DETAILED SYLLABI AND CURRICULUM OF

B.VOC (AIRPORT OPERATIONS)

Directorate of Skill Development & Entrepreneurship

ANNAMALAI UNIVERSITY

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Directorate of Skill Development& Entrepreneurship
THREE-YEAR B.VOC. COURSES

FULL-TIME DEGREE COURSE

CHOICE BASED CREDIT SYSTEM

REGULATIONS AND SYLLABUS

1. **Condition for Admission:**

   Candidates for admission to the **First Year** of the **Three-Year B.Voc. Degree Programme** shall be required to have passed the final examination of the plus 2 Higher Secondary Course conducted by the Board of Secondary Education, Tamil Nadu Government or an examination of any other authority accepted by the Syndicate of this University as equivalent thereto, for **direct** admission to the **Second Year of B.Voc programme**, the candidates shall be required to have passed the **One-Year Diploma Programme having the National Skills Qualifications Framework (NSQF) level 5 in appropriate discipline** or an examination of any other authority accepted by the Syndicate of this University as equivalent thereto and for **direct admission to** the **Third year of B.Voc programme** the candidates shall be required to have passed the **Two-Year Advanced Diploma Programme having NSQF level 6 in appropriate discipline** or an examination of any other authority accepted by the Syndicate of this University as equivalent thereto. They shall satisfy the conditions regarding qualifying marks, age and physical fitness as may be prescribed by the Syndicate of the Annamalai University from time to time.

2. **Courses of Study (B.Voc)**
   i. Airport Operations
   ii. Aqua Culture
   iii. Catering Technology and Hotel Management
   iv. Hospital Instrumentation and Management
   v. Mechatronics

3. **Eligibility for the Award of Diploma / Advanced Diploma / Degree:**
   A candidate shall be eligible for the award of one-year Diploma if the candidate has satisfactorily undergone the prescribed courses of study of the first year of the three-year **B.Voc. programme**and has passed the prescribed examinations and has earned a minimum of 60 credits.

   A candidate shall be eligible for the award of two-year Advanced Diploma if the candidate has satisfactorily undergone the prescribed courses of study of the first and second year if admitted in the **First Year** of the **Three-Year B.Voc. programme**orthe prescribed courses of study of the second year if admitted directly to **Second Year of the Three-Year B.Voc programme** and has passed the prescribed examinations and has earned a minimum of 120/60 credits as applicable.

A candidate shall be eligible for the award of Degree of B.Voc if the candidate has satisfactorily undergone the prescribed courses of study for all the three years **or** the prescribed courses of study of the second and third year if admitted directly to the **Second Year** of the **Three-Year B.Voc. programme**orthe prescribed courses of study of the third year if admitted directly to **Third Year of the Three-Year B.Voc programme** and has passed the prescribed examinations and has earned a minimum of 180/120/60 credits as applicable.

3. Subject of Study:

The Subjects of study are given in Appendix I. The syllabi for the subjects are given in Appendix II

4. Scheme of Examinations:

 The scheme of Examinations is given in Appendix - I.

5. Choice Based Credit System:

The following formula should be used for conversion of time into credit hours.

- ➢ One Credit would mean equivalent of 15 periods of 60 minutes each, for theory, workshops/labs and tutorials;
- ➢ For internship/field work, the credit weightage for equivalent hours shall be 50% of that for lectures/workshops;
- ➢ For self-learning, based on e-content or otherwise, the credit weightage for equivalent hours of study should be 50% or less of that for lectures/workshops.

Each semester curriculum shall normally have a blend of theory, On-Job Training and practical courses. The total credits for the entire degree course will be 180. For the award of the degree a student has to

1) Earn a minimum of 180 credits,

2) Serve in the NSS or NCC for at least one year, and

3) Enroll as a student member of a recognized professional society.

6. Duration of the Programme:

A student is normally expected to complete the Diploma Programme in one year but in any case not more than three years from the time of admission.

A student is normally expected to complete the Advanced Diploma Programme in two/one year but in any case not more than four/three years from the time of admission as applicable.

A student is normally expected to complete the B.Voc Degree Programme in three/two/one year but in any case not more than five/four/three years from the time of admission as applicable.

7. Registration for courses:

A newly admitted student will automatically be registered for all the courses prescribed for the first Semester without any option.

Every other student shall submit a completed registration form indicating the list of courses intended to be credited during the next semester. This registration will be done a week before the last working day of the current semester. Late registration with the approval of the Dean on the recommendation of the Director, Centre for Skill Development along with a late fee will be done up to the last working day. Registration for the project work shall be done only for the final semester.

8. Assessment:

The break-up of assessment and examination marks for theory subjects is as follows.

First assessment	: 10 marks
Second assessment	: 10 marks
Attendance	: 5 marks
End Semester Examination	: 75 marks

The break-up of assessment and examination marks for practical subjects is as follows:

First assessment (test)	: 15 marks
Second assessment (test)	: 15 marks
Maintenance of record book	: 10 marks
End Semester Examination	: 60 marks

The project work will be assessed for 40 marks by a committee consisting of the guide and a minimum of two members nominated by the Nodal Officer of the programme along with the Director, Centre for Skill Development. The Nodal officer of the programme along with the Director, Centre for Skill Development will nominate one of the committee members as the Chairman. The Nodal Officer may opt himself/herself be the Chairman. 60 marks are allotted for the project work and viva voce examination at the end of the semester.

9. Substitute assessments:

A student, who has missed for genuine reasons accepted by the theNodal Officer and the Director, Centre for Skill Development, one or more of the assessments of a course other than the examination, may take a substitute assessment for any one

of the missed assessments. The substitute assessment must be completed before the date of the third meeting of the respective class committees.

A student who wishes to have a substitute assessment for a missed assessment must apply to the Nodal Officer within a week from the date of the missed assessment.

10. Student Counselors:

To help the students in planning their course of study and for general advice on the academic programme, the Nodal Officer of the Programme will attach a certain number of students to a member of the faculty who shall function as student counselor for those students throughout their period of study. Such student counselors shall advise the students, give preliminary approval for the courses to be taken by the students during each semester and obtain the final approval of the Director, Centre for Skill Development.

11. Class Committee:

The composition of the class committees from first to sixth semester will be as follows:

i. Course co-ordinators of the common courses, if any, who shall be appointed by the Director from among the staff members teaching the common course.

ii. A project coordinator (in the sixth semester committee only), who shall be appointed by the Nodal Officer in consulatation with the Director, Centre for Skill Development from the project supervisors.

iii. Teachers of individual courses.

One Professor or Associate Professor, preferably not teaching the concerned class, appointed as Chairman by the Director, Centre for Skill Development. The Nodal Officer or Director, Centre for Skill Development may opt to be a member or the Chairman.

The class committee shall meet three times during the semester. The first meeting will be held within two weeks from the date of class commencement in which the type of assessment like test, assignment etc. for the first and third assessments and the dates of completion of the assessments will be decided.

The second meeting will be held within a week after the completion of the first assessment to review the performance and for follow-up action.

The third meeting will be held after all the assessments but before the University semester examinations are completed for all the courses, and at least one week before the commencement of the examinations. During this meeting the assessment on a maximum of 25 marks for theory/40 marks for seminar/

industrial training, practical and project work will be finalized for every student and tabulated and submitted to the Director for approval and transmission to the Controller of examinations.

12. Withdrawal from the Examination:

A student can withdraw from all the examinations of the semester only once during the entire programme on valid grounds accepted by the University. Such withdrawal from the examinations of a semester will be permitted only if the candidate applies for withdrawal at least 24 hours before the commencement of the last examination. The letter grade 'W' appears in the mark sheet for such candidates.

13. Temporary break of study:

A student can take a one-time temporary break of study covering the current semester and/or the next semester only for B.Voc Degree with the approval of the Dean on the recommendation of the Nodal Officer and the Director, Centre for Skill Development, not later than seven days after the completion of the mid semester test. However, the student must complete the entire Programme within the maximum period of five years.

14. Attendance requirements:

To be eligible to appear for the examination in a particular semester, a student must put in a minimum of 75% of attendance in that semester. A student who withdraws from or does not meet the minimum attendance requirement in a semester must re-register for and repeat the semester. However, the Vice Chancellor may give a rebate / concession not exceeding 10% in attendance for exceptional cases only on Medical Grounds.

15. Passing and declaration of examination results:

All assessments of all the courses on an absolute marks basis will be considered and passed by the respective results passing boards in accordance with the rules of the University as per the UGC guidelines. Thereafter, the Controller of examinations shall convert the marks for each course to the corresponding letter grade as follows, compute the grade point average and cumulative grade point average, and prepare the grade cards.

Marks	Letter Grade	Grade Point
96 to 100 marks	Grade 'O' - Outstanding	10
90 to 95 marks	Grade 'A+' - Excellent	9
80 to 89 marks	Grade 'A' – Very Good	8
70 to 79 marks	Grade 'B+' – Good	7

60 to 69 marks	Grade 'B' – Above average	6
55 to 59 marks	Grade 'C' – Average	5
50 to 54 marks	Grade 'P' – Pass	4
< 50 marks	Grade 'F' – Fail	Re Appear (RA)
Not appearing	Grade 'AB' - Absent	AB – Absent
Withdraw from Examination	Grade 'W'	W – with drawal

A student who obtains less than 30/24 marks out of 75/60 in the theory/practical examination or is absent for the examination will be awarded grade 'RA'.

A student who earns a grade of O, A+, A, B+,B, C or P for a course is declared to have successfully completed that course. Such a course cannot be repeated by the student.

A student who obtains letter grade RA in a course has to reappear for the examination in that course.

The following grade points are associated with each letter grade for calculating the grade point average and cumulative grade point average.

O - 10; A+ - 9; A - 8; B+ - 7; B - 6; C - 5; P - 4

Courses with grade RA are not considered for calculation of grade point average or cumulative grade point average.

A student can apply for revaluation of one or more of his/her examination answer papers within a week from the date of issue of grade sheet to the student on payment of the prescribed fee per paper. The application must be submitted to the Controller of examinations with the recommendation of the Director, Centre for Skill Development.

After results are declared, mark sheet will be issued to the students. The marksheets will contain the list of courses registered during the semester, the grades scored and the grade point average (GPA) for the semester.

GPA is the sum of the products of the number of credits of a course with the grade point scored in that course, taken over all the courses for the semester, divided by the sum of the number of credits for all courses taken in that semester. CGPA is similarly calculated considering all the courses taken from the time of admission.

The results of the final semester will be withheld until the student obtains passing grade in all the subjects of all earlier semesters.

After successful completion of the Programme, the degree will be awarded with the following classifications based on CGPA.

For First class with distinction, the student must earn a minimum of 60/120/180 credits within one / two / three years respectively from the time of admission, pass all the courses in the first attempt and obtain a OGPA of 8.25 or above for all the courses from I to II, I to IV and I to VI semesters respectively for the Diploma / Advanced Diploma / Degree level.

For First class, the student must earn a minimum of 60/120/180 credits within three / five /seven semesters respectively from the time of admission and obtain a OGPA of 6.75 or above for all the courses from I to II, I to IV and I to VI semesters respectively for the Diploma / Advanced Diploma / Degree level.

For Second class, the student must earn a minimum of 60/120/180 credits within three / four /five years respectively from the time of admission for the Diploma / Advanced Diploma / Degree level.

For those students admitted directly to the Second year of B.Voc programme:

For First class with distinction, the student must earn a minimum of 60/120 credits within one /two years respectively from the time of admission, pass all the courses in the first attempt and obtain a OGPA of 8.25 or above for all the courses of III and IV and III to VI semesters respectively for the Advanced Diploma / Degree level.

For First class, the student must earn a minimum of 60/120 credits within three / five semesters respectively from the time of admission and obtain a OGPA of 6.75 or above for all the courses of III and IV and III to VI semesters respectively for the Advanced Diploma / Degree level.

For Second class, the student must earn a minimum of 60/120 credits within three / four years respectively from the time of admission for the Advanced Diploma / Degree level.

For those students admitted directly to the Third year of B.Voc programme:

For First class with distinction, the student must earn a minimum of 60 credits within one year from the time of admission, pass all the courses in the first attempt and obtain a OGPA of 8.25 or above for all the courses of V and VI semesters for the Degree level.

For First class, the student must earn a minimum of 60 credits within three semesters respectively from the time of admission and obtain a OGPA of 6.75 or above for all the courses of V and VI semesters for the Degree level.

For Second class, the student must earn a minimum of 60 credits within three years from the time of admission for the Degree level.

16. Ranking of candidates:

The candidates who are eligible to get the **Diploma / Advanced Diploma / Degree** in First Class with Distinction will be ranked together on the basis of the OGPA for all the courses of study during the period of study.

The candidates passing with First class will be ranked next after those with distinction on the basis of OGPA all the subjects of study during the period of study.

17. Transitory regulations:

Wherever there had been change of syllabi, examinations based on the existing syllabus will be conducted for three consecutive times after implementation of the new syllabus in order to enable the students to clear the arrears. Beyond that the students will have to take up their examinations in equivalent subjects, as per the new syllabus, on the recommendations of the Nodal Officer concerned.

B.Voc (Airport Operations) Three Year Degree Course

SEMESTER –I

Code	Subjects	Periods/Week			Exam Duration Hours	Marks		Total Marks	Credits
		L	T	P		CA	FE		
19AOPC101	Communicative English	3	0	0	3	25	75	100	3
19AOPC102	Introduction to Computers	3	0	0	3	25	75	100	3
19AOPC103	Life Coping Skills	3	0	0	3	25	75	100	3
19AOPC104	Airlines Baggage Handler	4	0	0	3	25	75	100	3
19AOPC105	Introduction to Airline Industry	3	0	0	3	25	75	100	4
19AOPP106	Soft Skill Laboratory	0	0	3	3	40	60	100	2
19AOPP107	Aviation Audio/Visual Laboratory	0	0	3	3	40	60	100	2
19AOPP108	Computer Laboratory	0	0	3	3	40	60	100	2
19AOPP109	Language Laboratory	0	0	3	3	40	60	100	2
19AOPT110	Skill /OJ Training	0	0	6	3	40	60	100	6
	Total	16	0	18		325	675	1000	30

[L] – Lecture **[T]** – Theory **[P]** – Practical [**CA]** – Continuous Assessment **[FE]** – Final Examination

SEMESTER –II

Code	Subjects	Periods/Week			Exam Duration Hours	Marks		Total Marks	Credits
		L	T	P		CA	FE		
19AOPC201	Soft Skill and Personality Development	3	0	0	3	25	75	100	3
19AOPC202	Air ticketing and passenger service	3	0	0	3	25	75	100	3
19AOPC203	Passenger Handling	3	0	0	3	25	75	100	3
19AOPC204	Airline Customer Executive	3	0	0	3	25	75	100	3
19AOPC205	Passenger Ground Services	4	0	0	3	25	75	100	4
19AOPP206	Soft Skill and personality Development Laboratory	0	0	3	3	40	60	100	2
19AOPP207	Air ticketing& reservation Laboratory	0	0	3	3	40	60	100	2
19AOPP208	Ground Handling Laboratory	0	0	3	3	40	60	100	2
19AOPP209	Airline X-ray laboratory	0	0	3	3	40	60	100	2
19AOPT210	On Job Training (Medical Equipments)	0	0	6	3	40	60	100	6
	Total	15	0	18		260	540	800	30

SEMESTER –III

Code	Subjects	Periods/Week			Exam Duration Hours	Marks		Total Marks	Credits
		L	T	P		CA	FE		
19AOPC301	Airport Ramp Management	3	0	0	3	25	75	100	3
19AOPC302	Airlines Ground Support Equipment	3	0	0	3	25	75	100	3
19AOPC303	Runways operator	3	0	0	3	25	75	100	3
19AOPC304	Airport Activities	4	0	0	3	25	75	100	3
19AOPC305	Airport Safety Crew	3	0	0	3	25	75	100	4
19AOPP306	Skill Laboratory	0	0	3	3	40	60	100	2
19AOPP307	Flight Equipment Laboratory	0	0	3	3	40	60	100	2
19AOPP308	Flight Handling Laboratory	0	0	3	3	40	60	100	2
19AOPP309	In Flight Laboratory	0	0	3	3	40	60	100	2
19AOPT310	Skill /OJ Training	0	0	6	3	40	60	100	6
	Total	16	0	18		325	675	1000	30

SEMESTER –IV

Code	Subjects	Periods/Week			Exam Duration Hours	Marks		Total Marks	Credits
		L	T	P		CA	FE		
19AOPC401	Entrepreneurship Development	3	0	0	3	25	75	100	3
19AOPC402	Management Information System	3	0	0	3	25	75	100	3
19AOPC403	Safety Handling Equipment	3	0	0	3	25	75	100	3
19AOPC404	In flight Emergencies	4	0	0	3	25	75	100	3
19AOPC405	Airline Marketing Management	3	0	0	3	25	75	100	4
19AOPP406	Management Laboratory	0	0	3	3	40	60	100	2
19AOPP407	Networking Laboratory	0	0	3	3	40	60	100	2
19AOPP408	Flight Emergency Laboratory	0	0	3	3	40	60	100	2
19AOPP409	Safety practice Laboratory	0	0	3	3	40	60	100	2
19AOPT410	Skill /OJ Training	0	0	6	3	40	60	100	6
	Total	16	0	18		325	675	1000	30

SEMESTER –V

Code	Subjects	Periods/Week			Exam Duration Hours	Marks		Total Marks	Credits
		L	T	P		CA	FE		
19AOPC 501	Aviation Legal Environment	3	0	0	3	25	75	100	3
19AOPC 502	Aviation Resource Management	3	0	0	3	25	75	100	3
19AOPC 503	Aviation Safety and Security	3	0	0	3	25	75	100	3
19AOPC 504	Aircraft Maintenance Management	4	0	0	3	25	75	100	3
19AOPE 505	Elective I	3	0	0	3	25	75	100	4
19AOPP 506	Air Cargo Lab	0	0	3	3	40	60	100	2
19AOPP 507	Marshalling Laboratory	0	0	3	3	40	60	100	2
19AOPP 508	Safety Management Systems Laboratory	0	0	3	3	40	60	100	2
19AOPP 509	Airline Delay Analysis Laboratory	0	0	3	3	40	60	100	2
19AOPT 510	Skill /OJ Training	0	0	6	3	40	60	100	6
Total		16	0	18		325	675	1000	30

SEMESTER –VI

Code	Subjects	Periods/Week			Exam Duration Hours	Marks		Total Marks	Credits
		L	T	P		CA	FE		
19AOPE 601	Elective 2	3	0	0	3	25	75	100	3
19AOPP 602	Apprenticeship	0	0	10	3	40	60	100	16
19AOPT 603	Project Viva Voce	0	0	8	3	40	60	100	11
TOTAL		3	0	18		105	195	300	30

19AOPC 101 COMMUNICATIVE ENGLISH

Course Objective:

- To help students achieve proficiency in English
- To develop students professional communication skills to meet the demand in the field of global communication to enable them to acquire placement anywhere with ease and confidence.

Learning Outcomes:

- Students enhance their communicative skills in real life situations.
- Students will equip with oral and appropriate written communication skills.

UNIT I – READING WRITING LISTENING

Definition of reading, - Reading Techniques – Academic and aviation reading tips. Sentence - Parts of Speech, Articles – Types of sentences – Common Errors in Grammar and Spelling – Writing and Managing Time – Emails and Correspondence Writing – Common terms used in Aerospace – Research and Writing Papers – Report Writing – Resume Writing – Writing Applications, Responding and Managing Schedules and Tasks Management. Active Listening – Developing Effective Listening Skills – Understanding accent and use of phonetics in Regional English Barriers to Listening, Purpose of Listening, Outlines and Signposting Gambits Exercise. Specific information and interference

UNIT II – COMMUNICATION SKILLS

Introduction to Communication - Conversation Skills - Effective Organizational Communication - Human Communication, Process and Context - Types of Communication –19AOP usages and Channels of Communication - Communication Barriers - Problems and Challenges - Phonology – issues of international comprehension - Questioning Techniques – methods of concealment - Document verification - Phonetics

UNIT III – AVIATION LANGUAGE PROFICIENCY - BASIC

Exposure To Radio Telephony -Concentrating On The Distinction Between Standard Phraseology And Plain Language - Perception And Articulation - Interactive Communication - Fluency In Discourse, Social, Cultural And Professional Norms - General Knowledge - General Skills -Location, Latitudes, Longitudes, Pronunciationa, Structure, Vocabulary, Fluency, Articulation.

UNIT IV – APTITUDE

Verbal and numeric aptitude - listening and making notes - understanding airport environment - aviation ettiquette - grooming and dressing - organising - attending meetings - facing and preparing for interviews - tracking - asking questions - giving orders - making requests and offering to act - asking permission - giving undertakings - public speaking.

UNIT V – COMMUNICATION AND CRISIS CHECKS

Providing information about the past, present and future; describing intentions - Discussing necessity, capacity, feasibility and possibility - Managing Pilot-controller dialogues - Acknowledging, confirming, correcting - Reading back - Assessing, describing states and ongoing processes - Resolving conflicts - Paraphrasing and clearing ambiguity - Safety as a singular concern - Identifying Ground Support Equipment

TEXT BOOKS

1. Henry Emery & Andy Roberts, Aviation Englsigh, MacMillian, 2009.
2. The Exceptionally Human Airport Experience, Brian Shapiro, ACI world, 2011

REFERENCE BOOKS

1. Liz Mariner, Cleared for Takeoff - Aviation English Made Easy, Book 1,AE Link Publications, 2013.
2. Liz Mariner, Cleared for Takeoff - Aviation English Made Easy, Book 2,AE Link Publications, 2016.
3. G R Gopinath, Simply Fly: A Deccan Odyssey, Collison, 2013.
4. Dale Carnegie, The Quick and Easy Way to Effective Speaking.
5. Communicate Clearly, Robert Heller (Essential Managers) Publisher Dorling Kindersley

19AOPC 102 INTRODUCTION TO COMPUTERS

Course Objective
➢ To familiarize the students with Fundamentals of Computer and IT applications

Learning Outcomes
✓ Students enhance their programming fundamentals
✓ Familiarizing with MS Office
✓ Handle various trends in computer communication

UNIT I INTRODUCTION TO COMPUTERS
Classification, History, Types of Computers. Elements of a Computer System: Block Diagram of The Computer System, Introduction to various units. Hardware: CPU, Memory, Input and Output devices, Auxiliary storage devices. Software: System and Application Software, Utility packages, configuration of Computer System Applications of Information Technology: Wide range of applications in: Home, Education and Training, Entertainment, Science, Medicine, Engineering etc.

UNIT II COMPUTER ACCESSORIES
Input Devices: Mouse, Keyboard, Light pen, Track Ball, Joystick, MICR, Optical Mark reader and Optical Character reader. Scanners, Voice system, Web, Camera.
Output Devices: Hard Copy Output Devices; Line Printers, Character Printers, Chain Printers, Dot-matrix Printers, Daisy Wheel Printer, Laser Printers, Ink jet Printers, Plotters, Soft Copy device-Monitor, Sound card and speakers.
Memory and Mass Storage Devices; Characteristics of Memory Systems; Memory Hierarchy; Types of Primary Memory; RAM and ROM; Secondary and Back-up; Magnetic Disks, Characteristics and classification of Magnetic Disk, Optical Disk, Magnetic Tape.

UNIT III MS WORD
Documentation Using MS-Word -Introduction to Office Automation, Creating & Editing Document, Formatting Document, Auto -text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Advance Features of MS-Word- MailMerge, Macros, Tables, File Management, Printing, Styles, linking and embedding object, Template.

UNIT IV MS EXCEL& POWER POINT
Electronic Spread Sheet using MS-Excel -Introduction to MS-Excel, Creating & Editing Worksheet, Formatting and Essential Operations, Formulas and Functions,

Charts, Advance features of MS-Excel -Pivot table & Pivot Chart, Linking and Consolidation.

Presentation using MS-PowerPoint: Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect.

UNIT V COMPUTER COMMUNICATIONS

Introduction, Objectives. Basic of Computer Networks: Local Area Network (LAN), Wide Area Network (WAN). Internet: Concept of Internet, Applications of Internet, Connecting to the Internet, Troubleshooting, World Wide Web (WWW), Web Browsing Software, Popular Web Browsing Software.

Basics of E - mail: What is an Electronic Mail, Email Addressing, Using E - mails: Opening Email account, Mailbox: Inbox and Outbox, Creating and Sending a new E - mail, Replying to an E - mail message, Forwarding an E - mail message, Sorting and Searching emails.

TEXT BOOKS
1. Sinha, P.K. and PritiSinha, "Computer Fundamentals", BPB, 2016
2. Steven Weikler, Office 2017 for the Begineers, Kindle Publication, 2016

REFERENCE BOOKS
1. Bokhariand Ahmad 'UNIX Operating System', DhanpatRai& Co, 2004.
2. Sathish Jain, Kratika and Geetha M, "Office 2010 Course Complete Book For Learning Better And Faster", BPB, 2016.

19AOPC 103 LIFE COPING SKILLS

UNIT I SELF ESTEEM AND PERSONALITY DEVELOPMENT
Self esteem-importance of self esteem- positive self development- self acceptance of strengths and weakness- personality development- methods- do's and don'ts-skills to develop

UNIT II POSITIVE THINKING
Right perception of life- emphasize good things- transform from soft to tough minded individuals- weak to strong men/women

UNIT III MOTIVATION AND GOAL SETTING
Concept of motivation-energizing and directing efforts for goal- enhance motivation desires and aspirations- different types of goals- importance of pursuit of personal goals setting, goals- striving for goals

UNIT IV COPING WITH DEPRESSION, FEAR AND FAILURE
Depression-nature-symptoms and causes- ways to overcome depression- types of failure- understanding failures- handling fear-overcoming failure and fear-understanding anger- hindering anger to achieve goals- coping with failures

UNIT V LEADERSHIP
Leadership- Nature and types- characteristics of good leadership- leadership role courage and confidence.

TEXT BOOK
1. Alphonse, S.J. Xavier,' We shall overcome' ICRDCE publication, Chennai. 5th edition,2011.

REFERENCE BOOKS
1. Dale Carnegie, "The Leader in You", Simon, 2012
2. Robert Heller, "Effective Leadership (Essential Managers)", Dorling Kindersley, 2011
3. Stephen R Covey, "The Seven Habit of Highly Effective People", Kindle, 2015.

19AOPC104:AIRLINES BAGGAGE HANDLER

UNIT I BAGGAGE HANDLING
Baggage Transfer, Highest Average Baggage Load , Unloading time / Unloading Rate (Arrival Aircraft) ,Unloading Rate (Drop Point) , Loading of baggage to Aircraft , Operating Rules , Baggage Weight , Baggage Handling at Departure Hall , Crew Baggage Handling . Cargo Baggage Handling

UNIT II INTERLINE BAGGAGE
Interline ticketing and interline booking - itineraries - multiple flights on multiple airlines . Interline arrangements - check-in – inter tarnsfer. Segregation of interline and lnline transfer Baggage , Mail , Cargo baggage , Loading , Offloading , Priority Baggage .

UNIT III BAGGAGE THEFT AND PILFERAGE PRIVATION
Baggage Handling Areas , Ramp and Staging Areas , Transit baggage. Learn about How to handle the situation when Passenger lost their baggage , Learn the process of Transit Baggage Handling .

UNIT IV BAGGAGE SCANNING
Baggagescanner ideal for checkpoints - small baggage - large baggage scanning in high security premises such as Airports and other areas .Procedure - Check in Baggage – weight limitations – Domestic and International travel –Do and Don't in baggage.Hand baggage.Basic Procedure , Baggage Type - Baggage Scanners .

UNIT V RAMP BAGGAGE HANDLING
Ramp – structure - area related to the Baggage handling -loading of Luggage to the flight hold area - Cargo Hold Area - precaution during Loading, Offloading the Baggage.Use of Conveyor belt for performing the loading and offloading duties. Handling of Baggage at Arrival Hall- Cargo Luggage .

TEXT BOOKS
1. Aruthur Hailey, "Airport", Pearson, 1986.
2. UAA Modules

REFERENCE BOOKS
1. Alexander T. Wells, Ed.D and Seth B. Young, "Airport Planning and Management", McGraw Hill, 5th Edition, 2014.
2. Bartholomew Elias, "Airport and Aviation Security", CRC Press, 2015.

19AOPC 105INTRODUCTION TO AIRLINE INDUSTRY

UNIT I HISTORY 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.

UNIT II AIRPORT OPERATION AS AN OPERATIONAL SYSTEM
Airports as a system – national airport system – function of the airport – centralized and decentralised passenger terminal systems – complexity of the airport systems – management and operational structure – IATA / ICAO - National Aviation Authorities & Role of State and Central Governments - Airports Authority of India

UNIT III AIRPORT
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 Co-ordination of Supporting Agencies /Departments.

UNIT IV AIRPORT HANDLING

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

UNIT V 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- Type of Air Cargo-Air Cargo Tariff, ratios and Charges-Airway Bill, Function, Purpose, Validation.

TEXT BOOKS

1. Aviation Maintenance Management – Harry A. Kinnison – McGraw Hill
2. Norman J. Ashford, H. P. Martin Stanton, Clifton A. Moore, Pierre Coutu and John R. Beasley, Airport Operations, McGraw Hill, 2012

REFERENCE BOOKS

1. Risk Management and Error Reduction in Aviation Maintenance – Manoj S. Patankar and James C. Taylor – Ashgate Publishing Ltd.
2. Jeffrey C. Price and Jeffrey S. Forrest, Practical Airport Operations, Safety, and Emergency Management Protocols for Today and the Future, Elesevier,2016.

19AOPP 106: SOFT SKILL LABORATORY

1. How to express individual
2. Importance of today's life style
3. Methods to improve Self image
4. Exercises on self confidence
5. Stories of success secret
6. Different country culture learning
7. Business etiquette
8. Behavioural communication
9. Self Grooming
10. Self marketing skills
11. Personality Development

19AOPP 107 AVIATION AUDIO/VISUAL LABORATORY

1. Introduction to aviation Industry
2. Basic practice on language
3. Flight arrival/departure announcement practice
4. In flight announcement
5. Cargo commands
6. Body Language practice with customer
7. Visual about flight arrivals
8. Flight signal visuals
9. Language translation practice
10. Flight transfer announcements

19AOPP 108 COMPUTER LABORATORY

1. Different components of Taskbar
2. Create Desktop icons & Folder and Files on Desktop
3. Run Application such as Notepad, MS Paint
4. Change Mouse properties in Windows
5. Connecting to the Internet, applying browsers software such as chrome, Internet Explorer
6. Applying software download
7. Create E-mail ID in a mail server, sending E-mail and working with Inbox
8. Create Bio data in word
9. Formatting text in Word
10. Create excel database, apply auto sum
11. Create presentation file with multiple slides
12. Apply slide transition and animation
13. Importing and exporting of files
14. Conversion of file from one format to other (.doc to pdf, .jpeg to pdf, etc)

19AOPP 109 LANGUAGE LABORATORY

1. Improving pronunciation through tongue twisters.
2. Just a minutes session: Speaking Extempore for one minutes on given topics
3. Conversation classes on contemporary issues
4. Reading aloud of newspaper headlines and important articles.
5. Mannerism or Etiquette.
6. Group Discussion
7. Letter drafting
8. Report writing on a topic
9. Writing of corporate CVs
10. PPT presentation on selected issues
11. Tips to face the interviews
12. Mock Interview sessions

19AOPT110 SKILL/OJ TRAINING

1. Communication Skill Activities
2. Identification of Various Airport signals
3. Body language
4. In flight handling theories
5. Flight departure procedures
6. Baggage handling signals
7. Cargo basis
8. Flight simulator practice
9. Practice on handling luggage
10. Practice on conveyor Belt
11. Measurement of pulse
12. Measurement of BP

19AOPC 201 SOFT SKILL AND PERSONALITY DEVELOPMENT

Course Objective

➢ To enhance holistic development of students and improve their employability skills.

Learning Outcomes
✓ Enhance the students Communication ability
✓ Developing the professionals with idealistic, practical and moral values.
✓ Enhance their inter personal skills and be an effective goal oriented team player.

UNIT I LISTENING SKILLS
Barriers to listening; effective listening skils; feedback skills.Attending telephone calls; note taking. Activities: Listening exercises - Listening to conversation, News and TV reports. Taking notes on a speech / lecture.

UNIT II SPEAKING AND CONVERSATIONAL SKILLS
Components of a meaningful and easy conversation; understanding the cue and making appropriate responses; forms of polite speech; asking and providing information on general topics.The study of sounds of English, stress and intonation. Situation based Conversation in English.

UNIT III ESSENTIALS OF SPOKEN ENGLISH
Activities, Making conversation and taking turns, Oral description or explanation of a common object, situation or concept, giving interviews.

UNIT IV PRESENTATION SKILL
Oral Presentation with / without audio visual aids.Group Discussion. Listening to any recorded or live material and asking oral questions for listening comprehension.

UNIT V PERSONALITY DEVELOPMENT
Attitude :Factors influencing Attitude, Challenges and lessons from Attitude. Change Management: Exploring Challenges, Risking Comfort Zone, Managing Change. Motivation: Factors of motivation, Self talk, Intrinsic & Extrinsic Motivators.

TEXT BOOKS
1. Fredrick H. Wentz, "Soft skills Training - A workbook to develop skills for employment", Createspace, 2012.
2. Barun K. Mitra, "Personality Development and Soft skills", Oxford University Press, 2016.

REFERENCE BOOKS
1. Covey Sean, "Seven Habits of Highly Effective Teens", Fireside Publishers, 1998.
2. Carnegie Dale, "How to win Friends and Influence People", Simon & Schuster, 1998.

19AOPC 202 AIRTICKETING AND PASSENGER SERVICES

Course Objective

➢ To impart basic pprinciples of constructing a fare, Ticketing concepts

Learning Outcomes
✓ Understands the Tariffs, Fares & Taxes are implied on constructing fare
✓ Enabling the Route Maps for places all over the Continent
✓ Enabling proper travel documents and guiding on travel formalities

UNIT I AIR TRANSPORT
Airlines Abbreviations, Codes and Definitions, Aircraft and in – flight services, Airport facilities and special passengers, Automation, Baggage, International Regulations.

UNIT II AIRFARES
Arrangement of the Tariff Manuals, Terms and Definitions, Published Fares, Currency Regulations, Round and Circle Trip fares, Journeys in different classes, Special fares, Discounted fares, Taxes, Ticketing instructions, BSP Procedures, Stock Control and Security of accountable documents

UNIT III AIR TICKETING
Review of basic Fare Construction Principles, The mileage system, Lowest combination principle, Around the World Fares, "Open Jaw" Journeys, Re – routings, Collection of Fares

UNIT IV TOUR PLANNING
Terms and abbreviations, Types of Tours, How and why tours are produced, Items included in a tour brochure, Booking Conditions, Reservation Procedures.

UNIT V TRAVEL FORMALITIES
The Passport, Health Certificates, Taxes, Customs and Currency, Travel Insurance, General preventive measures, The Travel Information Manual (TIM), Consequence of Negligence.

TEXT BOOKS
1. Books from Universal Airhostess Academy, Chennai
2. JagmohanNegi, "Air Travel Ticketing and Fare Construction", Kanishka Publishers, 2004

REFERENCE BOOKS
1. JagmohanNegi,"International Tourism and Travel", S.Chand& Company Ltd, New Delhi, 2004
2. Mohinder Chand, "Travel Agency Management – An Introductory Text", Anmol Publications Pvt Ltd, New Delhi 2008.

19AOPC 203 PASSENGER HANDLING

UNIT I TERMINAL HANDLING
Airport Terminal -type of Terminals -terminal buildings -Aircraft through gates. Airports – small – large – Domestic – International.

UNIT II PASSENGER HANLING IN TERMINAL
Multiple Terminals – walkways - sky-bridges - underground tunnels. Departure area -activities performed at Departure. Arrival Procedures and activities performed on Arrival of Aircraft to delivering the passenger baggage.

UNIT IIICHECK-IN FORMALITIES

Checking the Valid Ticket – Baggage - procedure for issuing the Boarding pass for further travel.Airport check-in procedure – luggage check-in formalities - Handling agent working on behalf of an Airline.

UNIT IV DOCUMENTS CHECKING:

Document – domestic – international passengers, ID cards, passport, e-ticketing. Security checks – visa – passport validity.

UNIT V LUGGAGE HANDLING

Luggage - Hand luggage,Cabin luggage – weight limitations - scanning.Baggage Handling System (BHS) – system – principles – operations – limitations.

TEXT BOOK

1. PranNath Seth, "An Introduction to Travel and Tourism", Sterling Publishers Pvt Ltd, Delhi, 1998.

REFERENCE BOOKS

1. Balasubramaniyan, K, "Essence of Customer Relationship Management", Learn Tech Press, 2006.
2. UAA Books on Passenger Handling

19AOPC204: AIRLINES CUSTOMER EXECUTIVES

UNIT I AILINES RESERVATION

Computer reservation system - functions – operations. Global distribution system (GDS) - travel agencies - distribution channels.Activities perform at Airlines booking office - duties of sales departments - duties of Tele executives - handling Privileged customer services staff and about their facilities and services.

UNIT II AIRLINES TRAFFIC ASSISTANCE

Airlines Traffic Assistant - transportation services – duties - handling baggage handling, making announcements, and assisting with boarding and security - Floor walkers - Information desk - VIP assistant -guest relation executives - Airlines Counter staff -Airlines special services providers - lost and damage department - cargo and mail department -Airlines Security executive -back up office department

UNIT III RAMP MANAGEMENT

Ramp Management - ramp handling – operations - work safely on the ramp -Ramp service executive. Security department - load and Trim – Aircraft –Marshaller - Airport Ground Support Department.

UNIT IV AIRLINES SALES AND MARKETING

Airline sales executives - relationships with customers - business connections for the airline.Sales executive – client's management - sales and marketing information.Marketing and Branding department - Bulk booking - Corporate service Department.

UNIT V – AIRLINES SERVICES

Unscheduled Air transport services - passengers or goods -chartering the entire Aircraft along with Crew.Non Schedule flight operation-Domestic and International -Flight Attended.Customer service - catering services -transport executives – cabin support.

TEXT BOOK

1. IATA text books on Customer Executives

REFERENCE BOOK

1. Customer Service Executives, Universal Airhostess Academy, Chennai

19AOPC 205 PASSENGER GROUND SERVICES

UNIT I INTRODUCTION
Introduction to Airport and Airline operations – Computer Reservations (CRS) – Departurecontrol systems (DCS) – Functions of CRS & DCS.

UNIT II CHECK IN PROCEDURE
Passenger and Baggage Check-in Procedures – Airport and Offsite – Conditions of Passenger and Baggage carriage – Boarding procedures – Flight Close-out messaging.

UNIT III DANGEROUS GOODS
Dangerous Goods and regulations – Awareness for Passenger Service Agents – ManagingPassenger interactions.

UNIT IV PASSENGER AND BAGGAGE SECURITY
Aviation security Procedures – Passenger and Baggage Transport.Supervisor collection, Completion of check-in agent and gate agent responsibilities

UNIT V PASSENGER FACILITATION
Enhanced Passenger Facilitation – Latest Innovation – Career opportunities.Gate Agent collection, Board a passenger. Handle group and frequent traveler acceptance, baggage connections and seating.

TEXT BOOK
1. UAA Text book on Passenger Ground services.

19AOPP 206 SOFT SKILL AND PERSONALITY DEVELOPMENT LABORATORY

1. Classroom technique to improve the soft skills
2. Surprise writing on current issues
3. General grooming sessions to face the interview
4. Group discussions
5. Motivational classes to improve communication and confidence power
6. Team project on personality development
7. Presentation through visual aids
8. News reading
9. Dialogue delivery
10. Change project

19AOPP 207 Air ticketing and reservation laboratory

19AOPP 208 Ground Handling Laboratory

19AOPP 209 Airline X-ray Laboratory

19AOPT 210 on Job Training (Medical Equipments)

19AOPC 301 AIRPORT RAMP MANAGEMENT

UNIT I AIRPORT RAMP
Introduction - Each Ramp Equipment and their abbreviation - Tow able equipment – Partially motorized tow able equipment - Motorized equipment - Engineering equipment - Special purpose equipment - brief purpose of each equipment - precautions to be exercised with each type of equipment with respect to operations and maintenance.

UNIT II TARMAC
Introduction - Apron/Tramac – area – operation procedures – safety procedures – regulation – access – rights – applications.

UNIT III MARSHALLING
Introduction - Duties and responsibilities of the marshaller - Requirements for the marshaller - Communications skills / methods - pre arrival checks - uniform for better visibility during day and night - to use the right equipment during day and night - to ensure the right spot for positioning the aircraft nose wheel while marshalling - to position one self so as to be visible to the pilot in the cock pit for proper communication - to ensure that there is no obstructions for accident free aircraft movement.

UNIT IV BOARDING TO AIRCRAFT
Introduction -Boarding call - communication/announcement protocol – cabin luggage – transport of passengers onto a Coach / Bus , usually in Transportation . Boarding starts with entering the vehicle and ends with the seating of each passenger and closure of the Aircraft door- boarding gate closure.

UNIT V. DEEP CLEANING / INFLIGHT CLEANING
Introduction - Exterior cleaning - Interior cleaning - toilet cleaning - water service - cooling and heating - use of proper deodorant rackasan - proper filling of toilet water --- meeting portability standards for drinking water - transit cleaning - passengers on board -night stop cleaning - Safety checks - storage of cabin material - cabin equipment and in flight entertainment material.

TEXT BOOK
1. UAA Text book on Aircraft Ramp Management

REFERENCE BOOKS
1. IATA manual on Ramp Management

19AOPC 302 AIRLINES GROUND SUPPORT EQUIPMENT

UNIT I TOWABLE EQUIPMENT & PARTIALLY MOTORISED EQUIPMENT
Towable Passenger step - Container, Pallet dolleys - Baggage Trolleys - Towable Watercart/Toilet cart – Towable conveyor Belt - Pre-Flight Checks - Use of Marshallers When Connecting loaded dolleys/Trolleys together - Safety Precautions to be followed - Maximum trailers that may be connected together. General safe practices.

UNIT II STANDARD OPERATING PROCEDURE FOR MOTORISED GROUND SUPPORT EQUIPMENT
Baggage / Cargo Tow Tractors - Bulk Freight Loaders - Water / Toilet Bowzers - Passenger Transportation Coaches - Pre-Flight Checks - Defensive Driving - Operational Use - Alignment to Aircraft - Arrival Flights - Departure Flights - Removal From the Aircraft - Parking of Ground Support Equipment – Passenger step ladders - Pre-Flight Checks – Alignment/Removal to/from the Aircraft while the aircraft doors are in open/closed position. Emergency operations.

UNIT III ENGINEERING EQUIPMENT

Pre-Flight Checks - Chassis Check up& Operation - GPU Engine Starting & Checking the Parameters - ASU Engine Starting & Checking the parameters - ACU Engine starting & checking the parameters - Operation on Flight - Removal from the Aircraft - Emergency operation procedures - Push back tractor and tow bar preflight checks - Push back operation - removal of tractor and tow bar - emergency operation and procedure.

UNIT IV SPECIAL PURPOSE EQUIPMENT

Fork lift - Lower-Deck Loader-LDL – Main-Deck loader-MDL - Medical Hi- lift - Ambu-lift - AeroBridges - Fork Lift - Pre-Flight Checks - Precautions - Operation - Withdrawal of Forklift - AeroBridges - Pre-flight checks - Periodic Checking - Manufacturers Recommendations - Safety Precautions - Docking Procedures - Withdrawal from the Aircraft - Standard operating procedures for Lower Deck Loaders - LDL - Pre-Flight checks - Alignment of the loader on Aircraft (On Arrival Flight) -Precautions to be taken - Off Loading - Supervision Intimation of Cargo Hold - Alignment of the loader on Aircraft (For Departure Aircraft) - Precautions to be Taken - Supervision & Intimation of Cargo Hold, Door, Adjacent Area Etc. - Loading on Aircraft - Removal of Loader from the Aircraft - Emergency operation procedures.

UNIT V SAFETY INFORMATION AND TECHNICAL SERVICE SIGNALS

Ground Accidents / Incidents - Encouraging the reporting of safety information - Introduction - Purpose – Benefits - Aircraft incident during ground handling - Responsibility and Authority - Detailed – Investigation and Analysis - Action to be taken - Documentation and Records - Accident report form - Statement of concerned personnel - In-charge comments - Investigation & Action taken report - Preservation of records - Sample ground incident/accident/damage report - Technical/Servicing signals - Various signals explained in detail with visuals - Ground crew Aircraft pushing communication (Hand signals) - Marshalling hand signals for GSE operation - The importance - General Guidelines - Illustrations of standard hand signals.

TEXT BOOK
1. UAA Manual on Aircraft Ground equipment

REFERENCE BOOKS
1. IATA Airport Handling Manual
2. IATA Principles of Aircraft Handling.
3. IATA Dangerous Goods Regulations Manual.
4. ISAGO Manual.

19AOPC 303 RUNWAYS OPERATOR

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 – 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. MBA. –Airline & Airport Mgt.-2010-11 –CPOP Page 21 of 30

TEXT BOOK
1. Anne R.Issac, "Air Traffic Control: Human Performance Factors", Bert RuitenbergAshgate Publishing Ltd.

REFERENCE BOOK
1. UAA Manual on Run way operations

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19AOPC 304 AIRPORT ACTIVITIES

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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-Coordination 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 RelationType of Air Cargo-Air Cargo Tariff, ratios and Charges-Airway Bill, Function, Purpose, Validation.

TEXT BOOKS
1. GrahamA, "Managing Airport an International Perspective",Butterworth Heinemann, Oxford2001
2. WellsA, "Airport Planning and Management", McGraw-Hill, 2000.

REFERENCE BOOKS
1. DoganisR, "The Airport Business", Routledge London,1992
2. Alexander T Well and Seth Young, "Principles of Airport Management", McGraw Hill 2003
3. P.S.Senguttuvan, "Fundamentals of Airport Transport Management", McGraw Hill 2003

19AOPC 305 AIRPORT SAFETY CREW

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.

UNITIII

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 – Irelands 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™

TEXT BOOK
1. UAA Manual on Airport Safety
REFERENCE BOOK
1. IATA Manual on Airlines safety

306 19AOPP SKILL LABORATORY
307 19AOPP FLIGHT EQUIPMENT LABORATORY
308 19AOPP FLIGHT HANDLING LABORATORY
309 19AOPP INFLIGHT LABORATORY
310 19AOPTSKILL/ON JOB TRAINING

19AOPC 401 ENTREPRENEURSHIP DEVELOPMENT

UNIT I

Introduction: Concept of entrepreneurship, nature and development of entrepreneurship, entrepreneurial decision processes. Entrepreneurial traits, types culture and structure, competing theories of entrepreneurship, entrepreneurial motivation, establishing entrepreneurial systems.

UNIT II

Self assessment and the entrepreneurial process: Identifying and evaluating the opportunity, developing a business plan, resource required and to managing the enterprises. Strategic orientation, commitment to opportunity, resources, control of resources and management structure. Entrepreneurial careers, education and training. Entrepreneurial ethics.

UNIT III

The Business Idea: Sources of New Idea : The unexpected incongruities, process need, industry and market structure, demographics, changes in perception, new knowledge, and the bright idea. Consumers, existing companies, distribution channels, government and research and development, purposeful innovation and principles of innovation.

UNIT IV

Product planning and developing Process: Establishing evaluation criteria, idea stage, concept stage, product development stage and est. Marketing stage. Group innovation; Establishing role in creative groups, taking the lead in-group problem solving Business innovation with a purpose, vision and strategy.

UNIT V

Special aspects in entrepreneurship :Intrapreneurship, international entrepreneurship : Problems and opportunities, entrepreneurship in rural sectors and service institutions, ecological niches, legal aspects.

TEXT BOOK

1. Dr.C.B. Gupta andDr.N.P. Srinivasa, "Entrepreneurship Development in India", Sultan Chand & Sons

REFERENCE BOOKS

1. Peter F. Drucker,"Innovation and Entrepreneurship – Practice & Principles", Affiliated East West Press Ltd.

2. O.Saravanavel,"Entrepreneurial Development &Programmes: Principles & Policies", Kay Ess Pee Kay Publishing House

19AOPC 402 MANAGEMENT INFORMATION SYSTEM

UNIT I

Introduction: Concept, evolution and meaning of MIS; Goals of MIS; Information systemfor competitive advantage; Systems approach to problem solving; Challenges in thedevelopment of MIS, MIS function in an organization.

UNIT II

Information and Managerial Effectiveness:Information as a corporate resource, pervasiveness of information, types of information –operational, tactical and strategic; Levels of management and information needs ofmanagement; Process of

generation of information; Quality of information; Informationsystems for finance, marketing, manufacturing, research and development and humanresource areas.

UNIT III

Information systems and their role in business systems, changing role of informationsystems, users of information systems; Types of information systems – transactionprocessing system, MIS decision support system, executive support system; EnterpriseResource Planning (ERP) system, geographical information system, business expertsystem, etc; Procurement options and outsourcing information system services.

UNIT IV

System Development Life Cycle: Sequential Process of software development; ComputerAided Software Engineering (CASE); Tools and the modular approach to softwaredevelopment; Information system audit - Development and Management of Data Bases:Relational databases; Data Base Management Systems (DBMS) and their components;Concept of entity and relationships; Data dictionary, SQL and other related concepts inDBMS; Normalization process.

UNIT V

Uses of computer networks, types of networks, network topologies; Network media andhardware; Data communication over telephone; Intranets and collaborative processing -Implementation, Evaluation and Maintenance of System: Methods and steps inimplementation of system; Approaches and process of evaluating MIS. Security IssuesRelating to Information Systems: Threats to information systems; Vulnerability, risk andcontrol measures

TEXT BOOKS
1. Kenneth J London and Jane P. Louden, "Management Information Systems", Pearson, 2007
2. W.S. Jawadewar, "Management Information Systems", Tata McGraw Hill 2012.

REFERENCE BOOKS
1. Award, E.M,"System Analysis and Design",Galgotia Publications, New Delhi.
2. Kumar, Muneesh,"Business Information Systems", Vikas publishing, House, New Delhi.

19AOPC 403 SAFETY HANDLING EQUIPMENT

UNIT I
Air Safety and Security – Role of Regulatory Agencies – Airside Safety – Culture of Safety –Issues in Air safety – Accident and Incident Investigation

UNIT II
In An Airlines a special category of Fireflighting that involves the response, hazard mitigation, evacuation and possible rescue of passengers and crew of an Airplane involved in (typically) an airport ground emergency. Learn about Apparatus , Personal Protective Equipment.

Unit IIIOXYGEN EQUIPMENT & PROTECTIVE BREATHING EQUIPMENT
Aircraft emergency oxygen systems or air masks are emergency equipment fitted to pressurized commercial Aircraft, intended for use when the cabin pressurization system has failed and the cabin altitude has climbed above a safe level. It consists of a number of individual yellow oxygen masks stored in compartments near passenger seats and near areas like lavatories and galleys, and an oxygen source, like a centralized gaseous cylinder or decentralized chemical oxygen generator. Learn How to use the these equipment.

about Its Mechanism.

UNIT IV LIFE VEST

Life vest are worn when An Aircraft has made an emergency water Landing . Life vest can be found underneath the seat or armrests, etc, so that they can be taken out immediately . Learn of how to use of Aircraft Life vest.

UNIT VEMERGENCY LOCATOR TRANSMITTER

Emergency transmitters that are carried aboard most general aviation aircraft in the U.S. In the event of an aircraft accident. Learn about How it works.

TEXT BOOK

1. UAA Manual on Air safety

19AOPC 404 INFLIGHT EMERGENCIES

UNIT I

Emergency situations Safety and emergency procedures manual Safety and emergency procedures manual Safety demonstration Safety demonstration and emergency guidelines.

UNIT II

FIRE SAFETY AND FIRE FIGHTING -Classification of fires- Cabin fires and common causes - Lavatory fires - Smoke evacuation - Fire fighting, equipments and procedures.

UNIT III

Planned Evacuation Planned Evacuation Briefing by the Pilot in Command - Briefing by the Pilot in Command Briefing the cabin crew by Cabin In Charge - Briefing the cabin crew by Cabin In Charge Emergency announcement - Emergency announcement - Cabin Preparation - Cabin Preparation Initiating Evacuation - Initiating Evacuation Unanticipated Evacuation

UNIT IV

General precautions -Bomb threats – Hijacking - action and procedures Service of beverages- Unruly passengers.

UNIT V

In-flight medical emergencies - Health risks of frequent flying - Symptoms and treatment   Importance of First Aid - Food Poisioning - Death on board - First aid Practical.

TEXT BOOKS
1. UAA Manual on First Aid Service
2. UAA Manual on Flight Emergencies

19AOPC 405 AIRLINE MARKETING MANAGEMENT

UNIT I INTRODUCTION TO AIRLINE MARKETING

Marketing Environment, Customer Oriented Organization, Marketing Conceptual Framework,Marketing Mix, Stages in application of marketing principles to airline management

UNIT II MARKET OF AIR TRANSPORT

Customer Definition, Apparent & True Needs, Industrial Buying Behaviour, Customer in theBusiness Air Travel Market & Leisure Market, Air Freight Market, Theoretical basis of PESTEAnalysis, Building Customer Satisfaction.

UNIT IIIPRODUCT ANALYSIS IN AIRLINE MARKETING

Product – definition, Product Life Cycle, Product Life Cycles in Aviation Industry, ManagingProduct Portfolio, Balancing Risk and Opportunity, Fleet & Schedules related ProductFeatures, Customer Service Related Product Features, Pricing Decisions, Building Blocks inthe Airline Pricing Policy

UNIT IVMARKETING RESEARCH

Types, process, tools and techniques, application of marketing research, product launching,demand estimation, advertising, brand preferences, customer satisfaction, retail storesimage, customer perception, distribution, customer relationship, competitor analysis andrelated aspects, preparation of marketing research report

UNIT V INFORMATION TECHNOLOGY IMPACT ON MARKETING DECISIONS

Online marketing, web based marketing programmes, emerging now trends and challenges tomarketers, sample case studies

TEXT BOOKS

1. Stephen Shaw "Airline Marketing and Management "Ashgate.
2. PhlipKortler: Marketing management (Milleniumedidtion), Prentice Hall of India,New Delhi 2001

19AOPP 406 MANAGEMENT LABORATORY

19AOPP 407 NETWORKING LABORATORY

19AOPP 408 FLIGHT EMERGENCY LABORATORY

19AOPP 409 SAFETY PRACTICE LABORATORY

19AOPT 410 SKILL/ON JOB TRAINING

19AOPC 501 AVIATION LEGAL ENVIRONMENT

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) - The Air Corporations (Transfer of Undertakings and Repeal) Ordinance, 1994(4 of 1994) - The Air Corporations (Transfer of Undertakings and Repeal) Act, 1994 (13 of 1994) - The International Airports Authority of India act, 1971 (43 of 1971) - The National Airports Authority of India, 1985 (64 of 1985) - The Airports Authority of India Act 1994 (55 of 1994) - The Carriage by Air Act, 1972 (69 of 1972) - The Tokyo Convention Act, 1975 (20 of 1975) - The Anti-hijacking Act, 1982 (65 of 1975) - The suppression of unlawful acts against safety of Civil Aviation Act, 1982 (66 of 1982)

UNIT - IV

CIVIL AVIATIONREQUIREMENTS (CAR)
General - Airworthiness - Air Transport - Aerodrome standards and Air Traffic Services - Air Safety - Design standards and type certification - Flight crew standards, training and licensing -Aircraft operations

UNIT- V
INTERNATIONAL CONVENTIONS
The Chicago conventions, 1944 - The International Air Services Transit Agreement, 1944 - The International Air Transport Agreement, 1944 - The Warsaw Conventions, 1920 - The Geneva Convention, 1948 - The Rome Convention, 1952 - The Tokyo Convention, 1963
References: Aircraft Manual, C.A.R.Sec.II

19AOPC 502 AVIATION RESOURCE MANAGEMENT

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

UNIT- II
THE AIRCRAFT CABIN:
Safety issues in capital – cabin crew communication – service, teamwork and flight safety – flight attendants' job performances and job satisfaction.

UNIT – III
FATIGUE AND STRESS:
Fatigue management in aviation – Fatigue in air activity – Stress management – the physiological factor

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

UNIT – V
AVIATION INFORMATION AND MANAGEMENT:
Structure of aviation operational information, management of aviation operational information – User innovation in Aviation operational information – Future of Aviation operational information

TEXT BOOKS
1. Brain McAllister, Crew Resource Management ,Air life
2. Jensen,PilotJudgement& Crew Resource Management ,N A
3. ThomasLSeamster,Aviation Information Management – From Documents Data, Ashgate

REFERENCE BOOKS
1. ThomasLSeamster& Barbara G Kanki ,Aviation Information Management, Ashgate
2. Eduardo Sales, Katherine A Wison ,Crew Resource Management, Ashgate.
3. Frank H Hawkins, Human Factors in Flight Ashgate
4. Mary Edwards&Elwyn Edwards, The Aircraft Cabin –Managing Human Factors , Ashgate

5. Harry W Orlady& Linda M Orlady, Human Factors in Multi Crew Flight Operation Ashgate

19AOPC 503 AVIATION SAFETY AND SECURITY

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 – Aviation regulations – Airport security – New Carrier rules – New Airport Operator rules – Resistance Fades – Public Law 93 – 366 – threat warnings – Presidents Commission – Aviation Security Improvement Act of 1990 – Civil Aviation Security – research and Development – Lot of Talk: Crimes against Humanity – Convention – Tokyo – Hijacking , Montreal- Bonn Agreement – Diplomatic Conference on Air Law – Ministerial Conference on Terrorism – Financing of Terrorism – United Nations – ICAO/ECAC

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.The Roots remain: Introduction – Causes of Terrorism – Middle East – Rival Claims – Palestinian Liberation Organization – Abu Nidal – Hamas – Iranian Support of Terrorism – Hezbollah – Afghanistan: Osama Bin Laden – Europe – Japan – Peru – Russia – US – Domestic Terrorism – Nuclear Terrorism. The Best Defense: Introduction – Counter terrorist Units – Enforcement – central, Defense Intelligence Agency.

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 – The public tolerate the intrusion – Introduction – Metal detectors – Selecting a metal detector – Hand Held Body Scanners – X-ray inspection units – Passive and active metal detectors – Wave imaging – Selecting an X- Ray unit – Sizes – Film and Laptops – Details of X-ray unit – US standard for radiation exposure – New computer software – Trace – Detection technology – Tangents – conclusion.

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 – Irelands air Cargo Security Program – TSA inspection of Air port – Conclusion. A slippery slope: Introduction – Fourth Amendment – Administrative search exception – Balancing Approach – Less intrusive alternatives – Stop and frisk exceptions – Individual stop and frisk search – Selective class stop and frisk search – Consent exception – Fourth amendment requirements – reasonableness – probable cause – Exclusionary rules – Police participation – Non- Violent threats – Passenger's right to terminate a search – Alternate view point – the war on drugs – New law and

technologies – Conclusion . Foreign Airport Security: Introduction – ground Security – American assessments – diversion airports – Aviation safety assessment program – Legal Remedies – Profiling – Bomb sniffing dogs – Conclusion.

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™ - 12000 Metal Detector- Biometric systems - FACEIT™ Access controls – Imaging Technologies – Conclusion. The Foundations of Security: Introduction – Airport/Runway incursions – Passenger interference – Conventional weapons – explosives – Nuclear weapons – Biological weapons – Conclusions. Another Foundation: Introduction – Access control – exterior alarm sensors – Control room – no power/ security – media intrusion – computer security – conclusion.

TEXT BOOK:

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

REFERENCE BOOKS:

1. Aviation in Crisis – RuwantissaI.R.Abeyrante-Ashgate Publishing Ltd.
2. Aviation Safety Programs-Richard H.Wood –Jeppesen Sanderson Inc.

19AOPC 504 AIRCRAFT MAINTENANCE MANAGEMENT

UNIT I

Maintenance:

Role of the Engineer & Mechanic – Two Types of Maintenance-1.Reliability 2. 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 – Changing Basic Maintenance Intervals. Goals and Objectives of Maintenance – Program Content – Discussion of the five objectives.Aviation Industry Certification Requirements – Introduction – Aircraft Certification Delivery Inspection – Operator Certification – Certification of Personnel – Aviation Industry Interaction.

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 – Manager Level Functions: Technical Services Directorate – Aircraft Maintenance Directorate – Overhaul Shops Directorate – Material Directorate – Evaluation Directorate. Organizational Structure and the TPPM. Technical Services: Engineering – Introduction – Makeup of Engineering – 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: Introduction – Organization – Training of Aviation Maintenance – Maintenance Resources Management – Airframe Manufacturer's Training Courses – Other Airline Training Courses. Computer Support: What is a computer – 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 – Maintenance Support Shops – Ground Support Equipment – Hangar Maintenance Activity. Maintenance Overhaul Shops (off – Aircraft): Organization of Overhaul Shops – Types of Shops – Operation of Overhaul Shops – Shop Data Collection. Material support: Organization and Function of Material – Material Directorate – M & E Support: Organization and Function of Material – Material Directorate – M & E Support Functions of Material – Other Material Functions.

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. Maintenance Safety: Industrial Safety – Safety Regulations – Maintenance Safety Program – General Responsibilities for Safety – General Safety Rules – Accident and Injury Reporting.

TEXT BOOK
1. Harry A. Kinnison,"Aviation Maintenance Management", McGraw Hill

REFERENCE BOOKS
1. Manoj S. Patankar and James C.,"Taylor Risk Management and Error Reduction in Aviation Maintenance", – Ashgate Publishing Ltd.
2. James Reason and Alan Hobbs, "Managing Maintenance Error",AshgatePublishing Ltd.

LIST OF ELECTIVES

1. Air Cargo Management

UNIT – I Introduction to Cargo Management

Cargo History, Concepts and Common terms used in Cargo handling, Rules governing acceptance of Cargo. Cargo Rating- Familiarization of Cargo Tariffs. Rounding off of the weights/Dimensions/ currencies. Chargeable weight rating-Specific commodity rates, class rates, general cargo rates, valuation charges

UNIT – II Introduction to Air Cargo Air Cargo Terminology

IATA Cargo agent and agency Operation.ABC Air cargo Guidebook Air Cargo Guides.TACT Rules, TACT Tariff etc.Familiarisation of Cargo Tariffs.Rules governing Cargo Acceptance.Rounding Off Weights/Dimensions/Currencies.Chargeable Weights & Principles of Air Cargo Rates. Cargo Booking Acceptance: Acceptance of special cargo. IATA Dangerous Goods regulation. Perishable cargo, valuable cargo, Baggage Shipped as Cargo, Human Remains, Life Saving Drugs, Live Animals Regulations. Restrictions in acceptance of Cargo. Identification of Cargo, Documentation, Labels.

UNIT – III Documents in Air Cargo

Airway Bill: The Function and Completion of the airway Bills, Labeling& Marking of Packages. Cargo manifesto, Cargo transfer Manifesto Documents concerning postal mails and diplomatic mails. Shippers declaration for dangerous goods. SMTP, IGM, SOB, LOC, FCL

UNIT -IV Cargo Handling

Handling Cargo.Cargo capacity of Air.Cargo needing special attention. Introduction to dangerous goods regulations Some important Cargo companies.

UNIT – V

Export Insurance & Finance Cargo Liability & Insurance Foreign Trade License Activity Export-Import Documentation

TEXT BOOKS:

1. Paul Jackson and William Brackenridge, " Air Cargo Distribution: a Management Analysis of its economics and Marketing Benefits", Gower Press.
2. Simon Taylor, " Air Transport Logistics", Taylor

REFERENCE BOOKS:

1. Peter S Smith, "Air freight: operations, marketing and economics", Faber
2. Sung Chi-Chu, "4th Party Cyber Logistics for Air Cargo", Kluwer Academic Publishers
3. P.S. Senguttavan, "Fundamental of air transport management"

2. STRATEGIC AIRPORT PLANNING AND MARKETING

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 – airports market positioning – primary hub – secondary hub – regional airport – all cargo airport – airport positioning criteria – role on the market – identification of partners for airport development – first quantum leap of the airport enterprises – low cost airports – role of helicopters as a complimentary feeder and defender of hub airports – Airport revenue management – Airport alliances – management contract

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

Airport marketing Planning – London city Airport: A best – in – class provider in the Airport business – The Airport industry and An International Picture - Air port business in 2002- US & European performance in 2002 – Asia pacific performance in 2002 – Middle east/Africa in 2002 – Airport business in 2003 – 2005 outlook for the Air transport industry.

TEXT BOOKS:

1. Robert E.Caves& Geoffrey D.Gosling, "Strategic Airport Planning",Elsevier Science
2. David Jarach,"Airport Marketing", Ashgate Publishing Limited

REFERENCE BOOKS:

1. Richard H.Wood, "Aviation Safety Programs A Management Hand Book", Jeppesen Sanderson Inc.
2. Gregory G.Dess and Alex Miller, "Strategic Management", McGraw Hill
3. RajanSaxena, "Marketing Management", Tata McGraw Hill

3. AIR TRAFFIC CONTROL

UNIT- I

Basic Concept : Objectives of ATS – Parts of ATC Service – Scope and Provision of ATC's – VFR & IFR Operations – Classification of ATS Air Spaces – Various kinds of separation - Meteorological Support - providing ATS – Division of Responsibility of Control

UNIT – II

Air Traffic Services - Area Control Service, Assignment of Raising levels minimum Flight Altitude - ATS routes - Significant Points – RNAV and RNP – Vertical, Lateral and Longitudinal Separations based on Time / Distance - ATC clearance – Flight plans- Position report

UNIT - III

Flight Information Alerting Services, Coordination, Emergency Procedure and Rule of the Air - Radar Service, Basic Radar Terminology, Identification Procedures using Primary/ Secondary radar- Performance Checks – Use of Radar in Area and Approach Control Service – Issuance Control and Coordination between Radar/ Non Radar Control – Emergencies – Flight Information and Advisory Service – Alerting Service – Coordination and Emergency Procedure – Rules of the Air

UNIT – IV

Aerodrome Data, Physical Characteristics and Obstacles Restriction - Aerodrome Data: Basic Terminology – Aerodrome Reference Code - Aerodrome Reference Point – Aerodrome Reference Temperature Instrument Runway, Physical Characteristic; Length of Primary/ Secondary Runway Width of the Runways – Minimum Distance between Parallel Runways etc- Obstacles

UNIT – V

Visual and for Navigation, Visual Aids for Denoting Obstacles Emergency and other Services: Visual aids for Navigation; Wind Direction Indicator – Landing Direction Indicator - Location and Characteristics of Signal Area – Marking General Requirements – Various Markings – Lights, General Requirements - Aerodrome Beacon, Identification Beacon- Simple Approach Lighting System and Various Lighting Systems – VASI & PAPI. Visual Aids for Denoting Obstacles; Object to be Marked and Lighter – Emergency and Other Services.

TEXT BOOKS
1. Richard de Neufville/ AmedeoOdoni, "Air Traffic Control:–Airport Systems-Planning, Design and management".
2. P.S. Senguttavan, "Fundamental of air transport management"

REFERENCE BOOKS
1. Barry Strauch, "Investigating human Error", Ashgate Publishing Limited.
2. HinnerkEibfeldt, Mike C. Heil and Dana Broach,"Staffing the ATM System", Ashgate Publishing Limited
3. Graham Edkins and Peter Pfister,"Inovation and Consolidation in Aviation", Ashgate Publishing Ltd