality Management-improving Logistic performance-Air Cargo Concept- Cargo Handling-Booking of Perishable Cargo and Live Animals- Industry Relation-Type of Air Cargo-Air Cargo Tariff, ratios and Charges-Airway Bill, Function, Purpose, Validation.

References:

1. Graham.A-*Managing Airport an International Perspective* –Butterworth Heinemann, Oxford-2001
2. Wells.A-*Airport Planning and Management, 4th Edition-McGraw-hill, London-2000.*
3. Doganis.R.-*The Airport Business-Routledge, London-1992*
4. Alexander T.Well, Seth Young –*Principles of Airport Management-McGraw Hill 2003*
5. P.S.Senguttuvan –*Fundamentals of Airport Transport Management – McGraw Hill 2003*
6. P.S.Senguttuvan –*Principles of Airport Economics-Excel Books-2007*
7. Richard De Neufville – *Airport Systems: Planning, Design, and Management.-McGraw-Hill, London- 2007*
8. Kent Gouiden- *Global Logistics Management –Wiley Black Well*
9. Lambert –*Strategic Logistic Management – Academic Intl Publishers*
10. Alan Ruston & John Oxley, *Hand book of Logistics & Distribution –Kogan Page*
11. Paul R.Murphy,JR and Donal & F.Wood-*Contemporary Logistics –Prentie Hall.9 thEdn.2008.*

STRATEGIC AIRPORT PLANNING AND MARKETING

Objective: The objective of this module is to provide the participants with a good knowledge on Strategic Planning and Marketing in Airport Organizations.

Unit-I

Introduction – Growth of air transport, Airport organization and associations, Classification of airports airfield components, Air traffic Zones and approach areas. Context of Airport system planning – Development of Airport Planning process – Ultimate consumers – Airline decision – Other Airport operations.

Unit-II

Airport characteristics related to airport design -Components Size, turning radius, speed, airport characteristics. CAPACITY AND DELAY: Factors affecting capacity, determination of runway capacity related to delay, gate capacity, and taxiway capacity.

Unit-III

Airport planning and surveys: Runway length and width, sight distances, longitudinal and transverse, runway intersections, taxiways, clearances, aprons, numbering, holding apron. PLANNING AND DESIGN OF THE TERMINAL AREA: Operational concepts, space relationships and area requirements, noise control, vehicular traffic and parking at airports. AIR TRAFFIC CONTROL AND AIDS: Runways and taxiways markings, day & night landing aids, airport lighting and other associated aids.

Unit-IV

The role and scope of activity of the Airport Enterprise – The economic impact on countries and regions – the main governance patterns in the airport business – The International path of evolution in the air port business – Airport transport value chain – Air enterprises – two primary actors in the air transport value chain – Skipping peripheral positions in the value chain. Rise of airport marketing for the aviation related business –Airport revenue management – Airport alliances – management contract.

Unit-V

The Development of the Non Aviation – Related value Proposition. Evolution of traditional Air port – Evolutionary patterns for airport enterprises – Commercial Airport Philosophy – tourist and conference service – logistic services – property management – consulting services – BAA and the non aviation business – best airport in the world: The case of Singapore Airport – Role and meaning of loyalty for a service company – Bench marking airline experience – Provider – Customer relational link – benefits from ALPS implementation of ALPS

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. *Marketing Management* –Philip Kotler – Pearson Education/PHI
5. *Marketing Management* – RAJAN SAXENA –Tata McGraw Hill
6. *International Marketing* – Philip R.Cateora-Irwin McGraw Hill, 9th Edition

Objective: The objective of this module is to provide the participants with a good knowledge on Air Traffic Control on Airports and Airways.

Unit-I

Human factors in Air traffic Control –Temporal progress in Human Factors in ATC –The circumstances – Background Details – The Human Factors –Preventive measures. Nature of Human Error: Shell model –Modeling Error –Engineering ,Interactive Information Processing – Levels of Behavior – Skill based, Rule Based, Knowledge based – Violations – Decision Making – Action – nature of Intended action – Managing Human error – Individual blame or systemic causal factors.

Unit-II

Information processing – Sensation and sensory memory – Perception – Detection – Attention – Recognition – Decision Making and response selection – the visual system – visual sensation, perception, cognition, imagery – visualization in air traffic control. Auditory cognition – Spatial Orientation – Situation awareness – Mental Models – decision making and Judgment – Cognitive aspects – attitudinal behavioral aspects – selection and training

Unit-III

Introduction – Communication distortion, expectancy, Noise and masking – Interruption – Listening – Selecting – Attending – Understanding – Non-verbal communication – Touch – Body Language – Communication in the ATC environment – communicating within groups – to solve problems – gate keeping – mediating – Criticism – Leadership – Team Building – Stress reduction – Self development and learning – Communication style – teams and Team work – Teams – Conformity – Compliance – Group decision making – group polarization – group think – cultural influences – Team roles – Working with other teams.

Unit-IV

Procedures – Circumstances – Background details – The Human factors – preventive measures – Checklists – Software display. Human machine systems – operational complexity versus Functional capability – Radar service – Procedural service – Future changes in the controlling environment – navigation: GNSS and free flight – surveillance: ADS and ADS-B – Other Human Factor issues in the CNS environment – Design and development – training – licensing

Unit-V

Stress – causes of stress – noise and vibration – stress recognition – Stress management – Estimating stress levels –Changing Attitudes and behavior – Post traumatic stress Disorder – Sleep and fatigue – Mental performance – psychological problems – performance changes – safety management – A case study – The Mount Erebus Disaster – Individual Performance factors – task factors – organizational culture – ATS organizations.

Reference Books

1. *Investigating Human Error* –Barry Strauch –Ashgate Publishing Limited Staffing the ATM System –Hinnerk Eibfeldt, Mike C.Heil and Dana Broach –Ashgate Publishing Limited.
2. *Innovation and Consolidation in Aviation* – GrahamEdkins and PeterPfister – Ashgate Publishing Ltd.

Objective: The objective of this module is to provide the participants with a good knowledge on Aircraft Maintenance Management.

Unit-I

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

Unit-II

Documentation for Maintenance: Types of Documentation – Manufacturer's Documentation – Regulatory Documentation – Airline Generated Documentation – ATA Document Standards – Summary of FAA Requirements – Additional Maintenance Program Requirements. Maintenance and Engineering Organization: M & E Organizational Chart – General Groupings –Mechanics and Engineers – Engineering Department Functions – Engineering Order Preparation.

Unit-III

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

Unit-IV

Line Maintenance (On – Aircraft) – Make up of Line Maintenance – Functions that Control Maintenance – Maintenance Control Centre Responsibilities – Line Maintenance Operations – General – Aircraft Log Book – Ramp and Terminal Operations – Other Line Maintenance Activities – Line Station Activities – Maintenance Crew Skill Requirements – Morning Meeting. Hanger Maintenance (On –Aircraft) – Introduction – Organization of Hanger Maintenance

Unit-V

Quality Assurance: Requirement for Quality Assurance – Quality Audits – ISO 9000 Quality Standard – Technical Records – Other Functions of QA. Quality Control: Introduction – Quality Control Organization – FAA and JAA Differences – QC Inspector Qualifications – Basic Inspection Policies. Reliability: Introduction – Types of Reliability – A Definition of Reliability – A Reliability Program – Administration and Management of the Reliability Program.

Reference Books

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

AIRLINE MARKETING AND STRATEGIC AIRLINE ALLIANCES

Objective: The objective of this module is to provide the participants with a good knowledge on Airline marketing and strategic airline alliances.

Unit-I

Maintenance: Marketing Strategy: PESTE analysis : political factors – economic factors – social factors – technological factors – environmental factors – introduction of Airline Business and Marketing Strategies – Porters Five Forces and their application to the Airline Industry – strategic families – differentiation airlines – the future – focus strategies – Airline Business and marketing strategies – common mistakes

Unit-II

Product Analysis-What is product- theory of product analysis and its application to the Airline Industry – fleet and schedules – related product features – customer service – related product features – controlling product quality – introduction of Pricing and revenue management – building blocks in airline pricing policy – uniform and differential pricing – the structures of air freight pricing-Distribution Of Product And Brand Relationship-Distribution channel strategies

Unit-III

Promotion Marketing-Fundamentals of relationship marketing – components of a relationship marketing strategy – frequent flyer programmers –the anatomy of a sale – sales planning – marketing communication techniques – airline advertising – selling in the air freight market – glossary of aviation terms and marketing terms.

Unit-IV

The regulatory framework of Air Transport- Economic characteristics of the Airline Industry- Benefits of scale, scope and density in Air Transport-Types of Alliances between Airlines- Current Airline Alliance group-Cases of failed Airline Alliances-A Historical glimpse at Alliancing objectives-Reasons for Airlines building Alliances-Objectives of Alliances- Introduction- Marketing-driven objectives for

Unit-V

Introduction –Sources of financial benefits –Labour cost reduction –Cost reduction in sourcing – marking financial benefits come true- Airline views or financial benefits –Traffic increase- revenue enhancement- Cost reduction-Profit improvement. The problem of local rationales.

Reference Book:

1. *Marketing Management – Philip Kotler-Pearson Education*
2. *Marketing Management –Ramaswamy & Namakumari –MacMillan*
3. *Global Marketing Management –Warren J.Keegan –P.H.I*
4. *Strategic Management –An Integrated Approach –Hill Jones –(Dreamtech Bictantia)*
5. *Strategic Management Concept & Cases –Thomson & Stricland –Tata McGraw Hill*
6. *Cases in Strategic Management –S.B.Budhiraja & M.B.Athreya –Tata McGraw Hill*

Objective: The objective of this module is to provide the participants with a good knowledge on Aviation safety and Security Management.

Unit-I

A National security asset: importance of Air transportation – Airways – Development of the Aviation industry – Deregulation – Consequences of 9/11 to the industry – Emergency Funding – Protecting Public Air transportation. Hijacking – Security Measures – International Prospective – Trend begins – Diplomatic Conference on Air Law – Ministerial Conference on Terrorism – Financing of Terrorism – United Nations – ICAO/ECAC

Unit-II

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

Unit-III

Screening: The last line of Defense – Introduction – Facilities – Screening check Point Augmentation – Law enforcement Officers at the gate – Flexible Law enforcement response Program – Public and Private Security Interface. Airborne Aircraft Security. Increased Supervision: Introduction – Criminal Guards – Ergonomic Solutions – potential Operator concerns – measuring operator Performance –

Unit-IV

A Loose End : Introduction – Cargo Carrier responsibility – Air cargo security – Suicides – Baggage Tags – Passenger/ Baggage reconciliation – Airport lockers – Container hardening – Blast containment versus blast management – Airmail security – Indirect air carriers – known and unknown shipper – Vacuum chambers – Inspection of cargo – International Air cargo standards – Ireland's air Cargo Security Program – TSA inspection of Air port – Conclusion. A slippery slope:

Unit-V

Technological Improvements: Some intrusive and some not: Introduction – Core commission – Micro wave Holographic Imaging – Body orifice security scanner – Flight Vu™ Aircraft data scanner – New Generation of video security systems – Bio simmer™ quadruple resonance device – Intelliscan™

Reference Books

1. *Commercial Aviation Safety*: Alexander T. Wells, Clarence
2. *Commercial Aviation Safety 5/E*: Clarence Rodrigues,
3. *Aviation and Airport Security: Terrorism and Safety Concerns*
4. *Aviation and Airport Security: Terrorism and Safety Concerns*

Objective: The objective of this module is to provide the participants with a good knowledge on Aviation legalities, sections and policies.

Unit-I

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

Unit-II

REGULATIONS-Aircraft Act 1934- The Aircraft Rules 1937

Unit-III

NATIONAL LEGISLATION -The Air corporations Act, 1953 (27 of 1953)

Unit-IV

CIVIL AVIATIONREQUIREMENTS (CAR)

Unit-V

INTERNATIONAL CONVENTIONS: The Chicago conventions, 1944

References: Aircraft Manual, C.A.R.Sec.II

Objective: The objective of this module is to provide the participants with a good knowledge on Aviation resource Management.

Unit-I

The role of crew resources management – The trouble with culture – Creating and implementing human factors' safety culture – human assessment – traditional flight crew and CRM training in general aviation – crew concepts in the air ambulance services.

Unit-II

Safety issues in capital – cabin crew communication – service, teamwork and flight safety – flight attendants' job performances and job satisfaction.

Unit-III

Fatigue management in aviation – Fatigue in air activity – Stress management – the physiological factor

Unit-IV

Job requirements of Airline Pilots – Pilot selection process – Personality test for traffic controllers – training of pilots and crew members – the link between human factors and organizational learning.

Unit-V

Structure of aviation operational information, management of aviation operational information – User innovation in Aviation operational information – Future of Aviation operational information .

References:

1. Brain Mc Allister, *Crew Resource Management ,Air life*
2. Jensen, *Pilot Judgment & Crew Resource Management ,N A*
3. Thomas L Seamster, *Aviation Information Management – From Documents Data, Ashgate*
4. Thomas L Seamster & Barbara G Kanki , *Aviation Information Management, Ashgate*
5. Eduardo Sales, Katherine A Wilson , *Crew Resource Management, Ashgate.*
6. Frank H Hawkins, *Human Factors in Flight Ashgate*
7. Mary Edwards & Elwyn Edwards, *The Aircraft Cabin –Managing Human Factors , Ashgate*
8. Harry W Orlady & Linda M Orlady, *Human Factors in Multi Crew Flight Operation Ashgate*