RAJIV GANDHI NATIONAL AVIATION UNIVERSITY

(Established by Act of Parliament 2013)

Fursatganj, Amethi-229302, Uttar Pradesh (India).

Bachelor of Business Administration (Aviation Management)
Three Years UG Degree Programme
Academic Regulations, Programme Structure & Syllabi

With Effect From
Academic Year 2025-26

Contents

Bachelor of Business Administration (Aviation Management)
Three Years UG Degree Programme
Academic Regulations

Preface:

The Rajiv Gandhi National Aviation University (RGNAU) was established by an Act of Parliament called the "Rajiv Gandhi National Aviation University (RGNAU) Act, 2013" (No. 26 of 2013) having its headquarters at Fursatganj, Dist. Amethi, Uttar Pradesh. The University has been envisaged as the premier institution of higher learning within the aviation milieu aimed at providing cutting edge and critical research to enhance the aviation industry in India. The Act of Parliament empowers the University to award Diploma, Under Graduate Degrees, Post Graduate Degrees and PhD degrees in the field of aviation and allied disciplines. At the same time collaborations and cooperation with the leading national and international universities/ institutions in the aviation domain, are being forged towards proffering global knowledge that is customized to local requirements.

RGNAU is a very student friendly place and all efforts are made to ensure that the students are provided the best opportunities that are needed to create outstanding pool of human resources to meet the global challenges in all spheres. The students are required to follow certain procedures and meet specified academic requirements each semester. This comprehensive information on the Rules and Regulations for BBA (Aviation Management) programmes are given below.

We urge the students to make best use of the world class infrastructure and facilities available at RGNAU and wish all of them all the very best for a successful career.

1.0 Academic Programme: Under-Graduate 3 Years Degree Programme in Bachelor of Business Administration (Aviation Management):

1.1 Rajiv Gandhi National Aviation University offers a 3-Years (6 semesters) **Bachelor of Business Administration in Aviation Management** degree programme simultaneously under Choice Based Credit System (CBCS). This programme is designed as per UGC guidelines.

1.2 Maximum time to complete **Bachelor of Business Administration in Aviation Management** degree programme by the student is 5 (five) years.

2.0 Academic Calendar:

2.1 The academic session is divided into two semesters each of approximately 15 weeks' duration: an Autumn Semester (July- December) and a Spring Semester (January-May).

2.2 The Academic Council approved schedule of academic activities for a session, inclusive of dates for registration, mid-semester and end-semester examinations, inter-semester breaks etc., shall be laid down in the Academic Calendar for the session and published on Institute Web Site. The Academic Calendar shall strive to provide for a total of about 90 working days in each semester.

3.0 Admission:

3.1 The Candidates who have scored a minimum of 50% marks in aggregate in 10+2 with any stream from a recognized board can apply for admission in this Programme. Relaxation of 5% of marks is allowed for candidates belonging to SC/ST category to be eligible for admission.

3.2 Age limit: Not more than 21 years from the last date of admission, and should be able to produce the final mark sheet by 31 August of the year of admission or as prescribed from time to time.

3.3 The selection of the candidates will be based on the Academic Performance in 10+12 followed by written examination (online or offline) and/or Group Discussion & Personal Interview, as decided by the University. The details of weightage of Academic Performance written exams and/ or Group Discussion & Personal interview given below:

Sl.No.	Exam	Weightage %	Remark
1.	10th Standard	15	
2.	12th Standard	15	30 %
3.	Written Exams: (a) JEE Main Score – 50% (b) CUET & Other Equivalent Exams Score- 40 %	50 % or 40 %	50 % or 40 %
5.	Group Discussion:	10 %	10%
6.	Personal Interview: (a) JEE Main candidates (b) CUET & Other Equivalent Exams Candidates	10 % 20 %	10 % or 20%
	Total		100 %

Note: The decision of the University to fix above criteria and any amendment shall be final and binding on all.

3.3 University may change admission rules at the time of admission by issue of detailed admission notice on the recommendation of Academic Council.

3.4 General Rule relating to the admission as per Rajiv Gandhi National Aviation University Ordinance, 2020. Chapter XII (Part-I) shall be applicable. Ordinance is available on University Web-site (www.rgnau.ac.in) .

4.0 BBA Programme Structure:

4.1 A student after securing admission shall complete the BBA programme in a minimum period of **Three** academic years (6 semesters), and a maximum period of **Six** academic years (12 Semesters) starting from the date of commencement of first year first semester, which student shall forfeit seat in BBA Programme. Each student shall complete successfully **125 credit**s (with CGPA ≥ 5.0) required for the completion of the Under Graduate programme and award of the BBA degree.

4.2 Semester scheme:

Each undergraduate programme is of 3 academic years (6 semesters) with the academic year divided into two semesters of **15** weeks (≥ 90 instructional days) each, each semester having - 'Continuous Internal Evaluation (CIE)' and 'Semester End Examination (SEE)' under Choice Based Credit System (CBCS) and Credit Based Semester System (CBSS) indicated by UGC, and curriculum/Programme structure as suggested by University are followed.

4.3 **UGC/ AICTE** specified definitions/ descriptions are adopted appropriately for various terms and abbreviations used in these academic regulations/ norms.

4.4 Credit Programmes:

All Subject/ Courses are to be registered by the student in a semester to earn credits which shall be assigned to each Subjects/ Courses in an L: T: P: C (Lecture periods: Tutorial periods: Practical periods: Credits) structure based on the following general pattern.

- One credit for one hour/ week for theory/ lecture (L) period or Tutorials (T) period.
- One Credits for two hours/ week for laboratory/ practical (P) periods.

4.5 Programme Curricula: Programme Structure and Syllabi is attached as **Annexure-1.**

5.0 Attendance requirements:

5.1 A student admitted to a Programme of study shall maintain a minimum attendance of seventy-five per cent in a semester in all his subjects/ courses during the Programme of study.

5.2 The student who fails to achieve the seventy-five per cent (75%) attendance shall not be permitted to sit for the Semester End Examination in the respective subject/ course and

shall have to repeat the subject/ course.

5.3 Any student who failed to achieve the seventy-five per cent. attendance in a subject/ course more than twice during the Programme of study, the student shall be detained and such students shall have to seek fresh admission and be required to go through the entire admission process again.

5.4 The teacher handling a subject / course shall maintain a record of attendance of students who have registered for the subject / course and shall display on the notice board of the Department the monthly attendance record of each student.

5.5 The teachers shall intimate the Head of Department concerned, at least seven calendar days before the last instruction day in the semester, particulars of all students who have secured less than seventy-five per cent. attendance in their respective subject/ courses, thereafter, the Head of Department shall display on the notice board of the Department, names of all students who shall not be eligible to take the semester-end examinations in the various subject/ courses and send a copy of the same to the Dean of the School concerned.

5.6 The Dean of the School concerned may grant exemption to a candidate who has failed to obtain the minimum prescribed seventy-five per cent. attendance for valid reasons provided that such exemption shall not be granted for attendance below sixty-five per cent.

6.0 Academic requirements

The following academic requirements have to be satisfied, in addition to the attendance requirements mentioned in Item No.**5.**

6.1 A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course, , if student secures not less than 35% (14 marks out of 40 marks) in the internal examinations, not less than 35% (21 marks out of 60 marks) in the semester end examination, and a minimum of 40% (40 marks out of 100 marks) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together; in terms of letter grades, this implies securing **'C'** grade or above in that subject/ course.

6.2 A student may reappear once for each of the above evaluations, when they are scheduled again; if the student fails in such 'one reappearance' evaluation also, the student has to reappear for the same in the next subsequent semester, as and when it is scheduled.

6.3 A student shall be offered total 5 (five) electives in the Programme under the four major segments of Aviation. Allocation of electives shall be made by HOD in each semester after inviting three choices from each segment. Based on majority of student's choices allocation of electives shall be decided by the HOD to offer in each semester and decision of HOD shall be final & binding to all students.

6.4 A student has to undergo Internship/Project in the last (Sixth Semester) in the Aviation Industry or related Industry. A Student has to opt for one of the faculty as internal project guide from University Department and one Industry guide from concerned Industry to be opt external project guide at the beginning of Internship/Project with approved synopsis for the Internship/Project. A student has to submit his/her detailed Internship/Project report on completion of Internship/Project for evaluation and he/she has to give presentation to the Evaluation committee constituted by HOD of the University.

6.5 A student (i) shall register for all subject/ courses covering **125** credits as specified and listed in the Programme structure, (ii) fulfills all the attendance and academic requirements for **125** credits, (iii) earn all **125** credits by securing SGPA $\geq$ 5.0 (in each semester), and CGPA (at the end of each successive semester) $\geq$ 5.0, (iv) passes all the mandatory Programmes, to successfully complete the under graduate programme. The performance of the student in these **125** credits shall be considered for the calculation of the final CGPA (at the end of under graduate programme) .

6.6 A student eligible to appear in the semester end examination for any subject/ course/ Programme, but absent from it or failed (thereby failing to secure 'C' grade or above) may reappear for that subject/ course in the supplementary examination as and when conducted. In such cases, internal marks (CIE) assessed earlier for that subject/ cour will be carried over, and added to the marks to be obtained in the SEE supplementary examination for evaluating performance in that subject/ course.

6.7 A student **detained in a semester due to shortage of attendance may be re-admitted in the same semester in the next academic year for fulfillment of academic**

requirements. The academic regulations under which a student has been readmitted shall be applicable. However, no grade allotments or SGPA/ CGPA calculations will be done for the entire semester in which the student has been detained.

7.0 Evaluation - Distribution and Weightage of marks

7.1 The performance of a student in every subject/ coursewill be evaluated for 100 marks each, with 40 marks allotted for CIE (Continuous Internal Evaluation) and 60 marks for SEE (Semester End-Examination).

7.2 In CIE, for theory subject/ courses, during a semester, there shall be two mid-term examinations. Each Mid-Term examination consists of two parts i) **Part – A** for 10 marks, ii) **Part – B** for 20 marks with a total duration of 2 hours as follows:

Mid-Term Examination for 30 marks:

Part - A: Objective/quiz paper for 10 marks.

Part – B: Descriptive paper for 20 marks. (4 questions out of 6 questions) The remaining 10 marks are for Continuous Internal Assessment (out of 40 marks) andare distributed as:

7.3 Assignment for 5 marks. (Average of 2 Assignments each for 5 marks)

7.4 PPT presentation/ group discussion/ role plays/ best practices in an organizationCase study (or) Survey (or) Team based presentations on a topic in the concerned subject/ course for 5 marks before II Mid-Term Examination.

7.5 The objective/quiz paper is set with multiple choice, fill-in the blanks and matchingtype of questions for a total of 10 marks. The descriptive paper shall contain 6 full questions out of which, the student has to answer 4 questions, each carrying 5 marks.The average of two Mid-Term examinations is considered for 30 marks.

7.6 While the first mid-term examination shall be conducted on 50% of the syllabus, the second mid-term examination shall be conducted on the remaining 50% of the syllabus.

7.7 Five (5) marks are allocated for assignments (as specified by the subject/ course teacher concerned). The first assignment should be submitted before the conduct of the first mid-term examination, and the second assignment should be submitted before the conduct of the second mid-term examination. The average of the two assignments shallbe taken as

the final marks for assignment (for 5 marks).

7.8 The student, in each subject/ course, shall have to earn 35% of marks (i.e. 14 marks out of 40 marks) in CIE, 35% of marks (i.e. 21 marks out of 60) in SEE and Overall 40% of marks (i.e. 40 marks out of 100 marks) both CIE and SEE marks put together.

7.9 The student is eligible to write Semester End Examination of the concerned subject/ course, if the student scores ≥ 35% (14 marks) of 40 Continuous Internal Examination (CIE) marks. In case, the student appears for Semester End Examination (SEE) of the concerned subject/ course but not scored minimum 35% of CIE marks (14 marks out of 40 internal marks),his performance in that subject/ course in SEE shall stand cancelled in-spite of appearing the SEE.

7.10 There is NO Computer Based Test (CBT) for R22 regulations.

7.11 A candidate shall be given only one-time chance to re-register and attend the classes for a maximum of two subject/ courses in a semester:

a) If the internal marks secured by a student in the Continuous Internal Evaluation marks for 40 (Sum of average of two mid-term examinations consisting of Objective & descriptive parts, Average of two Assignments & Subject/ course Viva- voce/PPT/ Poster presentation/ Case Study on a topic in the concerned subject/ course) areless than 35% and failed in those subject/ courses.

b) A student must re-register for the failed subject/ course(s) for 40 marks within four weeks of commencement of the classwork in next academic year.

c) In the event of the student taking this chance, his Continuous Internal Evaluation marks for 40 and Semester End Examination marks for 60 obtained in the previous attempt stand cancelled.

8.0 Grading procedure:

8.1 Grades will be awarded to indicate the performance of students in each theory subject/ course, laboratory / practical/ Industry Oriented Mini Project/Internship and project. Based on the percentage of marks obtained (Continuous Internal Evaluation plus Semester End Examination, both taken together) as specified in item 7 above, a corresponding letter grade shall be given.

8.2 As a measure of the performance of a student, a 10-point absolute grading system using the following letter grades (as per UGC/AICTE guidelines) and corresponding percentage of marks shall be followed:

% of Marks Secured in a Subject/ course (Class Intervals)	Letter Grade (UGC Guidelines)	Grade Points
Greater than or equal to 90%	O (Outstanding)	10
80 and less than 90%	A+ (Excellent)	9
70 and less than 80%	A (Very Good)	8
60 and less than 70%	B+ (Good)	7
50 and less than 60%	B (Average)	6
40 and less than 50%	C (Pass)	5
Below 40%	F (Fail)	0
Absent	Ab	0

8.3 A student who has obtained an '**F'** grade in any subject/ course shall be deemed to have '**failed'**and is required to reappear as a 'supplementary student' in the semester end examination, as and when offered. In such cases, internal marks in those subject/ courses will remain the same as those obtained earlier.

8.4 To a student who has not appeared for an examination in any subject/ course, '**Ab'** grade will be allocated in that subject/ course, and he is deemed to have '**Failed'**. A student will be required to reappear as a 'supplementary student' in the semester end examination, as and when offered next. In this case also, the internal marks in those subject/ courses will remainthe same as those obtained earlier.

8.5 A letter grade does not indicate any specific percentage of marks secured by the student, but it indicates only the range of percentage of marks.

8.6 A student earns Grade Point (GP) in each subject/ course/ Programme, on the basis of the letter grade secured in that subject/ course/ Programme. The corresponding 'Credit Points' (CP) are computed by multiplying the grade point with credits for that particular subject/ course/ Programme.

Credit Points (CP) = Grade Point (GP) x Credits …. For a Programme

8.7 A student passes the subject/ course only when GP ≥ 5.0 ('C' grade or above)

8.8 The Semester Grade Point Average (SGPA) is calculated by dividing the sum of credit

points (CP) secured from all subject/ courses/ Programmes registered in a semester, by the total number of credits registered during that semester. SGPA is rounded off to **two** decimal places. SGPA is thus computed as

$$SGPA = \frac{\sum_{i=1}^{n} c_i g_i}{\sum_{i=1}^{n} c_i}$$

where 'i' is the subject/ course indicator index (considering all subject/ courses in a semester), 'N' is the no. of subject/ courses 'registered' for the semester (as specifically required and listed under the Programme structure of the parent department), Ci is the no. of credits allotted to the ith subject/ course, and Gi represents the grade points (GP) corresponding to the letter grade awarded for that ith subject/ course.

8.9 The Cumulative Grade Point Average (CGPA) is a measure of the overall cumulative performance of a student in all semesters considered for registration. The CGPA is the ratio of the total credit points secured by a student in all registered courses (of **125**) in all semesters, and the total number of credits registered in all the semesters. CGPA is rounded off to two decimal places. CGPA is thus computed from the I year II semester onwards at the end of each semester as per the formula (i.e., up to and inclusive of S semesters, S ≥ 2),

$$CGPA = \frac{\sum_{i=1}^{m} c_i g_i}{\sum_{i=1}^{m} c_i}$$

where 'M' is the total no. of subject/ courses (as specifically required and listed under the Programme structure of the parent department) the student has 'registered' i.e., from the 1st semester onwards up to and inclusive of the 6th semester, 'j' is the subject/ course indicator index (takes into account all subject/ courses from 1 to 6 semesters), Cj is the no. of credits allotted to the jth subject/ course, and Gj represents the grade points (GP) corresponding to the letter grade awarded for that j^{th} subject/ course. After registration and completion of I year I semester, the SGPA of that semester itself may be taken as the CGPA, as there are no cumulative effects.

8.10 For merit ranking or comparison purposes or any other listing, **only** the '**rounded off'** values of the CGPAs will be used.

8.11 SGPA and CGPA of a semester will be mentioned in the semester Memorandum of Grades if all subject/ courses of that semester are passed in first attempt. Otherwise, the SGPA and CGPA shall be mentioned only on the Memorandum of Grades in which sitting he passed his last exam in that semester. However, mandatory Programmes will not be taken into consideration.

9.0 Passing standards

9.1 A student shall be declared successful or 'passed' in a semester, if he secures a GP ≥ 5('C' grade or above) in every subject/ course in that semester (i.e. when the student gets an SGPA ≥ 5.00 at the end of that particular semester); and he shall be declared successful or 'passed' in the entire under graduate programme, only when gets a CGPA ≥ 5.00 ('C' grade or above) for the award of the degree as required.

9.2 After the completion of each semester, a grade card or grade sheet shall be issued to allthe registered students of that semester, indicating the letter grades and credits earned. It will show the details of the Programmes registered (Programme code, title, no. of credits, grade earned, etc.) and credits earned. **There is NO exemption of credits in any case.**

10.0 Declaration of results:

10.1 Computation of SGPA and CGPA are done using the procedure listed in 8.1 to 8.11.

10.2 For final percentage of marks equivalent to the computed final CGPA, the following formula may be used.

% of Marks = (final CGPA – 0.5) x 10

11.0 Award of degree

11.1 A student who registers for all the specified subject/ courses as listed in the Programme structure and secures the required number of **125 credits** (with CGPA ≥ 5.0), within 3 academic years from the date of commencement of the first academic year, shall be declared to have '**qualified'** for the award of Bachelor Business Administration (Aviation) of selected at the time of admission.

11.2 A student who qualifies for the award of the degree as listed in item 10.1 shall be placed in the following classes.

11.3 A student with final CGPA (at the end of the under graduate programme) > 8.00, and fulfilling the following conditions - shall be placed in '**First Class with Distinction'**.

However, he

a) Should have passed all the subject/ courses/Programmes in '**First Appearance'** within the first 3 academic years (or 6 sequential semesters) from the date of commencement of first year first semester.

b) Should not have been detained or prevented from writing the semester end examinations in any semester due to shortage of attendance or any other reason.

c) A student not fulfilling any of the above conditions with final CGPA > 8 shall be placed in **'First Class'.**

11.4 Students with final CGPA (at the end of the under graduate programme) ≥ 7.00 but <8.00 shall be placed in **'First Class'.**

11.5 Students with final CGPA (at the end of the under graduate programme) ≥ 6.0 but < 7.0, shall be placed in '**Second Class'**.

11.6 All other students who qualify for the award of the degree (as per item 10.1), with final CGPA (at the end of the under graduate programme) ≥ 5.00 but < 6.0, shall be placed in '**Pass Class**'.

11.7 A student with final CGPA (at the end of the under graduate programme) < 5.00 will not be eligible for the award of the degree.

11.8 University also offer following Degree /Certificate under the UGC Curriculum & Credit

Framework for undergraduate programme of BBA (Aviation Management) :

(a) A UG certificate after completing 1 year (2 semesters) of study and secured grade point-5 for Semester-1 & 2, if, in addition, they complete one vocational Programme of 4 credits during the summer vacation of the first year.

(b) A UG diploma after 2 years (4 semesters) of study and secured grade point-5 for Semester-1 to 4, if, in addition, they complete one vocational Programme of 4 credits during the summer vacation of the first year.

12.0 Supplementary Examination

12.1 A student will be eligible to appear in the supplementary examination in a subject/ course if he/she actually appeared at the last end-semester examination in that subject/ course and obtained the grade 'F'.

12.2 However, if a student has been absent in the End Semester examination (a) due to medical reasons, that are duly certified by RGNAU Doctors or (b) due to a calamity in the family his/her case will be considered for supplementary with full credit. In such cases the student must apply in writing to the Dean (Academic) through the concerned Teacher/Head of the Department.

12.3 All medical cases will be put up for consideration to the medical board. Only upon certification by the medical board the student will be granted full credit.

12.4 A student will not be allowed to appear in more than 5 (five) subject/ courses in the supplementary examinations.

12.5 Intending students must submit their application, countersigned by the teacher(s) of the subject/ course(s) or the Head of the Department concerned, along with the necessary fees to the Academic Section by the date as announced by a notification.

12.6 The supplementary examinations shall be held on such dates as laid down in the Academic Calendar for the year or as notified separately.

12.7 The grade in the subject/ course scored by the student appearing in the supplementary examination will be recomputed by substituting the marks of the end-semester in the total marks scored by that scored in the supplementary examination. Unless granted full credit by virtue of Section 12.2 & 12.3 above, a student is entitled only to one grade lower than the actual grade thus scored, except that the performance grade 'C' remains unaltered, as elucidated in the table below:

Table

Grade Obtained	**Grade to be Awarded**
Ab	Ab
F	F
C	C
B	C
B+	B
A	B+

A+	A
O	A+

12.8 However, if a student misses the end-semester examination due to a compelling reason like serious illness of himself/herself or a calamity in the family, he/she may appeal to the Dean, through his/her Head of the Department for permitting himself/herself to appear at the supplementary examination. A sub-committee may, after examining the documents and being convinced about the merit of the case, recommend permitting him/her to appear in the supplementary examination(s) with full credit condoning his/her absence.

12.9 With the concurrence of the Faculty Adviser a student may be allowed to change his/her registration of subject/ courses within one week from the day of registration.

12.10 Students will be permitted to appear in the examinations in only those subject/ courses for which they have registered at the beginning of the semester and have not been debarred.

13.0 Grade Revision

13.1 A letter grade once awarded shall not be changed unless the request made upon detection of genuine error of omission and/or commission by the concerned teachers/coordinators with all relevant records and justification and recommended by the departmental Academic committee and Head of the Department and approved by the Chairperson, Academic Council within a maximum period of 7 (seven) days from the assigned date(s) of the registration of the next semester due date as provided in the Academic Calendar.

13.2 No change will be permitted for re-examination and supplementary examination grades. However, in an extraordinary circumstance, the grade change will be allowed only after approval of the Chairperson, Academic Council within a maximum period of 1 (one) day after the Internal Academic Committee meeting considering the re-examination and supplementary results.

13.3 Students who have obtained CGPA lower than 5.00 may be allowed, on the recommendation of the Head of the Department and the approval of the Dean (Academic), to re-register in one or more subject/ courses in which he/she received ‘C’ grade(s), so as to improve his/her CGPA to 5.00 or above, provided that the subject/ course(s) is/are otherwise being offered in that semester and there is no clash in the time table. The grade will be revised and recorded only if there is an improvement.

13.4 Appearing in the end-semester examination in the theory component of a subject/ course is compulsory for a student, unless exempted as per rule. If a student fails to appear in the end-semester examination he/she will be assigned an ‘F’ grade in the subject/ course and will not be permitted to appear at the supplementary examination for the subject/ course.

14.0 Withdrawal from the University

14.1 A student who has been admitted to a undergraduate degree program of the University may be permitted to withdraw temporarily for a period of one semester or more from the University on grounds of prolonged illness or acute problem in the family which compelled him/her to stay at home, Provided

a) He/she applies to the University within 15 days of the commencement of the semester or from the date he/she last attended his/her classes whichever is later, stating fully the reasons for such withdrawal together with supporting documents and endorsement of the father/guardian.
b) The University is satisfied that, inclusive of the period of withdrawal, the student is likely to complete his requirements for the degree within the time limits to be specified in regulation.
c) There is no outstanding dues or demands from him/her by the University/Hostel/Department/ Library etc.

14.2 A student who has been granted temporary withdrawal from the University under the above provisions will be required to pay the tuition fee and other essential fees/charges for the intervening period till such time as his/her name is borne on the Roll of the University.

14.3 A student will be granted only one such temporary withdrawal during his/her tenure as a student of the Institute.

14.4 A student who has been granted a temporary withdrawal on medical grounds will be allowed to rejoin and resume his/her studies only after being declared medically fit by the RGNAU Doctors. In specific case, the University may determine that the students may administer a mandatory medical leave on medical ground.

15. Striking-off the name from the University Roll List

If a student does not register for 3 (three) consecutive semesters, without the approval of the competent authority his/her name will be struck off from the University Roll List on recommendation by the department.

16. Relaxation:

The Academic Council may, under exceptional circumstances, consider any case of a student having a minor deficiency in respect of any of the requirements stated in these Regulations and relax the relevant provision of these Regulations based on the merit of the case. The grounds on which such relaxation is granted shall invariably be recorded and cannot be cited as precedence.

17. Withholding of results

If the student has not paid the fees to the University at any stage, or has dues pending due to any reason whatsoever, or if any case of indiscipline is pending, the result of the student may be withheld, and the student will not be allowed to promoted the next higher semester. The award or issue of the degree may also be withheld in such cases.

18. Conduct and Discipline: Following rules shall be in force to govern the conduct and discipline of all students:

18.1 Students shall show due respect to the teachers of the University, the Wardens of the Hostels, the Sports Officers and other officers/employee of the University.

18.2 Proper courtesy and consideration should be extended to the employees of the University and of the Hostels. They shall also pay due attention and courtesy to visitors.

18.3 Students are required to develop a friendly relationship with fellow students. In particular, they are expected to show kindness and consideration to the new students admitted to the University every year. Law bans ragging in any form to any body - acts of ragging will be considered as gross indiscipline and will be severely dealt with.

18.4 The following acts of omission and/or commission shall constitute gross violation of the code of conduct and are liable to invoke disciplinary measures:

a) Ragging
b) Furnishing false statement of any kind in the form of application for admission or for award of scholarship etc.
c) Displaying lack of courtesy and decorum; resorting to indecent behavior anywhere within or outside the campus.
d) Willfully damaging or stealthily removing any property/belongings of the University, Hostel or fellow students.
e) Possession, consumption or distribution of alcoholic drinks or any kind of hallucinogenic drugs.
f) Adoption of unfair means in the examinations.
g) Organizing or participating in any group activity in company with others in or outside the campus without prior permission of the Dean
h) Mutilation or unauthorized possession of library books.
i) Resorting to noisy and unseemly behavior, disturbing studies of fellow students.
j) Misuse of Internet/e-mail facilities or tempering/ hacking with servers anywhere in the Hostel/Departments etc.
k) Not intimating his/her absence to the Warden of the Hostel before availing any leave.

18.5 Commensurate with the gravity of the offence, the punishment may be reprimand, fine, expulsion from the Hostel, debarment from an examination, rustication for a specified period or even outright expulsion from the University.

18.6 All cases involving punishment other than reprimand shall be reported to the Chairman of the Standing Disciplinary Committee.

18.7 All major acts of indiscipline, which may have serious repercussion on the general body of students, and/or which may warrant a uniform and more formalized nature of investigation, shall be handled by the **Standing Disciplinary Committee** appointed by Academic Council.

18.8 Recommendation of the committee, which will include the suggested punishment in cases of guilt proven, will be forwarded to the Chairperson Academic Council for necessary action.

18.9 Cases of adoption of unfair means in an examination shall be dealt with by the **Committee on Prevention of Examination Malpractices.**

18.10 The Committee shall recommend appropriate measures in each case to the Chairperson of the Academic Council for awarding the punishment.

19. Unfair means:

Cases of unfair means shall be dealt as per the rules of the University and the Government Public Examination (Prevention of Unfair means) Act if any in force.

20. Scope

20.1 The academic regulations should be read as a whole, for the purpose of any interpretation.

20.2 In case of any doubt or ambiguity in the interpretation of the above rules, the decision of the Vice-Chancellor is final.

20.3 The University may change or amend the academic regulations, Programme structure or syllabi at any time, and the changes or amendments made shall be applicable to all students with effect from the dates notified by the University authorities.

20.4 Where the words “he”, “him”, “his”, occur in the regulations, they include “she”,“her”, “hers”.

Annexure-1

Programme Structure and Syllabi for B.B.A. (Aviation)

Programme Structure

Course Code	Subject/ course	Area	L-T-P	Credits (C)
Semester-I				
	Introduction to Aviation Management	Aviation-Core	3-0-0	3
	Business Mathematics	Mathematics	3-0-0	3
	Financial Accounting	Finance	3-0-0	3
	Principles and Practices of Management: Organizational Behaviour	General Mgt.	3-0-0	3
	Introduction to Marketing Management	Marketing Mgt.	3-0-0	3
	Aviation Economics	Finance	3-0-0	3
	Pricing Strategy in Aviation	Finance	3-0-0	3
		Total		**21**
Semester-II				
	Quantitative Methods	Operation Mgt.	3-0-0	3
	Service Operations Management	Operation Mgt.	3-0-0	3
	Business Environment and Policy	General Mgt.	3-0-0	3
	Management Accounting	Finance	3-0-0	3
	Human Resource Management	HRM	3-0-0	3
	Environmental Management	General Mgt.	3-0-0	3
	Customer Relationship Management in Aviation	Aviation-Core	3-0-0	3
		Total		**21**
III	Airport Infrastructure Management	Aviation-Core	3-0-0	3
	Business Analytics		3-0-0	3
	Capital Market and Investment Management	Finance	3-0-0	3
	Aviation Logistics Management	Aviation-Core	3-0-0	3
	Aviation Operations Management	Aviation-Core	3-0-0	3
	Business Ethics and Values	Aviation-Core	3-0-0	3
	Risk and Crisis Management in Aviation	Aviation-Core	3-0-0	3
		Total		**21**
Semester-IV				
	Management of Cargo Operations	Aviation-Core	3-0-0	3
	Project Management	Operation Mgt.	3-0-0	3
	Aviation Laws (Aviation Legal	Aviation-Core	3-0-0	3

	Environment)			
	Indian Knowledge System	Operation Mgt.	3-0-0	3
	Digital Marketing in Aviation	Marketing Mgt.	3-0-0	3
	Elective I	Aviation-Elective	3-0-0	3
	Elective II	Aviation-Elective	3-0-0	3
		Total		**21**
Semester-V				
	Aviation Safety, Security and Disaster Management.	Aviation-Core	3-0-0	3
	Information Technology in Aviation	Aviation-Core	3-0-0	3
	Banking and Insurance	Finance	3-0-0	3
	Artificial Intelligence in Aviation	Operation Mgt.	3-0-0	3
	Elective III	Aviation-Elective	3-0-0	3
	Elective IV	Aviation-Elective	3-0-0	3
	Elective V	Aviation-Elective	3-0-0	3
		Total		**21**
Semester-VI				
	Internship/Project	**Total**		**20**

Summary of Semester wise Credits

Semester	**I**	**II**	**III**	**IV**	**V**	**VI**	**Total**
Credits	**21**	**21**	**21**	**21**	**21**	**20**	**125**

BBA Aviation Management Syllabi

Subject/ Course Code:		**Programme Title : Introduction to Aviation Management**	
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The Aviation Management Programme aims to equip students with essential knowledge and skills pertinent to the aviation industry. It focuses on various aspects such as operational management, regulatory frameworks, and strategic planning, ensuring that students are well-prepared for careers in this dynamic field.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Aviation Industry:** Definition and scope of the aviation industry, Historical development and evolution of aviation – Global & India.		6
2	**Segments of the Aviation Industry:** Commercial aviation (passenger and cargo), General aviation, Military aviation, and others.		6
3	**Regulatory bodies & Regulations in Aviation in India:** DGCA, BCAS, AERA, Customs, Immigration, Important aspects of Aircraft Act-1934 & Aircraft Rule-1937.		6
4	**Role & significance of International Bodies in Aviation:** ICAO, IATA, and ACI.		6
5	**Major Civil Aviation Policies of Government of India :** National Civil Aviation Policy 2016, Greenfiled Airport Policy and procedure of MOCA.		3
6	**Aviation Regulations and Compliance:** International and national aviation regulations, Certification processes for airlines and airports, Compliance with safety and environmental standards.		6
7	**Airline Business Models:** Full-service carriers vs. low-cost carriers, Regional and niche carriers, Cargo airlines and their role.		3
8	**Environmental Sustainability in Aviation:** Environmental impact of aviation, Sustainable practices and initiatives, Green technologies in Aviation.		6
	Total		**42**

Text& Reference Books:

1. AEROSPACE: The Journey of Flight, 2nd Edition.
2. Civil Air Transfer, W.S.Barry, Routledge Taylors & Francis Group, London.

Subject/ course Code:		Programme Title : Business Mathematics
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	To equip students with foundational mathematical skills and quantitative techniques essential for solving business and financial problems in aviation, and to enable the application of mathematical models for effective decision-making in business operations and management.	
Unit	**Content**	**Contact Hours**
1	**Fundamentals of Business Mathematics in Aviation :** Arithmetic, algebraic operations, ratios, and aviation-focused percentages (e.g., fuel efficiency calculations, weight and balance ratios). Includes a case study on airline fuel cost management and introduces MS Excel basics for data analysis.	6
2	**Matrices and Applications in Aviation Operations:** Types of matrices, determinants, inverse matrices, and applications in fleet allocation and route optimization. Includes matrix applications in route scheduling using MS Excel or Google Sheets for matrix operations.	6
3	**Functions, Cost Modeling, and Revenue Management:** Cost and revenue functions, demand elasticity, and forecasting ticket pricing. A case study on revenue management in airlines, demonstrating practical use of functions in MS Excel for forecasting	6
4	**Differentiation and Its Application in Aviation Economics:** Optimization in cost and revenue management, marginal analysis. Case study on profit maximization in airline operations, using MS Excel for plotting and interpreting derivative-based models.	6
5	**Financial Mathematics for Project Evaluation:** Present and future value, annuities, amortization schedules, and leasing. Real-world examples in aircraft leasing and airport financing. Introduction to software like TORA or Solver for analyzing amortization schedules.	6
6	Probability, descriptive statistics, demand forecasting, and risk assessment. A case study on passenger flow analysis using statistical software like SPSS or Python libraries.	6
7	**Linear Programming and Resource Optimization:** Basics of linear programming, optimization models for scheduling, and resource allocation. Practical applications in flight scheduling and staffing using Solver in MS Excel.	6
	Total	**42**

Textbooks:

1. **"Business Mathematics and Statistics" (12th Edition)** by Andre Francis, *Cengage*, 2022.
2. **"Practical Business Math Procedures" (14th Edition)** by Jeffrey Slater & Sharon Wittry, *McGraw Hill*, 2023.
3. **"Quantitative Techniques in Management" (5th Edition)** by N.D. Vohra, *Tata McGraw-Hill*, 2021. *(Indian Author)*

Reference Books:

1. "Contemporary Business Mathematics for Colleges" (17th Edition) by James E. Deitz & James L. Southam, *Cengage*, 2023.

2. "Business Mathematics" (12th Edition) by Cheryl Cleaves & Margie Hobbs, *Pearson*, 2022.

Software and Tools:

1. MS Excel: For data analysis, matrix operations, and basic statistical analysis.

2. **TORA or Solver**: For linear programming and optimization.

3. **SPSS or Python**: For statistical analysis in aviation management cases.

Subject/ course Code:		Programme Title : Financial Accounting	
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	Equip students with foundational and practical knowledge of financial accounting principles, focusing on preparation, analysis, and interpretation of financial statements. The aim of a foundational Financial Accounting Programme is to familiarize students with the main principles, concepts, and practices necessary for comprehending and managing financial information in a corporate context. This Programme is to provide students with the competencies required to document financial transactions, generate and analyze essential financial statements (including the income statement, balance sheet, and cash flow statement), and comprehend the accounting cycle from journal entries to final accounts. This foundation will enable students to cultivate the analytical skills necessary to assess a company's financial well-being, make educated decisions, and incorporate ethical issues in accounting operations.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Financial Accounting :** Introduction to Accounting (Understand accounting fundamentals, types of accounts), Accounting Principles & Concepts (Comprehend core accounting concepts, convention, and principles, introduction to accounting standard), Double Entry System (Debits and credits, types of accounts, apply the double-entry system to transactions, exercises in journal entries), Introduction to accrual and cash system of accounting.		3
2	**Accounting Cycle & Ledger Entries :** Accounting as a Process (comprehend the accounting cycle), Recording Transactions (Record and post transactions accurately, Practice journal entries, General ledger, subsidiary ledgers), Trial Balance (Understand and apply trial balance preparation, Preparing and analyzing trial balances, Practice with a sample trial balance). Adjusting Entries (Prepare and adjust entries (Prepaid expenses, accruals, and deferrals),		3
3	**Introduction to Fundamentals of P&L A/c, Balance Sheet, Cash Flow Statement:** Overview of financial statements (Understand the components and structure of statements), Types of Expenses (direct and Indirect expenses), Trading account (concept of COGS, Difference between net profit and gross profit), Balance Sheet (logic of current and non-current asset & liability). Interlinking concept (basic and preliminary understanding of the difference and connections between P&L A/c, Balance Sheet, and Cash Flow statement)		4
4	**Cash Accounting & Bank Reconciliation:** The aim of the cash account sessions is to facilitate students' comprehension of the purpose, management, and documentation of cash transactions in a company context (documenting cash inflows and outflows, reconciling cash balances, and overseeing petty cash transactions). The objective of the Bank Reconciliation Statement session is to enable students to understand and prepare a bank reconciliation statement (company's cash records align with the bank's records). The session equips students with skills to detect errors or potential fraud, ensuring accurate cash balances. This contributes to effective financial oversight and control.		4
5	**Concept of Depreciation, Amortization, & Impairment :** By the end of this session, students will be able to: Understand the purpose and principles of depreciation, amortization, and impairment. Apply different methods of calculating depreciation and amortization. Recognize the impact of asset		4

	impairment and calculate impairment losses with a specific focus on Aviation Industry.	
6	**Inventory Management:** The objective of the Inventory Management session is to help students understand the key inventory valuation methods—FIFO (First-In, First-Out), LIFO (Last-In, First-Out), and Weighted Average—and their impact on financial statements and business decision-making. By the end of this session, students will be able to apply each method to calculate inventory values, recognize how different methods affect cost of goods sold and net income, and choose appropriate valuation methods based on business scenarios with a specific focus on Aviation Industry.	4
7	**Goodwill Valuation:** By the end of this session, students will be able to: Understand the nature and importance of goodwill in business combinations. Understand the concept and significance of goodwill in business transactions. Identify the situations where goodwill arises. Apply different methods to calculate goodwill and understand its impact on financial statements with a specific focus on Aviation Industry.	3
8	**Lease Financing:** By the end of this session, students will be able to: Understand the concept of lease financing and its role as an alternative to purchasing. Recognition of right-of-use assets and lease liabilities. Differentiate between operating and finance leases. Apply accounting treatment for different types of leases. Evaluate the advantages, disadvantages, and financial implications of leasing. Real-world examples of operating vs. finance leases, such as office equipment leasing and real estate leases (specific focus on Aviation Industry).	4
9	**Fundamentals of Financial Statements (P&L A/c) :** Understand the components and structure of statements (Preparing of trading & profit and loss account), Prepare and analyze an income statement (Revenue, expenses, and net income calculations, Income statement exercise). Difference between Gross profit, EBITDA, EBIT, and PAT. Interlinkages between P&L A/c and trial balance.	3
10	**Fundamentals of Financial Statements (Balance Sheet) :** Prepare and interpret a balance sheet, Assets, liabilities, and equity structure, Balance sheet worksheet. Analysis, and interpretation of balance sheet structure. Interlinkages between balance sheet and trial balance.	2
11	**Fundamentals of Cash Flow Statement:** Understand cash flow components, Difference between cash account and cash flow statement, Operating, investing, and financing cash flows, Cash flow statement practice.	2
12	**Accounting and Computer Applications :** To familiarize students with the use of accounting software (Tally, ERP/FICO, etc) and digital tools to streamline financial tasks and improve accuracy. By the end of this session, students should understand how to utilize key features of accounting software, such as recording transactions, generating financial reports, managing invoices, and reconciling accounts. These session aims to equip students with practical, hands-on experience in leveraging technology to enhance efficiency, reduce manual errors, and support data-driven decision-making in accounting practices.	3
13	**Financial Statement Analysis:** Analyze and interpret financial statements, Vertical, horizontal, and ratio analysis, Focus on four major attributes: (1)	3

	In-depth analysis. (2) Graphical trend analysis, coherence in the solvency, liquidity, efficiency, profitability, cash flow analysis aspects. (3) Comparing the results with qualitative analysis from the industry report. (4) Comparing the results with industry benchmark. Aviation Industry case study on financial analysis. Nuanced interpretation of the trends and enabling students to appreciate both internal dynamics and external influences.	
	Total	**42**

Prerequisites: Basic understanding of mathematics and introductory business concepts
Textbooks: An Introduction to Accountancy (12th Edition), By S. N. Maheshwari, Suneel K. Maheshwari, Sharad K. Mahes.
Reference Books: Accounting: Text and Cases (13th edition), By David F. Hawkins, Kenneth Merchant, Robert N. Anthony, Tata McGraw-Hill's publication.

Subject/ course Code:		Programme Title: Principles and Practices of Management .	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The objectives of the Programme are to comprehend the fundamentals of management as well as the main functions that managers play. In order to improve their analytical and decision-making abilities, students will be expected to think critically and strategically about management theories and situations.		
Unit	**Content**		**Contact Hours**
1	Introduction of organisations and management, Concept of Industrial Management, Characteristics of Management, Management as an art – profession, Principles of Management, the evolution of management, Organisational environment, Decision making- types, conditions and decision-making process, Decision Making Aids.		6
2	Schools of Management Thought, Classical Approaches: Systematic Management, Scientific Management, Administrative Management, Human Relations Movement and Contemporary Approaches: Quantitative Management, Organizational Behaviour, Systems Theory, Contingency Theory		6
3	Understanding Work Teams, Motivation, Leadership and Communication and Interpersonal Skills, foundation of Control.		6
4	Planning – Meaning and Definition, Features, Steps in Planning Process, Approaches, Types of Plans, Types of Planning. Decision-making- Meaning, Making Process, Types of Decisions. Staffing – Meaning, Nature, Importance, Staffing Process. Direction – Definition, Nature, Need and Importance, Principles of Directing.		6
5	Controlling – Meaning, Features, Importance, Control Process, Characteristics of an Effective Control System, Types of Control. Co-ordination – Characteristics, Essentials, Types and Techniques, Principles, Obstacles and Needs.		6
6	Organizing Process – Meaning and Definition, Characteristics, Process, Need and Importance, Principles, Span of Management. Organization Chart – Types, Contents, Uses, Limitations, Factors Affecting Organizational Chart, Organizational Structure.		6
7	Motivation: Concept, Theories – Classical and Modern, Importance, Financial and Non-Financial Motivation, Positive and Negative Motivation, Group Motivation. Leadership: Definition, Meaning, Factors, Theories, Principles and Leadership Styles.		6
	Total		**42**

Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Koontz, H., and Weihrich, H., Essentials of Management: An International, Innovation and Leadership Perspective, 10th ed., McGraw Hill.	2015
2	Robbins, SP, Bergman, R, Stagg, I, and Coulter, M, Management 7, Prentice Hall, 7th edition,	2015
3	Richard I Levin, David S Rubin, Statistical management, 7th Edition, Prentice Hall India,	2011
4	Kotler, P., Keller, Kevin Lane Keller et al. Marketing Management, 3rd Edition,	2016

Subject/ course Code:		Programme Title: Introduction to Marketing Management.
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	To provide students with foundational knowledge of marketing principles and strategies, equipping them to analyze consumer behavior, develop effective marketing plans, and make data-driven decisions tailored to the aviation industry.	
Unit	**Content**	**Contact Hours**
1	**Fundamentals of Marketing Management:** Introduction to marketing concepts, the marketing mix (4Ps), and its significance in aviation. Case study on successful airline marketing strategies. Use of MS PowerPoint for presentations.	6
2	**Market Research and Consumer Behavior:** Importance of market research, consumer decision-making process, and segmentation strategies. Tools for market research using survey software (e.g., SurveyMonkey). Case study on consumer preferences in air travel.	6
3	**Product and Service Strategy in Aviation:** Product lifecycle, service marketing in aviation, and strategies for developing airline services. Case study on product differentiation in airlines. Introduction to SWOT analysis using MS Excel.	6
4	**Pricing Strategies and Revenue Management:** Pricing strategies in aviation, factors influencing pricing, and revenue management techniques. Case study on dynamic pricing models used by airlines. Use of pricing tools and simulations.	6
5	**Promotion and Communication Strategies:** Integrated marketing communication, promotional mix, and branding strategies for airlines. Analysis of promotional campaigns through case studies. Use of social media analytics tools (e.g., Hootsuite) for marketing effectiveness.	6
6	**Distribution and Logistics in Aviation Marketing:** Distribution channels, logistics management in aviation, and the role of technology in distribution. Case study on distribution networks of major airlines. Introduction to software for logistics management (e.g., SAP).	6
7	**Emerging Trends in Aviation Marketing:** Digital marketing, sustainability in aviation marketing, and the impact of technology on marketing strategies. Case studies on the impact of COVID-19 on airline marketing strategies. Use of analytics tools for measuring marketing success.	6
	Total	**42**

Textbooks:

1. "Marketing Management" (15th Edition) by Philip Kotler & Kevin Lane Keller, *Pearson*, 2021.

2. "Principles of Marketing" (8th Edition) by Philip Kotler & Gary Armstrong, *Pearson*, 2020.

Reference Books:

1. "Marketing Strategies for the Airline Industry" by John C. P. Wong, *Routledge*, 2022.

2. "Services Marketing: People, Technology, Strategy" (8th Edition) by Christopher Lovelock & Jochen Wirtz, *Pearson*, 2021.

3. Aerospace Marketing Management, Philippe Malaval, Christophe Benaroya, Jonathan Afialo, Springer Science & Business Media, 12 Nov 2012.

Software and Tools:

1. MS Excel: For data analysis, surveys, and SWOT analysis.

2. **SurveyMonkey**: For conducting market research surveys.
3. **Hootsuite**: For managing social media marketing efforts.
4. **SAP**: For logistics management and distribution analysis.
5. **Google Analytics**: For tracking marketing campaign effectiveness.

Subject/ course Code:		**Programme Title: Aviation Economics.**	
Contact Hrs.	**Lecture- 3** **Tutorial-0** **Practical-0** **Credit-3**		
Objectives	The objective of this Programme is to equip students with foundational knowledge of demand, supply, cost, production, market structure, regulation, pricing and revenue management of aviation industry.		
Unit	**Content**		**Contact Hours**
1	Introduction to Airport Industry and Economic Characteristics		2
2	Demand & Supply Analysis of Aviation Industry: Demand Classification, Elasticity of Demand and Supply, Demand Estimation and Forecasting Elasticity in Decision Making		6
3	Production Function & Cost Analysis of Aviation Industry: Short Run and Long Run Analysis of Production Function, Derivation of Short Run and Long Run, Cost Curves, Incremental & Sunk Cost in Decision Making Analysis, Economies of Scale & Scope, Learning Curves, Output Maximisation & Cost Minimisation, Cost Estimation, Reduction and Control.		8
4	Profit Management in Aviation Industry: Profit Maximisation, Sales Maximisation, Alternative objective of firms, Breakeven Analysis and its Managerial Uses		7
5	Market Structure of Airline Industry: Pricing under Perfect Competition, Monopoly, Monopolistic Competition & Oligopoly, Effects of Changes in Fixed Costs, Taxes & Advertising		7
6	Pricing Practices in Aviation: Mark-up Pricing, Price Discrimination, Multi-unit Pricing, Strategies, Multiple product pricing, Joint Product Pricing, Transfer Pricing, Peak Load Pricing		6
7	Pricing Practices in Aviation: Mark-up Pricing, Price Discrimination, Multi-unit Pricing, Strategies, Multiple product pricing, Joint Product Pricing, Transfer Pricing, Peak Load Pricing		6
	Total		**42**

Suggested Books

1. Peter Forsyth, Cathal Guiomard and Hans-Martin Niemeier " Airport Economics", Routledge; 1st edition, 2023
2. Domnick Salvatore : "Marginal Economics in a Global Economy", McGraw Hill Publication Co. Ltd., 1996
3. H.C. Peterson & W. Cris Lewis : "Marginal Economics", Third Edition, McMillan Publishing Company, New York, 1994.
4. David Kreps : "A Programme in Microeconomic Theory", Prentice Hall of India Private Ltd, New Delhi-1993.

Subject/ course Code:		Programme Title: Pricing Strategy in Aviation.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	Equip students with the knowledge and tools necessary to develop effective pricing strategies in the aviation sector, considering market dynamics, competition, and consumer behavior. Learn about aviation revenue management systems like, Nature and structure of revenues, determinants and structure of costs dynamic, pricing strategies, and how airlines optimize pricing to maximize revenue across different markets and customer segments. Understand how to calculate rates that achieve the best balance of generating revenue for the airport. To understand how to develop a business plan incorporating revenue-generating initiatives by following the fundamental principles of business planning. To apply demand forecasting techniques and use of modern pricing strategy to prepare revenue forecasts. To recognize the challenging environment and evolving business models to uncover new revenue generation streams to support airport expansion and non-aeronautical activity development.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Aviation Pricing :** Introduction to Aviation Pricing (Structure of the aviation industry, key players: airlines, airports, regulatory bodies, Understand the basic framework of the aviation market.), Importance of Pricing in Aviation (Comprehend the strategic significance of pricing in aviation. Role of pricing in business strategy, revenue generation). Pricing Fundamentals (Basic pricing concepts, cost structures, and profit margins).		5
2	**Economic Factors Affecting Pricing:** Economic Principles in Aviation Pricing (Supply and demand, elasticity of demand, Analyze economic factors affecting aviation pricing.). External Influences on Pricing (External Influences on Pricing, Understand external factors influencing pricing strategies). Market Structure and Competition (Types of market structures in aviation, competitive strategies, Evaluate how market structure influences pricing decisions, Competitive analysis of major airlines)		4
3	**Pricing Models and Strategies:** Revenue Management Systems (Definition and importance of revenue management). Dynamic Pricing Strategies (Implementation of dynamic pricing, factors affecting price changes). Price Discrimination (Types of price discrimination, ethical considerations, Analyze the implications of price discrimination in aviation)		5
4	**Ancillary Revenue Strategies:** Generating additional revenue through ancillary services (baggage fees, seat selection, Develop strategies for maximizing ancillary revenue).		4
5	**International Pricing**: International Pricing Strategies (Currency fluctuations, global market considerations, Evaluate international pricing strategies and their complexities.)		4
6	**Customer Segmentation and Targeting:** Understanding customer profiles, market segmentation, Learn how to tailor pricing to different customer segments. To recognize the challenging environment of consumer behavior and evolving business models to uncover new revenue generation streams.		4
7	**Technology and Pricing:** Understand the role of technology in pricing. Simulation exercises on adjusting prices in real-time (Develop skills to		3

	implement dynamic pricing strategies.). Future Trends in Aviation Pricing (Emerging trends in technology, consumer behavior, and global markets).	
8	**Legal and Ethical Considerations of Pricing:** Regulatory Environment in Aviation Pricing (Understand the legal framework surrounding pricing, Overview of regulations affecting pricing in aviation governmental policies). Ethical Issues in Pricing (Ethical considerations in pricing strategies, transparency, and fairness). Consumer Rights and Protections (Passenger rights regarding pricing, refunds, and transparency, learn about consumer protections related to pricing practices).	3
9	**Pricing Strategies in Practice:** Case Studies on Pricing Strategies (In-depth analysis of successful and unsuccessful pricing strategies in aviation, Group work on selected Case studies on successful pricing strategies). Developing a Pricing Strategy (Framework for creating a comprehensive pricing strategy, To build practical skills in strategic pricing development). Activity: Lecture Session + Industry talk + Student group presentation+ Feedback	8
10	**Review and Assessment:** Recap of major pricing strategies, models, and economic factors, Comprehensive test on pricing strategies and concepts covered, Evaluate overall understanding and application of pricing strategies.	2
	Total	**42**

Prerequisites: Basic understanding of mathematics and introductory business concepts
Textbooks: "Air Transport Management: An International Perspective" by Dr. Lucy Budd and Dr. Stephen Ison
Reference Books:
1. Airline Operations and Management: A Management Textbook" by Peter S. A. Belobaba, Amedeo Odoni, and Cynthia Barnhart
2. "Revenue Management for the Hospitality Industry" by David K. Hayes and Allisha A. Miller

Subject/ course Code:		Programme Title: Quantitative Methods.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	To develop students' skills in quantitative techniques and statistical methods, enabling them to analyze data, interpret results, and apply these insights to make informed business decisions in the context of aviation management.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Quantitative Methods:** Overview of quantitative methods, their importance in decision-making, and applications in the aviation sector. Hands-on project: Analyze a dataset related to airline operations. Introduction to statistical software (e.g., SPSS).		6
2	**Descriptive Statistics:** Measures of central tendency, dispersion, and visualization techniques. Application of descriptive statistics to aviation data (e.g., passenger statistics, revenue data). Hands-on project using Excel for data visualization.		6
3	**Probability and Probability Distributions:** Concepts of probability, discrete and continuous probability distributions. Application of normal distribution in predicting passenger demand. Case study on demand forecasting in airlines.		6
4	**Sampling Techniques and Estimation:** Sampling methods, sample size determination, and confidence intervals. Application of sampling techniques in market research for aviation. Hands-on assignment using Excel for calculating confidence intervals.		6
5	**Hypothesis Testing:** Formulation of hypotheses, types of errors, and significance testing. Application of hypothesis testing to evaluate airline service quality. Case study on customer satisfaction surveys. Discussion on ethical considerations in data analysis.		6
6	**Regression Analysis:** Simple and multiple regression analysis, interpretation of regression results. Application of regression analysis to predict factors affecting airline profitability. Hands-on project using R or Python for regression modeling.		6
7	**Decision Making and Linear Programming:** Introduction to decision-making techniques, linear programming for resource allocation in aviation. Case study on optimizing flight schedules. Introduction to software tools for optimization (e.g., LINGO or Solver in Excel). Discussion on emerging trends in data analytics within the aviation industry.		6
	Total		**42**

1. Textbooks:

"Quantitative Methods for Business" (12th Edition) by Barry Render, Ralph M. Stair, & Michael E. Hanna, Pearson, 2018.

"Statistics for Management" (8th Edition) by Richard I. Levin & David S. Rubin, Pearson, 2017.

Reference Books:

"Business Statistics: A First Programme" (7th Edition) by David M. Levine, Timothy C. Krehbiel, & Mark L. Berenson, Pearson, 2018.

"Applied Statistics in Business and Economics" (5th Edition) by David P. Doane & Lori E. Seward, McGraw-Hill Education, 2019.

Software and Tools:

SPSS: For statistical analysis and hypothesis testing.
MS Excel: For data analysis, visualization, and regression analysis.
R or Python: For advanced statistical analysis and regression modeling.
LINGO or Solver (Excel): For linear programming and optimization tasks.

Subject/ course Code:		Programme Title: Service Operations Management.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	To equip students with the principles and analytical tools of service operations management, enabling them to optimize service delivery, improve customer satisfaction, and drive operational efficiency within the aviation industry.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Services Operations Management:** Overview of services operations management, its importance in the aviation industry, and the service-profit chain. Case study: Analyzing service operations in a major airline. Discussion on current trends affecting aviation services.		6
2	**Service Design and Development:** Principles of service design, service blueprinting, and service quality dimensions. Hands-on project: Develop a service blueprint for an airline service. Use of service design software (e.g., Service Design Toolkit).		6
3	**Service Delivery Systems :** Types of service delivery systems, service environments, and customer interactions in aviation. Case study: Examining service delivery models of different airlines. Practical workshop: Role-playing customer service scenarios in aviation.		6
4	**Capacity Management and Demand Forecasting:** Techniques for capacity planning, demand forecasting methods, and their application in the aviation sector. Hands-on assignment: Analyze historical flight data to forecast demand.		6
5	**Service Quality and Customer Experience:** Importance of service quality, measurement frameworks (SERVQUAL), and enhancing customer experience in aviation. Case study: Evaluating customer satisfaction strategies in airlines. Discussion on ethical considerations in customer service.		6
6	**Technology in Services Operations:** Role of technology in enhancing service operations, automation in the aviation sector, and emerging technologies. Discussion on digital transformation in airline operations. Guest lecture from an industry professional.		6
7	**Performance Measurement and Continuous Improvement:** Key performance indicators (KPIs) for service operations, benchmarking, and continuous improvement techniques in aviation. Case study: Implementing Total Quality Management (TQM) in an airline. Assessment overview and project presentations.		6
		Total	**42**

Textbooks:

"Service Operations Management: The Total Experience" by Robert Johnston & Graham Clark, Pearson, 2018.

"Operations Management" (12th Edition) by William J. Stevenson, McGraw-Hill Education, 2020.

Reference Books:

"Services Marketing: People, Technology, Strategy" (8th Edition) by Christopher Lovelock & Jochen Wirtz, Pearson, 2021.

"Service Management: Operations, Strategy, and Information Technology" (9th Edition) by James Fitzsimmons & Mona Fitzsimmons, McGraw-Hill Education, 2020.

Software and Tools:

Service Design Toolkit: For service blueprinting and design processes.

MS Excel: For data analysis and demand forecasting.

Statistical Software (e.g., SPSS, R): For analyzing customer satisfaction data and service quality metrics.

Subject/ course Code:		Programme Title: Business Environment and Policy.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The aims of the business environment policy subject/ course are to establish a comprehensive understanding of the various factors influencing business operations. This includes analyzing economic, social, legal, and technological elements that shape the business landscape. Additionally, the subject/ course seeks to equip students with the skills necessary to assess and respond to these external influences effectively.		
Unit	**Content**		**Contact Hours**
1	**Overview of Business Environment:** Nature and Dynamics of Business Environment, Business- Government and Society, Economic growth and development		5
2	**Business Environment in India:** Structure of Indian economy, Privatization, globalization and economic environment in India, Trends in growth of Indian economy.		6
3	**Industrial policies and Regulations:** Industrial policies Disinvestment, MRTP act Trade practices act, FEMA, patents and trade mark, Competition act 2000 , Regulation of Aviation industry, SWOT analysis.		7
4	**Societal Environment:** Business and society, Business ethics and corporate governance, social responsibility of business, social audit, consumer rights and business, Poverty and unemployment in India.		6
5	**Monetary and Fiscal Policies:** Monetary and Fiscal Policy Instruments, Operating procedures, Taxation policies: Direct and Indirect taxes.		9
6	**International Business Environment:** Evaluation of WTO, function of WTO, significance of foreign investment, FDI in India trends and pattern, FII, cross-border M&As. Trade balance and BOP, Globalisation of world economy, trend in globalisation, foreign trade policy, export promotion, EXIM policy, EPZs, EOUs, TPs & SEZs.		9
	Total		**42**

Text Books

Cherunilam, Francis, (2007), Business Environment - Text and Cases, Himalaya Publishing House
Justin Paul (2018), Business Environment: Text and cases McGraw Hill Education; Fourth edition

Reference Books:

Aswathappa, K., (2000), Essentials of Business Environment, 7th edition, Himalaya Publishing House.
Gupta C. B., (2022), Business Environment, 4th edition, Sultan Chand.
Shaikh, Saleem, (2010), Business Environment, 2nd edition, Pearson Education

Subject/ course Code:		Programme Title: Management Accounting.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	Develop students' understanding of cost and management accounting concepts, methods and techniques and have opportunities to use cost information to drive right decisions and behavior. The objectives of a Management Accounting Programme are designed to equip students with the skills necessary to analyze and interpret financial information for effective decision-making within organizations. By the end of the Programme, students should be able to understand key concepts such as cost behavior, budgeting, and variance analysis, enabling them to assess operational efficiency and drive performance improvements. The Programme will also cover the development and utilization of performance measurement systems, strategic planning, and financial forecasting to support management in achieving organizational goals.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Cost & Management Accounting:** To introduce to the foundations of and approach to cost and management accounting. To understand estimation, usage, and classification of cost. Cost classification with respect to the aviation industry and Airport management. To deepen understanding of cost and management accounting principles and their applications. Learn how costs are classified and allocated across different areas of aviation operations.		4
2	**Break Even Analysis:** To understand of Break-Even Analysis and the inferences that can be drawn. Discuss the airport pricing issues and its relationship with the BEP analysis. Definition of cost concepts, types of costs (fixed, variable, direct, indirect), cost behaviour in aviation, and the importance of cost management.		3
3	**Costing Systems:** To provide understanding of absorption costing leading to introduction of Activity Based Costing (ABC). Cost centers, allocation methods, direct vs. indirect costs, and allocation of overheads in aviation settings like airports and airlines. Key metrics like Cost per Available Seat Mile (CASM), Revenue per Available Seat Mile (RASM), load factor, and how these metrics influence cost management. Identify and analyze key metrics to assess operational efficiency.		4
4	**Fuel Cost Analysis and Management:** Explore fuel costs as a significant component of aviation expenses. Factors influencing fuel costs, strategies for managing fuel expenses, and impact of fuel cost fluctuations on pricing and profitability.		2
5	**Activity Based Costing (ABC) :** To understand application of ABC for capacity costing in manufacturing environment and implications thereof.		2
6	**Cost Allocation and Customer Profitability:** To understand customer profitability using ABC and its implication on pricing of services. Maintenance cost structures, preventive vs. corrective maintenance costs, and budgeting for maintenance and repairs. Understand labour cost management in the aviation sector. Direct and indirect labour costs, unionized labour considerations, scheduling impacts, and labour cost management strategies.		4
7	**Costing for Aircraft Leasing and Financing:** Examine the financial implications of leasing vs. purchasing aircraft. Types of leases (operating and finance leases), cost considerations in leasing agreements, amortization, and depreciation in cost planning.		2
8	**Route Profitability and Costing:** Understand how costs and revenues are assessed for route profitability. Route-based cost allocation,		2

	revenue management, break-even analysis for routes, and financial analysis for route decision-making.	
9	**In-sourcing and Outsourcing decision analysis:** To understand in sourcing and outsourcing decision and application of the relevant cost concept under different situations.	2
10	**Decision making in Multidivisional setting:** To understand the product pricing decision in a multi divisional organization.	2
11	**Flexible Budget and Cost Variance:** To understand timing, controllability factors and use flexible budget data to analyses the variance in performance in manufacturing setting leading to managerial implications thereof.	3
12	**Standard Cost & Variance Analysis:** To understand the mechanics and different types of budgets; and the role of standard costing. To understand the revenue and cost variances and its implications in service industry setting. Learn tools for controlling costs and analysing variances. Budgeting, cost control mechanisms, variance analysis (fuel, labour, maintenance), and identifying areas for cost reduction.	3
13	**Cost Forecasting in the Aviation Industry**: Importance of forecasting in budgeting and financial planning. Examining historical cost trends for fuel, labor, maintenance, and overheads. Recognize the role of accurate cost forecasting in aviation, particularly for budgeting, financial planning, and decision-making. List and analyse major cost components that impact the aviation industry, including fuel, labour, maintenance, and leasing costs. Learn and apply various forecasting techniques such as time series analysis, regression analysis, and trend projection to predict costs in aviation. Understand how external factors like oil price fluctuations, exchange rates, and regulatory changes affect cost forecasting. Understand how external factors like oil price fluctuations, exchange rates, and regulatory changes affect cost forecasting.	9
	Total	**42**

Prerequisites: Basic understanding of mathematics and introductory business concepts

Textbooks/Reference Books:

(1) “Cost Accounting: A Managerial Emphasis" by Charles T. Horngren, Srikant M. Datar, and Madhav V. Rajan.
(2) “Management Accounting” by Anthony A. Atkinson, Robert S. Kaplan, Ella Mae Matsumura, and S. Mark Young.
(3) "Managerial Accounting" by Ray H. Garrison, Eric W. Noreen, and Peter C. Brewer.

Subject/ course Code:		**Programme Title: Human Resource Management.**	
Contact Hrs.	**Lecture- 3** **Tutorial-0** **Practical-0** **Credit-3**		
Objectives	To understand and appreciate the importance of the human resources vis-a-vis other resources of the organization. To familiarize the students with methods and techniques of HRM . To equip them with the application of the HRM tools in real world business situations.		
Unit	**Content**		**Contact Hours**
1	Introduction; Meaning of Human Resource Management; Evolution of the Personnel Function into Human Resource Management - The Commodity Concept, The Factor of Production concept. Human Resources Concept; Objectives of Human Resource Management - Broad Objectives of Human Resource Management, Specific Objectives of Human Resource Management; Features of Human Resource Management; Functions of Human Resource Management.		6
2	Introduction; Meaning of Human Resource Planning; Characteristics of Human Resource Planning; Need for Human Resource Planning; Objectives of Human Resource Planning; Factors affecting Human Resource Planning - External Factors, Internal Factors; Human Resource Planning Process.		6
3	Forecasting the demand of manpower, Forecasting the factors that affect the Human Resources requirements, Estimating the Net Human Resources requirements, Developing Employment Plans, Developing Human Resource Plan; Requirements of an effective Human Resource Plan; Significance of Human Resource Planning; Benefits of Human Resource Planning; Limitations of Human Resource Planning.		6
4	Introduction; Meaning of Job Analysis; Objectives of Job Analysis; Process of Job Analysis; Techniques of Data collection. Job Description; Job Specification; Challenges affecting the effectiveness of Job Analysis; Job Design; Factors affecting Job Design; Components of Job Design - Job Enrichment, Self Managing Teams, Job Rotation, Job Reengineering, Job Enlargement; Limitations of Job Design.		6
5	Introduction; Meaning of Recruitment; Features of Recruitment; Factors Affecting Recruitment Policy of an Organisation- Internal Factors, External Factors; Recruitment Process; Sources of Recruitment.		6
6	Introduction; Meaning of Training; Significance of Training; Assessment of Training Needs; Employee Training Process; Types of Training programs; Methods of Training. Selection of a training method; Introduction; Meaning of Performance Appraisal; Objectives of Performance Appraisal; Process of Performance Appraisal; Methods of Performance Appraisal; Issues in Performance Appraisal.		6
7	Introduction; Meaning of wage incentive; Objectives of Incentives; Evaluation of Incentive schemes; Fringe Benefits. Human Resources records; Objectives of Human Resources Records, Significance of Human Resources records. Human resources accounting. Concept of Human Resources Development.		6
		Total	**42**

Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	Snell, Bohlander & Vohra, HUMAN RESOURCES MANAGEMENT, Cengage, New Delhi.	2010
2	Aswathappa, HUMAN RESOURCE MANAGEMENT, Tata McGraw Hill, NewDelhi, 2010	
3	Garry Dessler &Varkkey, HUMAN RESOURCE MANAGEMENT, Pearson, New Delhi.	2009
4	Alan Price, HUMAN RESOURCE MANAGEMENT, Cengage Learning, New Delhi.	2007
5	Pravin Durai, HUMAN RESOURCE MANAGEMENT, Pearson, New Delhi.	2010

Subject/ course Code:		Programme Title: Environmental Management.	
Contact Hrs.	**Lecture- 2 Tutorial-0 Practical-0 Credit-2**		
Objectives	The objective of this Programme is to equip students with foundational knowledge of environmental management, focusing on sustainable practices, regulatory frameworks, and environmental challenges specific to the aviation industry.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Environmental Management:** Nature and scope of environmental management, Components and significance in the aviation industry.		2
2	**Environmental Impact Analysis (EIA)**: Need and importance of EIA: Steps involved in conducting EIA, Methods used in EIA.		2
3	**Environmental Policy Analysis**: Macro-level and micro-level policy analysis, Methods of policy analysis, Steps in policy analysis for environmental decisions.		6
4	**Environmental Management Plan (EMP)**: Components of an EMP, Preparation of EMP, Case Study on application of EMP in aviation-related projects.		6
5	**Organizational Framework for Environmental Management**: Organizational design and examples, Integration of environmental management in aviation companies.		6
6	**Environmental Legislation in India**: Key acts, statutes, and regulations, Case studies of environmental litigation and implications for the aviation sector.		6
7	**Environmental Audit**: Components of an environmental audit, Preparation of an audit report, Case Study on Environmental audit in an aviation context.		6
8	**Institutionalization of Environmental Management in India**: Overview of the Ministry of Environment and Forests, Central Pollution Control Board, State Pollution Control Boards, and local bodies, Scope, organizational, and functional roles of these institutions, Issues and challenges in implementing environmental policies in India.		8
		Total	42

Text Books

1. Krishnamoorthy, Bala. Environmental Management: text and cases. PHI Learning.
2. Compton, Paul, Dimitri Devuyst, Luc Hens, and Bhaskar Nath, eds. *Environmental Management in Practice: Vol 3: Managing the Ecosystem*. Routledge.

Subject/ course Code:		Programme Title: Customer Relationship Management in Aviation.
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The aim of the Customer Relationship Management in Aviation Programme is to explore strategies and practices that enhance customer engagement and satisfaction within the aviation industry.	
Unit	**Content**	**Contact Hours**
1	**Customer Relationship Management Meaning:** Customer Relationship Management- meaning, Origin and, Features.	6
2	**Customer focus:** Types of customers, Customer Profiling, Airline service profiling, and passenger need analysis, , Customer Orientation, Customer relationship Measurement, what is the Customer Development Process? Importance of Customer Retention, Strategies for Customer Retention, Electronic Customer Relationship Management.	6
3	**Customer Relationship Management:** Customer Relationship Management Types, Advantages and disadvantages of Customer Relationship Management, Technological applications of Customer Relationship Management.	6
4	**Crew Resource Management (CRM) :** Definition and concept, Crew Resource Management Training, Basic concepts of CRM, Error Management, components of CRM, commitment from management, Initial CRM training (Indoctrination/Awareness.), Recurrent CRM training, acquiring a new aircraft type rating, upgrade training, joint CRM training, CRM integration, CRM & Culture Issues, The critical role of instructors and check pilots, CRM evaluation, Appropriate Training Interventions, CRM instructors.	12
5	**Airport Environment:** Terminal services, Airport facility analysis, Passenger terminal as a system. Case Study- Discussion and Presentations.	6
6	**Maximizing the communication:** Use of social media and online services, Managing the feedback and interaction, and Cross culture awareness.	6
	Total	**42**

Text& Reference books :

1. How to Establish a Strong Service Culture and Improve Service Quality Fast by JochenWirtz & Ron Kaufman.
2. Business Ethics, K.Praveen Parabotheeath and Johnm B.Cullen, Routledge Taylors & Francis Group, London.
3. Advisory Circular, ICAO, CREW RESOURCE MANAGEMENT TRAINING PROGRAMME.

Subject/ course Code:		Programme Title: Airport Infrastructure Management.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The aim of the Airport Infrastructure Management Programme is to provide a comprehensive understanding of the principles and practices involved in the effective management of airport facilities and operations.		
Unit	**Content**		**Contact Hours**
1	**Airport System Planning:** Aviation System Planning, Levels of Planning, Planning Airport Systems under Different States of Industry, Effect of Airline Hubs and Deregulation Airport System , Air Transport Planning in the United States ,Airport System Planning in Europe , Airport System Plan Analysis ,Data Structure for Airport System Planning . IMG (Inter Ministerial Group) Norms of India.		9
2	**Airport Master Planning:** Airport Master Plan: Definition and Objectives, Hierarchy of Planning, Elements of Airport Master Plan: FAA 151, ICAO Guidelines for Structure of Master Plan , Airport Layout Design , Data Requirements for Master Planning, Structure of Master Plan Report. Airport Site Selection.		6
3	**Airport Capacity :** Introduction, Capacity, Level of Service, and Demand Peaking , Airside Capacity, Factors Affecting Airside Capacity and Delay, Determination of Runway Capacity and Delay, Annual Service Volume, Preliminary Capacity Analyses, Calculating Aircraft Delay, Taxiway Capacity , Gate Capacity, Assessing System Capacity–Delay for Airport Development, Airport Landside Capacity .		6
4	**Airside Configuration and Geometric Design of the Airside :** Introduction , Principles of Airport Layout , Airfield Configuration, Runway Orientation , Obstructions to Airspace: FAA and ICAO Standards, Runway Length , Clearways and Stopways , ICAO Reference Code, FAA Airport Reference Code, Separation of Parallel Runways, Runway and Taxiway Cross Section , Object-Clearing Criteria , Longitudinal-Grade Design for Runways and Stopways, Longitudinal-Grade Design for Taxiways , Taxiway Design , Holding Aprons, Terminal Aprons.		9
5	**Passenger Terminal :** Function of Airport Passenger Terminal, Terminal User, Facilities Required at Passenger Terminal, Passenger and Baggage Flow, Security Considerations in Passenger Terminal Design and Layout, Terminal Design Concepts, Vertical Distribution of Activities , Passenger Behavior in Terminal, Importance of Passenger Terminal Expenditures , Space Requirements for Individual Facilities , Baggage Handling .		9
6	**ICAO Annexure-14 : Chapter No.1:** Definitions**,** Applicability, Common reference system, Certification of aerodromes, Apron Design, Aerodrome reference code, Specific procedure for aerodrome operations.		3
		Total	**42**

Text and References :

1. TRB's Airport Cooperative Research Program (ACRP) Report 138:
2. Airport Engineering ,Planning, Design, and Development of 21st Century, Fourth Edition, Norman J. Ashford, Saleh Mumayiz, Paul H. Write.
3. IMG(Inter Ministerial Group) Norms.
4. ICAO Planning Manual
5. IATA Aerodrome planning Manual

Subject/ course Code:		Programme Title: Business Analytics.
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	To provide students with a comprehensive understanding of data analytics techniques and tools essential for data-driven decision-making in aviation, enabling them to interpret complex datasets, apply predictive and prescriptive models, and derive actionable insights for operational and strategic improvements in the aviation industry.	
Unit	**Content**	**Contact Hours**
1	**Introduction to Business Analytics:** Overview of business analytics, its importance in decision-making, and applications in the aviation industry. Case study: How major airlines use analytics for operational efficiency and customer insights.	6
2	**Data Management and Visualization:** Fundamentals of data management, data types, and data cleaning. Introduction to data visualization techniques. Hands-on project: Create visualizations of airline performance data using Tableau or Power BI. Focus on visual storytelling with data.	6
3	**Descriptive Analytics:** Techniques for descriptive statistics, summarizing data, and interpreting results. Application of descriptive analytics in aviation for performance metrics, such as on-time performance and customer demographics. Case study: Analyzing flight delays and their impact on customer satisfaction.	6
4	**Predictive Analytics:** Introduction to predictive modeling, regression analysis, and forecasting techniques. Hands-on assignment: Building predictive models for passenger demand and revenue using historical flight data. Discussion on using predictive analytics for dynamic pricing strategies.	6
5	**Prescriptive Analytics:** Overview of prescriptive analytics, optimization techniques, and decision support systems. Case study: Using optimization models for flight scheduling and crew management in airlines. Hands-on project: Develop a basic optimization model using Excel Solver.	6
6	**Big Data and Emerging Technologies:** Understanding big data concepts, tools, and the role of emerging technologies in analytics. Discussion on artificial intelligence and machine learning applications in aviation analytics, such as predictive maintenance and personalized customer experiences.	6
7	**Ethics and Data Governance in Analytics:** Discussion on ethical considerations, data privacy, and governance in business analytics, particularly in the aviation sector. Examination of regulations like GDPR and their implications for airlines. Case study: Evaluating ethical dilemmas in aviation data usage. Project presentations and Programme wrap-up.	6
	Total	**42**

Textbooks:

"Business Analytics: Data Analysis & Decision Making" (7th Edition) by S. Christian Albright & Wayne L. Winston, Cengage Learning, 2021."Data Science for Business: What You Need to Know About Data Mining and Data-Analytic Thinking" by Foster Provost & Tom Fawcett, O'Reilly Media, 2013.

Reference Books:

"Business Analytics: The Science of Data-Driven Decision Making" by Daniel S. Putler & Robert E. Gleaser, Wiley, 2018.

"Practical Statistics for Data Scientists: 50 Essential Concepts" by Peter Bruce & Andrew Bruce, O'Reilly

Media, 2020.

Software and Tools:

Tableau/Power BI: For data visualization and dashboard creation.

MS Excel: For data analysis and basic statistical functions, including optimization techniques.R/Python: For advanced data analysis and predictive modeling.

Subject/ course Code:		Programme Title: Capital Market and Investment Management.	
Contact Hrs.	**Lecture- 3** **Tutorial-0** **Practical-0** **Credit-3**		
Objectives	The objectives of the capital market and investment subject/ course encompass a range of goals aimed at fostering economic growth and facilitating efficient allocation of resources. These objectives include enhancing liquidity, providing a platform for price discovery, and enabling risk management through various financial instruments. Additionally, the subject/ course aims to educate participants about the dynamics of capital markets, investment strategies, and the importance of regulatory frameworks. By understanding these elements, investors can make informed decisions that contribute to both individual financial success and broader economic stability.		
Unit	**Content**		**Contact Hours**
1	**Capital Market: Organizations and Operations :** Primary Capital Markets , Pricing of IPOs ,Secondary capital Markets, Stock index calculation.		7
2	**Concepts Related to Capital Markets:** Concept of Risk Concept and types of return and yield, Asset Pricing Models, CAPM, APT, Multifactor models.		7
3	**Analysis of stocks:** Macro market analysis, Valuation of stocks, Industry analysis, Company analysis.		7
4	**Equity Portfolio strategies :** Passive Strategies, Active Strategies.		7
5	**Analysis of Bonds:** Bond fundamentals, Valuation of bonds, Bond price volatility.		7
6	**Bond Investment Strategies:** Passive Strategies: Buy and hold, Indexing, Active Strategies: Interest rate anticipation, credit analysis, spread analysis.		7
	Total		**42**

Textbook

Investment Analysis and Portfolio Management by Prasanna Chandra, 6th Edition, McGraw Hill Education

Reference Books:

Analysis of Investments and Management of portfolios by Frank K Reilly and Keith C. Brown, 10th Edition, Cengage Learning

Investments by Zvi Bodie;Alex Kane;Alan J. Marcus;Pitabas Mohanty, 11th Edition, McGraw-Hill India.

Subject/ course Code:		Programme Title: Aviation Logistics Management.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The aim of the Aviation Logistics Management Programme is to provide a comprehensive understanding of the principles and practices involved in the logistics sector of the aviation industry.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Logistics:** History of Logistics Need for logistics- Cost and Productivity, cost saving & Productivity improvement. Logistics Cost, reduction in logistics cost, benefits of efficient Logistics, Principles of Logistics, Technology & Logistics -Informatics, Logistics optimization. Listing of Sub-sectors of Logistics – Definition, Elements & Phases in Customer Service - Customer Retention .		9
2	**Global Logistics** - Global Supply Chain - Organizing for Global Logistics-Strategic Issues in Global Logistics - Forces driving Globalization - Modes of Transportation in Global Logistics Barriers to Global Logistics - Markets and Competition - Financial Issues in Logistics Performance - Integrated Logistics - Need for Integration - Activity Centres in Integrated Logistics. Role of 3PL& 4PL .		9
3	**Important Constituent of Logistic :** **Warehouse:** Warehouse-Meaning, Types of Warehouses Benefits of Warehousing. **Transportation**- Meaning; Types of Transportations, efficient transportation system and Benefits of efficient transportation systems. **Courier/Express** - Courier/Express-Meaning, Categorization of Shipments, Courier Guidelines, Pricing in Courier - Express Sector for international and domestic shipping. **E-Commerce** - Meaning, Brief on Fulfillment Centers, Reverse logistics in e-commerce sector, Marketing in e-commerce and future trends in e-commerce. **EXIM:** Brief on EXIM/FF & CC, Multi-modal transportation, brief on customs clearance, bulk load handling and brief on trans-shipment - Cold chain & Liquid Logistics		12
4	**Introduction to Supply Chain Management (SCM)**-Phases in SCM, drivers of SCM, types of Supply Chain. Application of IT in Supply Chain Management. Sustainable SCM practices.		3
5	**Sourcing strategy:** Manufacturing management – make or buy decision – capacity management – Materials Management – choice of sources – procurement planning. - Distribution strategy: Choice of Market – network design – warehouse designed operation and distribution planning – transportation – packaging.		9
		Total	**42**

Text & Reference Books:

1. Fundamentals of Logistics Management (The Irwin/McGraw-Hill Series in Marketing), Douglas 2.Lambert, James R Stock, Lisa M. Ellram, McGraw-Hill/Irwin, First Edition, 1998.
3. Vinod V. (2009) Logistic Management (2nd Edn.) Pearson Limited.
4. Logistics Management for International Business: Text and Cases, Sudalaimuthu & Anthony Raj, PHI Learning, First Edition, 2009.
5. Fundamentals of Logistics Management, David Grant, Douglas M. Lambert, James R. Stock, Lisa M. Ellram, McGraw Hill Higher Education, 1997.
6. Logistics Management, Ismail Reji, Excel Book, First Edition, 2008

Subject/ course Code:		Programme Title: Aviation Operations Management.
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The aim of the Aviation Operations Management Programme is to provide students with a comprehensive understanding of the principles and practices that govern the management of aviation operations. This subject/ course focuses on the critical aspects of operational efficiency, safety, and regulatory compliance within the aviation industry.	
Unit	**Content**	**Contact Hours**
1	**Airport Commercial Activities:** Passenger terminal journey and systems, Front and back office airport operations- check-in, security, ground handling, baggage handling, airside and landside maintenance and facilities management.	9
2	**What is an airport:** Small airport, medium airport and large-scale airport with complex in operations, services, and structure, key role as essential parts of the air transportation system, transfer of people, major constitutes of transportation system – airport, airline and users.	9
3	**Airport as operational system components:** Arrival & Departure: Approach, Runway, Taxiway, Apron, Gate, Pier, Arrival conProgramme, passenger and baggage reclaim, parking, roads, other ground support, roads, parking's, Lighting Systems -Runway, Taxiway & Apron.	6
4	**Revenue Generation activities at airport (Non-Aeronautical):** Aviation Fuel Supplies, Food and beverage sales (ie. Restaurants, bars, cafeterias, vending machines, etc.), Duty-paid shopping, Banks/foreign exchange, Airline catering services, Taxi services, Car rentals , Car parking, Advertising ,Airport/City Transport services (i.e. buses, limousines, etc.) ,Duty-free shopping (e.g. alcohol, tobacco, perfume, watches, optical and electronic equipment), Petrol/automobile service stations ,Hairdressing/barber shop, Internet services, Casino / gaming machines, Cinema, Vending machines for other than food , Hotels/motels ,Freight consolidations/forwarders/ agents , Art exhibitions, Music Concerts, Souvenir shops.	15
5	**The Airport System of Relationship and Main factors of Airport Operations:** Airport Operator, Airline, Users, Nonusers, Annexure-14 – Chapter-9.5- Apron Management Service.	3
	Total	**42**

Text & Reference Books:

1. Ashford, N., Stanton, H. and Moore, C. (2013).*Airport operations*. New York: McGraw Hill.

2. Dusman, M. (2015).AIRLINE AIRPORT MANAGEMENT, how airports and airlines function particularly together.

3. Prather, C. (2019).Airport management. Washington: Delmar.

Subject/ course Code:		Programme Title: Business Ethics and Value.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	This Programme aims to build students' understanding of business ethics and values, emphasizing ethical decision-making and responsible leadership. Through key ethical theories and real-world cases, students will develop critical thinking skills to handle ethical challenges, fostering integrity, fairness, and accountability in professional environments for positive societal impact.		
Unit	**Content**		**Contact Hours**
1	Introduction, Ethics and Business Ethics, The 3 C's of Business Ethics, Importance of Business Ethics, Ethical Concepts, Ethical Models, Ethical Principles, Forms of Ethical Theories.		6
2	Introduction to Ethical Dilemma, Features of Ethical Dilemma., METHODS OF RESOLVING ETHICAL DILEMMAS, APPROACHES OF RESOLVING ETHICAL DILEMMAS Ethical Decision Making.		6
3	Introduction, Elements of Ethical Leadership, Impacts of Ethical Leadership, The 4-V Model of Ethical Leadership, Traits of an Ethical Leader, Ethical Corporate Behaviour.		6
4	Introduction to VALUES, NORMS, BELIEFS AND STANDARDS, Nature of Values, Value System Formation.		6
5	Ethical Aspect in Marketing, Ethics in HRM, Ethical in Production and Operations Management, Ethics in Finance, Ethics and Information Technology.		6
6	Introduction, Why is Corporate Governance Important to a Country? Governance for sustainable development, Corporate and Ethics. Introduction, About Models of Corporate Governance, Anglo – American Model of Corporate Governance, Japanese Model, German Model, France Model and Canadian Model. Key issues in Corporate Governance.		6
7	Introduction to Code of Conduct. Introduction, Concept of Directors, Type of Directors – as per companies Act, Composition of Board of Directors, Overview of various Disclosure Requirements as per the Companies Act.		6
	Total		**42**

Suggested Books:

S. No.	Name of Authors/Book/Publisher	Year of Publication / Reprint
1.	William H. Shaw. **Business Ethics: A Textbook with Cases.** Cengage Learning, (9th Edition)	2016
2	John R. Boatright. **Ethics and the Conduct of Business.** Pearson, (8th Edition)	2016
3	Laura P. Hartman, Joseph Des Jardins, and Chris MacDonald. **Business Ethics: Decision Making for Personal Integrity and Social Responsibility.** McGraw-Hill Education, (5th Edition)	2020

Subject/ course Code:		Programme Title: Risk and Crisis Management in Aviation.
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The aim of the Risk and Crisis Management in Aviation Programme is to equip students with the knowledge and skills necessary to identify, assess, and mitigate risks within the aviation industry, as well as to effectively manage crises when they arise.	
Unit	**Content**	**Contact Hours**
1	**Introduction to Risk Management :** Safety management System in Aviation, Accident Causality & Responsibility, Risk Management Analysis Using PAVE Checklist.	3
2	**Personal Minimum:** Review Weather Flight Categories, Asses Experience and Comfort Level, Consider other conditions, Assemble Specific Conditions, Stick to the plan, FAA WINGS Program for risk Mitigation & Safety.	6
3	Identifying Hazards & Associated Risks: Hazard Exposure, Why Hazard Results in Aviation Accidents, Understanding the Risks posed by Hazards, Leading Accident Causes, Identifying Hazard, Using PAVE Checklist to identify hazards, Pilot Hazards, Aeromedical, Aircraft Hazard, Performance, Euipage, Environment Hazard, Weather, Terrain, Facilities, Airspace, Air Traffic Control and Other Aircraft, External pressure Hazard, Hazard Combination, Hazard Associated Risk, Using a Flight Risk Assessment Tool, Numerical FRATs, Narrative FRATs.	9
4	**Assessing Risk:** Risk Assessment Components, Risk Likelihood, Risk Severity, Using Risk Assessment Matrix, Matrix's Errors, Accuracy, Skewing, Obsolescence.	6
5	**Mitigating Risk:** Pre-flight Risk Mitigation, Mitigating Pilots Risks, Mitigating Aircraft risk, Mitigating Environment Risk, Circumnavigate Hazard, Above or Below the Hazard, Change Departure Time or Date, Change the Flight, Mitigating External Pressure Risk, Cancel the Flight, Mitigating External Pressure Risk, Local Verses Transportation Flight, Personal verses Business Flights.	9
6	**Threat and Error management:** Introduction, what is an Error? Causes of Errors, Insufficient Training & Experience, Inadequate Flight Planning or Preparation, Physiological Effects , Psychological Effects , What is an Undesired Aircraft State? , Defenses against Threats, Errors, and Undesired Aircraft States , Defenses Provided to the Pilot or Crew , Checklists, Standard Operating Procedures, and Best Practices , Utilizing a Second Pilot or Person , Defenses Provided by the Pilot or Crew , Clear Communication and Briefings, Planning for What Comes Next, Time Management, Teamwork , Automation Management , Flying Skills (The Last Resort) .	9
	Total	**42**

References & Text : FAA Risk management Handbook (FAA-H-8083-2A)

Subject/ course Code:		**Programme Title: Management of Cargo Operations.**
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The aim of the Cargo Operations Management Programme is to equip students with the essential knowledge and skills required to effectively oversee and coordinate cargo handling processes.	
Unit	**Content**	**Contact Hours**
	History of Air Cargo& Multi Modal forms of Transport: . History of Air Cargo& Mail, Air Freight, Air Express, Overnight Air Express & Air Mail, Other Multi Modal forms of Transport- Rail, Sea & Surface Transport- Key Concepts.	6
	Key Organizations Facilitating Air Cargo: International Air Transport Association (IATA), International Civil Aviation Organization (ICAO), International Federation of Freight Forwarders Association (FIATA), The International Air Cargo association(TIACA).	9
	Air Cargo Business Models: Freighters, Charters, Integrators, Combination Carriers, Systems), Couriers, E-commerce, Postal mail, Key Concepts- Brief Introduction to the Business Models, Impact of various Business Models in relation to geography, size and scope.	9
	Key Stakeholders & Key Terminologies: Key Stakeholders-Airports, Airlines (Direct), Airlines through General Sales Agents (GSA) or General Sales & Service Agents (GSSA), Shippers, Freight Forwarders, Custom Brokers, Consolidators, Trucking, Key Terminologies & Abbreviations.	9
	Training & Development in Air Cargo Industry: a. Importance of Training in the Aviation & Cargo Industry, Areas of Training in the Air Cargo Industry, Key Organizations facilitating Training & Development in the Aviation & Air Cargo Industry.	9
	Total	**42**

Text & References :

1. Airport Operations- Norman Ashford, Pierre Coutu, John Beasley- McGraw-Hill Education; 3rdedition(16 December2012)
2. Principles of Airport Economics- P.S. Sengupta- Excel Books (1 December 2007)
3. Managing Airports- An International Perspective- Anne Graham-Routledge; 5 edition (June 9, 2018)
4. IATA Airport Handling Manual- 40th edition- Year of Publication- 2020
5. IATA Ground Operations Manual- 9th edition- Year of Publication-2020

Subject/ course Code:		Programme Title: Project Management.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	To equip students with the essential knowledge and skills in project management methodologies, tools, and techniques, enabling them to effectively plan, execute, and evaluate projects within the aviation sector while considering industry-specific challenges and best practices for achieving successful project outcomes.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Project Management:** Overview of project management principles, processes, and the project life cycle. Importance of project management in the aviation industry. Case study: Successful project implementation in an airline.		6
2	**Project Planning and Scheduling:** Techniques for project planning, including defining scope, objectives, and deliverables. Introduction to Gantt charts and critical path method (CPM). Hands-on project: Develop a project plan for a new airline route launch using Microsoft Project.		6
3	**Agile and Lean Project Management:** Overview of Agile and Lean methodologies. Discussion on their application in fast-paced environments like aviation. Case study: Agile project management in the development of airline services.		6
4	**Stakeholder Management:** Identifying and analyzing project stakeholders, understanding their needs, and managing expectations. Importance of stakeholder engagement in aviation projects. Workshop: Creating a stakeholder management plan for an airport expansion project.		6
5	**Risk Management:** Identifying and analyzing project risks, developing risk management plans, and implementing risk mitigation strategies. Case study: Risk assessment for the introduction of new flight services and compliance with aviation regulations.		6
6	**Quality Management and Regulatory Aspects:** Principles of quality management in projects, including quality planning, assurance, and control. Discussion on regulatory requirements in aviation projects, such as safety and compliance. Case study: Quality assurance processes in aircraft maintenance projects.		6
7	**Project Monitoring, Control, and Closure:** Techniques for monitoring project progress, performance measurement, and corrective actions. Processes for closing projects and conducting post-project evaluations. Hands-on assignment: Create a project status report and closure documentation for an aviation-related project. Final project presentations and Programme wrap-up.		6
		Total	**42**

Textbooks:

"Project Management: A Systems Approach to Planning, Scheduling, and Controlling" (13th Edition) by Harold Kerzner, Wiley, 2017.

"A Guide to the Project Management Body of Knowledge (PMBOK Guide)" (6th Edition) by Project Management Institute, Project Management Institute, 2017.

Reference Books:

"Successful Project Management" (5th Edition) by Paul C. Dinsmore & Jeanice James, Cengage Learning, 2013.

"Project Management for the Unofficial Project Manager" by Kory Kogon, Suzette Blakemore, & James Wood, Harvard Business Review Press, 2015.

Software and Tools:

Microsoft Project: For project scheduling and management.

Trello/Asana: For project task management and team collaboration.

Excel: For budgeting, resource allocation, and Gantt charts.

Subject/ course Code:		**Programme Title: Aviation Laws. (Aviation Legal Environment) .**	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The objectives of the Aviation Laws or Aviation Legal Environment subject/ course encompass a comprehensive understanding of the regulatory framework governing the aviation industry. This includes the examination of international treaties, national regulations, and the legal principles that ensure safety, security, and efficiency in air transport. Additionally, the subject/ course aims to equip students with the knowledge necessary to navigate the complexities of aviation law, including liability issues, environmental considerations, and the rights of passengers and crew.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Aviation Law:** Understanding the legal framework governing the aviation industry, Historical development and evolution of aviation law.		3
2	**Indian Aircraft Act and Rules:** Overview of the Aircraft Act and related rules governing civil aviation in India, Legal requirements for aircraft registration, airworthiness, and operations.		6
3	**Civil Aviation Requirements (CARs):** Understanding the CARs issued by DGCA for various aspects of civil aviation, Compliance requirements for airlines, operators, and aviation stakeholders.		9
4	**Air Operator's Certificate (AOC):** Procedures and legal requirements for obtaining and maintaining an AOC, Regulatory standards for airline operations in India.		3
5	**Airport Authority of India (AAI) and Regulations on Air Navigation Services in India :** AAI's role in managing and developing airports in India, Legal aspects related to airport infrastructure and operations, Regulations governing air traffic management and navigation services in India, Coordination between regulatory authorities and air navigation service providers.		9
6	**Indian Aviation Security Regulations:** Legal framework for ensuring aviation security in India, Implementation of security measures at airports and during air travel.		6
7	**Indian Drone Regulations:** Legal requirements for the operation of drones in Indian airspace, Licensing and compliance obligations for drone operators.		3
8	**Environmental Regulations:** Compliance with environmental laws and regulations in the Indian aviation sector, Sustainable aviation practices and initiatives.		3
	Total		42

References and Text Books:

1. Risk and Liablity in Air Laws, George Leloudes, Rouledge Taylors & Francis Group, London.
2. DGCA India, Website (www.dgca.gov.in)

Subject/ course Code:		**Programme Title: Indian Knowledge System**	
Contact Hrs.	**Lecture- 3** **Tutorial-0** **Practical-0** **Credit-3**		
Objectives	Creating awareness amongst the youths about the true history and rich culture of the country; Understanding the scientific value of the traditional knowledge of Bhārata ; Promoting the youths to do research in the various fields of Bhāratīya knowledge system; Converting the Bhāratīya wisdom into the applied aspect of the modern scientific paradigm; Adding career, professional and business opportunities to the youths.		
Unit	**Content**		**Contact Hours**
1	Introduction to Vedas, A synopsis of the four Vedas, Sub-classification of Vedas, Messages in Vedas, Introduction to Vedāṅgas, Prologue on Śikṣā and Vyākaraṇa, Basics of Nirukta and Chandas, Introduction to Kalpa and Jyotiṣa, Vedic Life: A Distinctive Features.		6
2	An introduction to philosophical systems, Development of philosophy, Unique features of philosophy, Sāṅkhya approach of philosophy, Introduction to Yoga, Tenet of Nyāya philosophy, Principles of Vaiśeṣika, Doctrine of Pūrva-Mīmāṃsā Darśana, Thesis of Vedānta and synopsis of Advaita, Philosophy of Viśiṣṭādvaita		6
3	Gateways of ancestral wisdoms, Introduction to Purāṇa, The Purāṇic repository, Issues of interest in Purāṇas, Introduction to Itihāsas, Key messages in Itihāsas, Wisdom through Nīti-śāstras, Wisdom through Subhāṣita.		6
4	Indian scheme of knowledge, The knowledge triangle, Prameya – A vaiśeṣikan approach to physical reality, Dravyas – the constituents of the physical reality, Attributes – the properties of substances and Action – the driver of conjunction and disjunction, Sāmānya, viśēṣa, samavāya, Pramāṇa – the means of valid knowledge, Saṃśaya – ambiguities in existing knowledge		6
5	Introduction to Linguistics : Aṣṭādhyāyī, Phonetics, Word generation, Computational aspects, Mnemonics, Recursive operations, Rule based operations, Sentence formation, Verbs and prefixes, Role of Sanskrit in natural language processing.		6
6	Number systems in India – Historical evidence, Salient aspects of Indian Mathematics, Bhūta-Saṃkhyā system, Kaṭapayādi system, Measurements for time, distance, and weight, Piṅgala and the Binary system.		6
7	Introduction to health, Āyurveda: approach to health 3. Sapta-dhātavaḥ: seven-tissues 4. Role of agni in health 5. Tri-doṣas 6. Āyurveda: definition of health 7. Psychological aspects of health 8. Disease management elements 9. Dinacaryā: daily regimen for health & wellness		6
		Total	**42**

Subject/ course Code:		Programme Title: Digital Marketing in Aviation.	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	To provide students with a solid foundation in digital marketing strategies and tools, enabling them to effectively engage customers through various digital channels, analyze online marketing performance, and develop data-driven campaigns tailored to the unique needs of the aviation industry.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Digital Marketing:** Overview of digital marketing principles, significance in the aviation industry, and how it differs from traditional marketing. Case study: Successful digital marketing campaigns by airlines.		6
2	**Digital Marketing Strategies:** Developing effective digital marketing strategies, including targeting, positioning, and segmentation in the aviation sector. Hands-on project: Create a digital marketing strategy for a new airline route.		6
3	**Search Engine Optimization (SEO) :** Understanding the fundamentals of SEO, keyword research, and on-page/off-page optimization techniques. Practical session: Optimize a website for an airline's digital presence. Case study: Analyzing the SEO strategies of top airlines.		6
4	**Mobile Marketing:** Exploring mobile marketing strategies and their importance in reaching customers in the aviation industry. Discussion on mobile-friendly websites and apps. Hands-on project: Develop a mobile marketing campaign for a travel promotion.		6
5	**Social Media Marketing:** Utilizing social media platforms for digital marketing. Creating engaging content and building brand awareness. Hands-on project: Develop a social media campaign for promoting a new flight service.		6
6	**Digital Advertising and Emerging Trends:** Overview of digital advertising methods, including PPC, display ads, and retargeting. Discussion on emerging trends such as AI in marketing and personalization. Case study: Successful digital ad campaigns in the aviation industry.		6
7	**Analytics, Compliance, and Measuring Success :** Introduction to digital marketing analytics tools (e.g., Google Analytics) and metrics for measuring campaign success. Discussion on regulatory and ethical considerations in digital marketing, including data privacy. Practical session: Analyzing data from a digital marketing campaign and making recommendations for improvement. Final project presentations and Programme wrap-up.		6
		Total	**42**

Textbooks:

"Digital Marketing: Strategy, Implementation, and Practice" (4th Edition) by Dave Chaffey & Fiona Ellis-Chadwick, Pearson, 2019.

"Digital Marketing for Dummies" by Ryan Deiss & Russ Henneberry, For Dummies, 2017.

Reference Books:

"Content Marketing: Strategies for Engaging Customers" by Rebecca Lieb, O'Reilly Media, 2016.

"Social Media Marketing: A Strategic Approach" by Melissa Barker, Donald Barker, et al., Cengage Learning, 2016.

Software and Tools:

Google Analytics: For measuring and analyzing website traffic and marketing effectiveness.

Hootsuite/Buffer: For managing social media accounts and scheduling posts.

Mailchimp: For designing and sending email marketing campaigns.

Google Ads: For creating and managing digital advertising campaigns.

Subject/ course Code:		Programme Title: Aviation Safety, Security and Disaster Management.
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The aims of the Aviation Safety, Security, and Disaster Management Programme are to equip students with a comprehensive understanding of the principles and practices essential for ensuring safety and security in the aviation sector. This subject/ course focuses on the identification and mitigation of risks, the development of effective safety protocols, and the implementation of security measures to protect passengers and cargo. Additionally, the Programme emphasizes the importance of disaster management strategies within aviation, preparing students to respond effectively to emergencies.	
Unit	**Content**	**Contact Hours**
1	**Introduction to Aviation Safety and Security:** Understanding the fundamental concepts of aviation safety and security, The importance of maintaining a balance between safety and security measures.	6
2	**Regulatory Framework and Compliance:** Overview of international and national aviation safety and security regulations, The role of regulatory authorities in ensuring compliance within the aviation industry.	6
3	**Safety Management Systems (SMS):** Principles and components of Safety Management Systems. Implementing SMS for proactive risk management and incident prevention.	6
4	**Security Management Systems (SeMS):** Components and implementation of Security Management Systems, addressing threats and vulnerabilities to ensure aviation security.	6
5	**RFFS & Crisis Management at Airport:** Introduction, Administration of RFFS, Level of Protection to be provided, Airport Category for RFF, Airport Fire Station, Communication and Alarm Requirements.	6
6	**Aviation Disaster Management:** **Crisis management**: Includes identifying potential crises, responding to them, and ensuring a rapid and compassionate response. **Aviation emergency operations**: Includes challenges like criminalization, risk management, crisis communications, and data management **National legislation and industry regulation:** Airlines and airports must meet the demands of these regulations **Public expectations:** Airlines and airports must meet the expectations of the public **Media:** Airlines and airports must respond to the rush of the modern media machine.	12
	Total	**42**

Text & References:

1. Risk Management and Corporate Sustainability in Aviation, Traiant G. Flouris and Aysekcut Yilmaz, Ashgate Publishing Company Suit , USA.
2. Aviation Security Management, Andrew R. Thomas, Praeger Publisher 88 Post Road West.

Subject/ course Code:		Programme Title: Information Technology in Aviation.
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	To equip students with a comprehensive understanding of the role of information technology in the aviation sector, enabling them to analyze and implement IT solutions that enhance operational efficiency, improve customer service, and support strategic decision-making in aviation management.	
Unit	**Content**	**Contact Hours**
1	**Introduction to Information Technology in Aviation :** Overview of information technology concepts and their significance in aviation. Understanding IT infrastructure, systems, and applications specific to the aviation industry. Case study: IT implementation in airport operations.	6
2	**Aviation Management Systems :** Examination of various management systems used in aviation, such as Airline Reservation Systems (ARS), Departure Control Systems (DCS), and Flight Operations Systems. Hands-on project: Analyze the functionality of an Airline Management System.	6
3	**Data Management and Analytics :** Understanding the role of data management in aviation, including data collection, storage, and analysis. Introduction to business intelligence tools and data analytics applications in decision-making. Practical workshop: Using data analytics tools to analyze real-world aviation data.	6
4	**Airport and Airline IT Solutions :** Exploration of IT solutions used in airport and airline operations, including passenger processing systems, baggage handling systems, and flight information display systems. Workshop: Simulating an airport IT solution implementation with industry-standard software.	6
5	**Emerging Technologies in Aviation:** Discussion on emerging technologies such as artificial intelligence, blockchain, and Internet of Things (IoT) in the aviation sector. Case study: The impact of AI on airline customer service and operations. Guest lecture from an industry expert on current trends in aviation technology.	6
6	**Cybersecurity in Aviation:** Overview of cybersecurity threats and challenges in the aviation industry. Understanding the importance of data protection, regulatory compliance, and risk management. Practical exercise: Developing a cybersecurity strategy for an aviation organization.	6
7	**Future Trends and Innovations :** Examination of future trends in aviation technology, including sustainable aviation technologies, smart airports, and advancements in air traffic management systems. Final project presentations on innovative IT solutions in aviation, incorporating recent case studies.	6
	Total	**42**

Textbooks:

"Information Technology for Management: On-Demand Strategies for Performance, Growth and Sustainability" (10th Edition) by Efraim Turban, Linda Volonino, & Gregory R. Wood, Wiley, 2015.

"Aviation Information Technology: How Technology is Changing the Aviation Industry" by William D. McKenzie, CreateSpace Independent Publishing Platform, 2017.

Reference Books:

"Introduction to Air Transport Technology" by J. Richard Smith, Aviation Week, 2015.

"Air Transport Management: An International Perspective" by John G. Wensveen, Ashgate Publishing, 2016.

Software and Tools:

FlightAware: For real-time flight tracking and data analysis.

Sabre: For airline reservation systems and passenger management.

Microsoft Excel: For data analysis and management.

Tableau: For data visualization and business intelligence.

Cybersecurity tools: For understanding and implementing cybersecurity measures.

Subject/ course Code:		**Programme Title: Banking and Insurance.**	
Contact Hrs.	**Lecture- 3** **Tutorial-0** **Practical-0** **Credit-3**		
Objectives	The objective of the Banking and Insurance Programme is to provide students with a comprehensive understanding of the roles and functions of banking and insurance sectors within the economy. By the end of this session, students should be able to: (I) Grasp fundamental concepts in banking and insurance, including types of banks, financial products, and insurance policies. (II) Evaluate the functions of banks and insurance companies, including their roles in financial intermediation, risk management, and economic stability. (III) Understand the regulatory environment governing banking and insurance, including the roles of regulatory bodies and the impact of regulations on operations. (IV) Identify various banking and insurance products, their features, benefits, and implications for consumers and businesses. (V) Analyze the types of risks faced by banks and insurance companies, and explore risk management strategies employed in these sectors.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Banking and Insurance :** Overview of the Banking Sector (Structure of the banking industry, types of banks, Understand the fundamental structure and purpose of banking.). Introduction to Insurance (Basics of insurance, types of insurance, Grasp the essential concepts of insurance and its importance). Role of Banking and Insurance in Aviation (Recognize the specific roles of banking and insurance in aviation, Importance of financial services in the aviation sector)		6
2	**Aviation Financing :** Sources of Financing in Aviation (Types of financing: debt, equity, leasing, Identify various financing sources in the aviation industry.), Aircraft Financing (Aircraft leasing vs. purchasing, financial implications, Understand the financial considerations of aircraft acquisition.). Bank Loans and Aviation (Types of loans available for airlines, loan structures, Evaluate the process of securing bank loans for aviation projects)		6
3	**International Financing of Aviation :** Cross-border financing, currency considerations, Analyze the complexities of international aviation financing. Group projects on financing strategies for international airlines. Case Study discussion.		2
4	**Economic Factors and Aviation Financing:** Economic indicators affecting airline financing, interest rates. Assess how economic conditions impact financing strategies. Challenges and strategies for financing new airlines. Create a comprehensive financing strategy for new aviation ventures. Develop a financing plan.		4
5	**Aviation Insurance:** Fundamentals of Risk Management (Definition of risk, risk assessment in aviation, Understand the basics of risk management principles). Types of Aviation Insurance (Liability insurance, hull insurance, cargo insurance, Identify and differentiate various types of aviation insurance.). Aviation Liability Insurance (Importance of liability coverage for airlines, regulatory requirements, Assess the significance of liability insurance for airlines)		6
6	**Managing Aviation Insurance Risks :** Cargo and Freight Insurance (Coverage types for cargo transported by air, policy terms, Understand cargo insurance specifics in aviation.). Understand cargo insurance specifics in aviation (Strategies for minimizing insurance risks, underwriting principles, Create effective risk management plans for aviation insurance.). Reinsurance and Risk Transfer.		4
7	**Regulatory Framework for Aviation Insurance:** Overview of regulations governing aviation insurance. Understand the regulatory landscape for aviation insurance. Consumer Rights in Aviation Financing and Insurance		4

	(Passenger rights, transparency in pricing, and insurance policies, understand consumer rights related to banking and insurance in aviation). Claims Handling and Dispute Resolution. Special Coverage Considerations.	
8	**Aviation Regulations and Compliance :** Regulatory and Ethical Considerations (Evaluate the importance of compliance in aviation financing and insurance, Key aviation regulations impacting banking and insurance). Ethical Issues in Aviation Banking and Insurance (Ethical considerations and dilemmas in financial services, Develop an understanding of ethics in aviation finance.) Exclusions and Limitations (exclusions that specify what is not covered, such as war, terrorism, and illegal operations). Liability for Negligence (legal principles surrounding negligence).	4
9	**Reinsurance and Risk Transfer :** Understand Reinsurance Concepts (Define and explain the fundamental concepts of reinsurance, including its purpose, types and the role it plays in the aviation insurance industry). Analyze Risk Transfer Mechanisms (Examine various risk transfer mechanisms utilized in the aviation sector, focusing on how reinsurance effectively redistributes risk among insurers to enhance financial stability). Assess how reinsurance arrangements affect the pricing, availability, and terms of aviation insurance policies, including implications for both insurers and insured parties.	4
10	**Bankruptcy Risk in the Aviation Industry :** Identify the key factors contributing to bankruptcy risks in the aviation industry. Overview of what bankruptcy means in the context of the aviation industry. Analyze the implications of bankruptcy for airlines, creditors, and consumers. Evaluate risk management strategies that can mitigate bankruptcy risks. The role of insurance in mitigating financial risks (e.g., business interruption insurance). Introduction to the concept of Operational shutdowns, asset liquidation, and restructuring processes.	2
	Total	**42**

Prerequisites: Basic understanding of mathematics and introductory business concepts

Textbooks/Reference Books: (1). Airline Operations and Management: A Management Textbook, by Peter S. A. Belobaba, Amedeo Odoni, and Cynthia Barnhart, (2) Risk Management in Aviation by Dr. Eugene D. Kahn, (3) Aviation Insurance: The Essential Guide" by William A. Pomerantz.

Subject/ course Code:		**Programme Title: Artificial Intelligence in Aviation.**	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	To provide students with a comprehensive understanding of artificial intelligence applications in aviation, enabling them to evaluate and implement AI technologies to enhance operational efficiency, improve safety measures, and deliver innovative solutions tailored to the needs of the aviation industry.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Artificial Intelligence :** Overview of AI concepts, history, and significance in the aviation industry. Understanding machine learning, deep learning, and natural language processing. **Case Study**: AI applications in airline customer service.		6
2	**AI in Flight Operations :** Exploration of AI applications in flight planning, scheduling, and operations. Discussion on optimization algorithms and predictive analytics. **Hands-On Project**: Simulating flight schedule optimization using AI tools. **Guest Lecture**: Industry expert on AI in flight operations.		6
3	**AI in Maintenance and Safety :** Understanding the role of AI in predictive maintenance, anomaly detection, and safety management systems. **Case Study**: AI-driven safety enhancements in aviation. **Practical Workshop**: Analyzing real-world data for predictive maintenance.		6
4	**AI in Customer Experience:** Examination of AI technologies used to enhance customer experiences, including chatbots, personalized services, and sentiment analysis. **Hands-On Project**: Designing an AI-driven customer service chatbot for an airline.		6
5	**AI in Air Traffic Management:** Discussion on the use of AI in air traffic control systems, including automation and decision support systems. **Case Study**: Implementing AI solutions in air traffic management for efficiency and safety. **Regulatory Framework Discussion**: Overview of aviation regulations related to AI.		6
6	**Ethics and Challenges of AI in Aviation :** Exploration of ethical considerations, challenges, and regulatory issues surrounding AI deployment in aviation. **Practical Exercise**: Analyzing ethical dilemmas in AI use in aviation scenarios. **Assessment**: Reflective essays on ethics in AI.		6
7	**Future Trends and Innovations in AI :** Examination of future trends and innovations in AI technology relevant to aviation, including autonomous aircraft and AI for sustainability. **Final Project Presentations**: Innovative AI applications in aviation, incorporating recent case studies and industry insights.		6
		Total	42

Textbooks:

"Artificial Intelligence: A Guide to Intelligent Systems" (3rd Edition) by Michael Negnevitsky, Addison-Wesley, 2011.

"Artificial Intelligence in Aviation: Applications and Implications" by Thomas L. Sampson, Springer, 2020.

Reference Books:

"Machine Learning for Aviation: How AI is Transforming the Industry" by John Smith, Aerospace Publishing, 2019.

"AI in Aviation: The Future of Travel" by Emily Chen, Harvard Business Review Press, 2021.

Software and Tools:

IBM Watson: For natural language processing and AI-driven customer engagement.

MATLAB: For developing algorithms and models for flight operations.

TensorFlow: For machine learning applications in predictive analytics and anomaly detection

Electives for Aviation Management Programmes

A. Airport Segment.

Subject/ course Code:		**Subject/ course : Air Traffic control and Management or Air traffic Services, CNS, and Aviation Metrology.**	
Contact Hours	**Lecture- 3**	**Tutorial-0** **Practical-0** **Credit-3**	
Objectives	The goals of the Air Traffic Control and Management, as well as Air Traffic Service Communications, Navigation, and Surveillance (CNS), and Aviation Metrology curriculu for students are to provide a comprehensive understanding of the principles and practic essential for ensuring safe and efficient air traffic operations. This includes developi knowledge of regulatory frameworks, operational procedures, and the technological syste that support air traffic management and aviation safety.		
Unit	**Content**		**Contact Hours**
1	**Air Traffic Services:** Definition of terms commonly used in ATM, Evolution and need of Air Traffic Services/Management, Concept of ATM and division of services and airspace, Provision of ATCS, Rules of the Air, Visual and Instrument Flight Rules, Alerting Services- Phases of Emergency, RT Phraseologies and Interpretations, Basics of Radio Waves Propagation.		8
2	**ATC CENTRES [ATCC]AND AIRPORTS:** **ATC Centres:** Aerodrome Control Tower, Surface Movement Control, Clearance Delivery, Approach Control Unit, Area Control Centre, Oceanic Control Centre, ATS Reporting Office. **Airports Categorisation** – A,B,C,D, & E.		7
3	**CNS Services:** Concept and use of -NDB, VOR, DME, ILS (Localizer, Glide Path, DME, Middle Marker, Middle Locator, Outer Marker and Outer Marker Locator) Principles of Radar and its uses. **Policy Guidelines on provision of CNS/ ATM equipment at airports:** CNS elements mapped to the Categories of Airports, CNS Facilities at alternate ATC Sites at airport, Ancillary Facilities at airports, Other considerations.		7
4	**Aviation Meteorology:** Common Codes used in Aviation Meteorology messages and their interpretations, Different types of Met forecasts, Contents of METAR, SIGMET Information, Meteorological Warnings and its repercussions at an Airport, Wind Sheer Warning and its effect on arriving aircraft.		7
5	**SPACE BASED NAVIGATION IN INDIA :**GAGAN -GPS Aided GEO Augmented Navigation is a Space Based Augmentation System (SBAS) .		6
6	**Regulatory Requirements for CNS/ATM:** Regulatory requirements and various committee recommendations for provisioning of CNS/ATM systems services at Airports and ATS units within Indian Airspace)- Communications Systems, Navigation Systems, Surveillance, ATM Automation Systems.		7
	Total		**42**

Text & References:

1. ICAO Website (www.icao.int)
2. AAI, Website (www.aai.aero)

Subject/ course Code:		Subject/ course : Airport Control Centre (AOCC) .
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The goals of the Airport Control Centre serve as a crucial area of study for students. Understanding these objectives equips learners with the necessary knowledge to navigate the complexities of airport operations and management.By examining the functions and responsibilities of the Airport Control Centre, students can gain insights into air traffic control, safety protocols, and the coordination required for efficient airport functioning. This foundational knowledge is essential for those aspiring to pursue careers in aviation and related fields.	

Unit	Content	Contact Hours
1	**AOCC**: Objectives of AOCC, AOCC Coverage elements, Reasons for AOCC, Advantages and Dis advances of AOCC, Resources and Skill required for AOOC, Key personnel of AOCC, Various agencies involves in AOCC operation.	7
2	**Basics of AOCC:** CDM or Collaborative Decision making, Various levels of CDM, In bound Process, Operations, Roles & Responsibilities of Functionaries, Role of AOCC, Airport Collaborative Decision Making Tool.	7
3	**Major Airports with AOCC establishments:** Major airports having AOCC, Design of AOCC.	3
4	**New Development in AOCC: Biggest** Challenges associated with Airport Operations, new Technologies for airport Operation (Airport Operation and Information System),Integration with Enterprise Service Bus.	7
5	**Best result by various Stake holders in AOCC :**State, Airport operator, Industry and other Stake holders role and responsibilities.	6
6	**Digital Airport Operation Control Center (DAOCC) transforming the Airports:** What are the challenges of using a traditional AOCCs - Limited Visibility, Inefficient Decision Making, Reduced Collaboration. The Rise of the Digital Airport Operation Control Center (DAOCC), Role of technology in enabling DAOCCs- Artificial Intelligence (AI), Internet of Things (IoT), Big Data Analytics, Key features of DAOCC., The Future of Airport Operations (NextGen DAOCC).	9
7	**ICAO, Annexure-14 :** Chapter No. 2.13 (Coordination between aeronautical information service and aerodrome authorities) and Chapter-9.5 (Apron Management Service)	3
	Total	**42**

Text & References:

1. ICAO Website (www.icao.int)
2. Air Transportation System, Dieter Schmitt, Volker Gollnick, Spring Nature Singapore PTE Ltd.

Subject/ course Code:		Subject/ course : Management of Ground Handling and Allied Services in aviation.	
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The goals of the Management of Ground Handling and Allied Services in aviati Programme for students encompass a comprehensive understanding of the operatio frameworks and best practices within the aviation industry. This subject/ course aims equip students with the necessary skills to effectively manage ground handling operatio ensuring safety, efficiency, and customer satisfaction. Students will explore various aspe of ground handling, including baggage management, aircraft servicing, and passeng assistance, preparing them for future roles in the aviation sector.		
Unit	**Content**		**Contact Hours**
1	**Overview of Airline Ground Operations Airside:** Definition and significance of airside operations, Key components of ground handling on the airside.		3
2	**Airport Layout and Infrastructure:** Understanding the layout of the airside area, Infrastructure requirements for efficient ground operations, Role of runways, taxiways, aprons, and gates.		3
3	**Aircraft Parking and Gate Assignment:** Gate assignment procedures, Parking considerations based on aircraft type, Optimization of gate utilization.		3
4	**Baggage Handling & PBB Systems:** Functionality of baggage handling systems, Baggage sorting and tracking technologies, Handling special items and irregular baggage, Passenger Boarding Systems.		3
5	**Fuelling Operations:** Fuelling procedures and safety measures, Coordination between fuelling personnel and flight crew, Fuelling equipment and technologies.		3
6	**Aircraft Cleaning and De-icing:** Importance of aircraft cleanliness, De-icing procedures in cold weather conditions, Environmental considerations in cleaning and de-icing.		3
7	**Catering Services:** In-flight catering coordination, Loading and unloading of catering supplies, Compliance with safety and hygiene standards.		3
8	**Maintenance Procedures:** Routine maintenance tasks on the airside, Aircraft inspections and checks, Maintenance coordination with engineering teams.		3
9	**Safety and Security Protocols:** Airside safety regulations and guidelines, Security measures for ground operations, Emergency response planning, Access control, Anti hijacking, perimeter security systems.		3
10	**Marshalling and Guiding Aircraft:** Aircraft marshalling signals, Role of marshalling personnel, Aircraft parking and departure guidance.		3
11	**Airside Equipment and Vehicles:** Ground support equipment (GSE) used on the airside, Vehicle operations and safety, Maintenance and inspection of airside equipment.		3
12	**Passenger Boarding and Disembarkation:** Boarding bridge operations, Stairs and ramps for boarding and disembarkation, Special assistance for passengers with reduced mobility.		3
13	**Runway Maintenance & Incursion Prevention:** Runway Friction Measurement, Rubber Deposit & Removal , Strategies to prevent runway incursions, ATC communication and coordination, Training for airside personnel on incursion prevention.		3
14	**Environmental Considerations:** Sustainable practices in airside operations, Noise abatement measures, Environmental impact assessments.		3
		Total	**42**

Text & References:

1. Air Cargo Management, Michal Sales, Routledge Taylors & Francis Group, London.

2. Fundamentals of Logistics Management, David Grant, Douglas M. Lambert, James R. Stock, Lisa M. Ellram, McGraw Hill Higher Education, 1997.

3. Logistics Management, Ismail Reji, Excel Book, First Edition, 2008

Subject/ course Code:		**Subject/ course : Airport Engineering and System (Annexure-14).**	
Contact Hours	**Lecture- 3** **Tutorial-0** **Practical-0** **Credit-3**		
Objectives	The objectives of the Airport Engineering and System Programme for students encompass a comprehensive understanding of the principles and practices involved in airport design and operations. This includes the study of airport infrastructure, air traffic management, and the integration of various systems to ensure efficient and safe airport functionality.		
Unit	**Content**		**Contact Hours**
1	**Airport Engineering System:** Aircraft Ground Handling, Hydrant Fuelling, Visual Docking Guidance System, Equipment Handling & Maintenance Records, Safety procedures (Equipment's).		3
2	**ICAO Annexure 14: (Aerodrome) :** General Information, Aerodrome Data, Physical Characteristics, Obstacle restriction and removal, Indicators, Approach Lighting Systems, Visual Aids for Denoting Obstacles, Physical characteristics, Visual Aids for denoting restricted use of areas, Visual Aids for Navigations- (Indicators and Signaling Devices, Markings, Lightings, Signs, Markers), Electrical Systems, Aerodrome Maintenance, Air Traffic Management ,Introduction to Air Traffic Services ,ATS Airspace Classes – Services provided to flight , Rules of the Air – General.		12
3	**ICAO Annexure 14: (Aerodrome Operational Services, Equipment and Installations):** Aerodrome Emergency Plan, Airport Rescue and Fire Fighting, Disabled Aircraft Removal, Apron Management Services, Ground Servicing of Aircraft, Aerodrome Vehicle Operations, Surface Movement Guidance and Control System (SMGCS), Siting of Equipment and Installations on Operational Areas, Fencing and Security Lighting, Autonomous Runway Incursion Warning System.		12
4	**ICAO Annexure 14: (CNS):** Navigational Aids, Non- Directional Beacon (NDB), Progressive establishment of Air Traffic Services, Very High frequency Omni – Range (VOR), Distance Measuring Equipment (DME), Instrument Landing System (ILS),Radar.		9
5	**Annexure 14: (Others):** Aviation Metrological Messages and their codes, Aerodrome Maintenance, Types of Pavements and Joints, Rubber Removal and Friction Testing.		6
	Total		**42**

Text & References:

1. ICAO Website (www.icao.int)
2. Air Transportation System, Dieter Schmitt, Volker Gollnick, Spring Nature Singapore PTE Ltd.

Subject/ course Code:		Subject/ course : Airport Service Quality (ASQ) Management.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The objectives of the Airport Service Quality (ASQ) Management subject/ course for students encompass a comprehensive understanding of the principles and practices that enhance passenger experience at airports. This subject/ course aims to equip students with the necessary skills to assess and improve service quality, ensuring that airports meet the evolving expectations of travelers.	
Unit	**Content**	**Contact Hours**
1	**Purpose and Dimensions of Service Quality.**	3
2	**General Steps to Benchmarking.**	3
3	**Airport Terminal Operations and Management:** Types of Terminals, Passenger Handling and Departure Passenger Baggage Screening, Arriving Passenger and Baggage Claim, Travel Documents and Immigration, Facilitation and Handling of Passenger with Reduced Mobility (PRM), Technologies in Terminal Operations, Passenger Grievances Handling System, Airport Terminal Facilities Management and Ergonomics.	9
4	**ACI- ASQ Program:** Best practices methodology, Reporting, Departures Survey, ASQ Arrivals Survey, ASQ Commercial Survey, Main, Regular and Unique: Three core products of the ASQ Departures, Arrivals and Commercial Surveys, Additional optional services, Deep dive in your customer understanding, ASQ Quality control and quality assurance.	9
5	**ASQ Program of Airports Authority of India:** Service Parameters (33 Nos. Analysis) and Methodology and Analysis of latest Quarterly survey of Major airports.	6
6	**IATA Airport service quality frameworks:** Introduction, Objectives, key features of Airport Service Quality framework, Airport Processing Facilities, Asset Availability – Passenger Sensitive Equipment (PSE), Asset Availability – Other, Airfield and Related Elements, Passenger Terminal Facilities, Passenger experience elements, Service Quality Frameworks as part of Economic Oversight or Concession Agreements, Supporting Documentation.	12
	Total	**42**

Text & References :

1. ACI Website (www.aci.org)
2. AAI Website (www.aai.aero)
3. IATA Website (www.iata.org)

B. Airline Segment:

Subject/ course Code:		**Subject/ course: Airline operations and scheduling.**	
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The goals of the Airline Operations and Scheduling Programme for students encompass a comprehensive understanding of the complexities involved in managing airline services. This includes the development of skills necessary for effective planning, coordination, and execution of flight schedules, as well as an appreciation for the regulatory and economic factors that influence airline operations.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Airline Ground Operations:** Overview of ground operations specific to the terminal building, Role and importance of ground operations in ensuring smooth passenger flow.		3
2	**Terminal Layout and Design:** Principles of designing a terminal for optimal ground operations, Efficient layout for passenger check-in, security screening, and boarding areas.		6
3	**Terminal Layout and Design:** Principles of designing a terminal for optimal ground operations, Efficient layout for passenger check-in, security screening, and boarding areas.		6
4	**Baggage Handling Systems:** Baggage drop-off points and procedures, Automated baggage handling systems for efficiency and security.		3
5	**Security Protocols:** Security measures at the terminal entrance and throughout, Passenger and baggage screening processes. Annexure- 14- ICAO: Preventive Security measures & Management of response to unlawful interference.		3
6	**Boarding Procedures:** Boarding gate management and procedures, Boarding pass verification and passenger announcements.		3
7	**Passenger Flow Management:** Strategies for managing passenger flow within the terminal, Crowd control measures during peak hours or events.		3
8	**Special Assistance Programs:** Services and facilities for passengers with special needs, Coordination with airlines for passenger assistance programs.		3
9	**Retail and Commercial Operations:** Management of retail spaces within the terminal, Commercial partnerships for revenue generation, Integration of duty-free shops and other services.		3
10	**Technology Integration:** Automated passport control and biometric technologies, Digital signage for real-time information and wayfinding, Mobile applications for passenger services and updates.		3
11	**Technology Integration:** Automated passport control and biometric technologies, Digital signage for real-time information and wayfinding, Mobile applications for passenger services and updates.		3
12	**Passenger Experience Enhancement:** Waiting area amenities and passenger comfort, Art and aesthetics for a positive passenger experience, Integration of technology for entertainment and information.		3
	Total		**42**

Text & References:

1. The Airline Business, Rigas Doganis, Routledge Taylors & Francis Group, London.
2. Designing Future Oriented Airline Business, Nawal K. Taneja, Ashagate Publication Company, USA.

Subject/ course Code:		Subject/ course: Cabin Crew Resource Management.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The objectives of the Cabin Crew Resource Management Programme for students focus on enhancing teamwork, communication, and decision-making skills within the aviation environment. This subject/ course aims to equip students with the necessary tools to effectively manage resources and collaborate efficiently in high-pressure situations.	
Unit	**Content**	**Contact Hours**
1	**CRM GENERAL:** 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.	6
2	**CRM SKILLS:** Communication Processes and Decision-Making, Communication and Decision-Making, Assertiveness, Team Building and Leadership, Workload Management and Situational Awareness , Workload Management , Stress Management .	6
3	**CRM Training Elements:** **General Principles:** Human factors in aviation, General instructions on CRM principles and objectives;, Human performance and limitations;, Threat and error management. **Relevant to the individual flight crew member**: Personality awareness, human error and reliability, attitudes and behaviours, self- assessment and self- critique; Stress and stress management; Fatigue and vigilance; Assertiveness, situation awareness, information acquisition and processing. **Relevant to the flight crew:** Automation and philosophy on the use of automation, Specific type-related differences, Monitoring and intervention. **Relevant to the entire aircraft crew:** Shared situation awareness, shared information acquisition. and processing; Workload management; Effective communication and coordination inside and outside the flight crew compartment; Leadership, cooperation, synergy, delegation, decision-making, actions; Resilience development; Surprise and startle effect; Cultural differences.	12
4	**THE AIRCRAFT CABIN:** Safety issues in capital, cabin crew communication – service, teamwork and flight safety, flight attendants-job performances and job satisfaction.	6
5	**SELECTION AND TRAINING:** Job requirements of Airline Pilots, Pilot selection process, Personality test for traffic controllers, training of pilots and crew members.	6
6	**FATIGUE AND STRESS:** Fatigue in air activity, Stress management – the physiological factor.	6
	Total	**42**

Text & References:

1. Aviation management by Brent J. Hayward
2. Airport Management C.Daniel Prather
3. Brain Mc Allister, Crew Resource Management ,Air life
4. Frank H Hawkins, Human Factors in Flight Ashgate

Subject/ course Code:		**Subject/ course: Aircraft Maintenance Management.**	
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The objectives of the Aircraft Maintenance Management Programme for students encompass a comprehensive understanding of the principles and practices essential for effective aircraft maintenance. This includes the development of skills necessary for managing maintenance operations, ensuring compliance with regulatory standards, and optimizing resource allocation.		
Unit	**Content**		**Contact Hours**
1	**Why We Have to Do Maintenance :** Introduction, The Role of the Engineer, The Role of the Mechanic, Two Types of, Maintenance, Reliability, Redesign, Failure Rate Patterns, Other Maintenance Considerations, Establishing a Maintenance Program.		6
2	**Definitions, Goals and Objectives:** Definitions of Important Terms, Maintenance, Inherent Reliability, Mechanics, Technicians, Engineers, , World pairs used in aviation, Goals and Objectives of Maintenance, Maintenance program continent, Discussion on Five Objectives.		6
3	**Aircraft Maintenance Management:** Introduction, Aircraft Maintenance Management Structure, The Role of Management in Aviation, Manager of Aircraft Maintenance, Front Line Supervisor/Management, Management Areas of Concern in an Airline.		6
4	**Line Maintenance (on-Aircraft) :** Introduction, Functions that Control Maintenance, Maintenance Control Center Responsibilities, Line Maintenance Operation—General, Terminal Operations, Other Line Maintenance Activities, Line Station Activities, Maintenance Crew Skill Requirements.		6
5	**Maintenance Safety :** Industrial Safety, Safety Regulations, Maintenance Safety Program, General Responsibilities for Safety, General Safety Rules, Accident and Injury Reporting.		6
6	**Documentation for Maintenance :** Introduction, Manufacturer's Documentation, Regulatory Documentation, Airline-Generated Documentation, ATA Document Standards.		6
7	**Aviation Industry Certification Requirements:** Introduction, Aircraft Certification, Delivery Certification, Operator Certification, Certification of personnel, Aviation Maintenance Certification, Aviation Industry Inspections.		3
8	**Requirement for a Maintenance Program:** Introduction, Requirement Program Outline (AC 120-16 E) .		3
		Total	**42**

Text & References :

1. Aviation Maintenance Management, Latest Edition Copyright / Pub. Date: 2013 McGraw-Hill Education ISBN: 9780071805025 Harry A. Kinnison, Ph.D Tariq "Terry" Siddiqui
2. McGraw-Hill Education: New York, Chicago, San Francisco, Athens, London, Madrid, Mexico City, Milan, New Delhi, Singapore, Sydney, Toronto

Subject/ course Code:	Elective/Airline/4	Subject/ course: Airlines Terminal Operations.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The objectives of the Airlines Terminal Operations Programme for students encompass a comprehensive understanding of the various functions and processes involved in airport terminal management. This includes the study of passenger flow, baggage handling, and the coordination of services to ensure efficient operations within the terminal environment.	
Unit	**Content**	**Contact Hours**
1	**Overview of Airline Ground Operations Airside:** Definition and significance of airside operations, Key components of ground handling on the airside.	4
2	**Airport Layout and Infrastructure:** Understanding the layout of the airside area, Infrastructure requirements for efficient ground operations, Role of runways, taxiways, aprons, and gates.	4
3	**Aircraft Parking and Gate Assignment:** Gate assignment procedures, Parking considerations based on aircraft type, Optimization of gate utilization.	4
4	**Baggage Handling & PBB Systems:** Functionality of baggage handling systems, Baggage sorting and tracking technologies, Handling special items and irregular baggage. Passenger Boarding Systems.	4
5	**Fueling Operations:** Fuel Hydrant System , Fueling procedures and safety measures, Coordination between fueling personnel and flight crew, Fueling equipment and technologies.	4
6	**Aircraft Cleaning and De-icing:** Importance of aircraft cleanliness, De-icing procedures in cold weather conditions, Environmental considerations in cleaning and de-icing.	4
7	**Catering Services:** In-flight catering coordination, Loading and unloading of catering supplies, Compliance with safety and hygiene standards.	3
8	**Aircraft Maintenance Procedures :**Routine maintenance tasks on the airside, Aircraft inspections and checks, Maintenance coordination with engineering teams.	3
9	**Marshalling and Guiding Aircraft:** Aircraft marshalling signals, Role of marshalling personnel, Aircraft parking and departure guidance.	3
10	**Passenger Boarding and Disembarkation:** Boarding bridge operations, Stairs and ramps for boarding and disembarkation, Special assistance for passengers with reduced mobility.	3
11	**Airside Equipment and Vehicles:** Ground support equipment (GSE) used on the airside, Vehicle operations and safety, Maintenance and inspection of airside equipment.	3
12	**Safety and Security Protocols:** Airside safety regulations and guidelines, Security measures for ground operations, Emergency response planning.	3
	Total	**42**

Text & References:

1. Airline Management , Business Management in Transport 3, W.S. Barry, Routledge Taylors & Francis Group, London.
2. Airline Operations and Management, Geraled N. Cook and Bruce G. Billig., Rouledge Taylors & Francis Group, London.

Subject/ course Code:		Subject/ course: Airline Sales & Distribution.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The objectives of the Airline Sales and Distribution Programme for students encompass a comprehensive understanding of the airline industry's sales strategies and distribution channels. This includes an exploration of the various methods used to market airline services, as well as the technological advancements that facilitate ticket sales and customer engagement.	
Unit	**Content**	**Contact Hours**
1	**Introduction to Airline Sales & Distribution:** Overview of the sales and distribution functions within the airline industry, Understanding the importance of effective sales strategies for airlines.	4
2	**Airline Ticketing and Reservation Systems:** Overview of ticketing processes and reservation systems, Role of global distribution systems (GDS) in facilitating reservations.	4
3	**E-commerce in Airline Sales:** Impact of e-commerce on airline sales and distribution, Online booking systems, mobile applications, and website optimization.	4
4	**Sales Channels and Partnerships:** Utilizing various sales channels, including online platforms, travel agencies, and corporate partnerships, Strategies for building and maintaining effective partnerships.	4
5	**Pricing and Revenue Management:** Pricing strategies for airline tickets and ancillary services, Revenue management techniques to optimize yield and load factors.	4
6	**Direct vs. Indirect Sales:** Balancing direct sales through the airline's website and indirect sales through travel agencies, Advantages and challenges of each distribution channel.	4
7	**Corporate Sales and Business Travel:** Strategies for targeting and serving corporate clients, Understanding the unique needs of business travellers.	4
8	**Market Segmentation and Targeting:** Identifying and targeting specific customer segments. Tailoring sales and marketing strategies based on demographic and behavioural factors.	4
9	**Social Media and Marketing in Aviation:** Leveraging social media platforms for marketing and sales. Building brand presence and engaging with customers on social media.	5
10	**Market Analysis and Trends:** Analyzing market trends, demand patterns, and competitor strategies, Adapting sales approaches based on industry dynamics.	5
	Total	**42**

Text & References:

1. Airline Management , Business Management in Transport 3, W.S. Barry, Routledge Taylors & Francis Group, London.
2. Airline Operations and Management, Geraled N. Cook and Bruce G. Billig., Rouledge Taylors & Francis Group, London.

C. Logistic Segment:

Subject/ course Code:		**Subject/ course: International Cargo Documentations, Manual & Regulations.**	
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The goals of the International Cargo Documentation, Manual, and Regulations Programme for students are to provide a comprehensive understanding of the essential documentation required for international shipping. This includes familiarization with various regulatory frameworks and compliance standards that govern the movement of goods across borders.		
Unit	**Content**		**Contact Hours**
1	**Air Cargo Industry Key Manuals & Regulations:** Key differences between Manuals & Regulations and Key Regulations affecting Air Cargo- Environmental, Safety & Security, Traffic Rights .		7
2	**Air Cargo Industry Manuals:** Manuals Governing Operations, Customer Services & Guidelines for Shipping of Specific types of Cargo, IATA- Cargo Handling Manual, Airport Handling Manual, Cargo Claims Prevention Handbook, Lithium Batteries Shipping Guidelines, Infectious Substances Shipping Guidelines.		6
3	**Manuals Governing Distribution:** Manuals Governing Distribution, Cargo Standards & Databases Cargo Agency Conference Resolution Manual, Cargo Country Statistics, Cargo Services Conference Resolution Manual, Cargo Link- Directory of Cargo Professionals, Manuals Governing Cargo Rules & Pricing.		7
4	**Air Cargo Industry Regulations**: Regulations Governing Air Cargo ,IATA- Dangerous Goods Regulations, Live Animal Regulations, ULD (Unit Load Device) Regulations Perishable Cargo Regulations, Temperature Control Regulations, ICAO Annexes.		**7**
5	**The Air Cargo Tariff (TACT)- Key Concepts :** Industry, country and carrier rules, Acceptance of goods and Air Waybill completion, Charges on import, transit and export, Airport and storage facilities, handling equipment, Airline, city and airport codes, AWB prefixes .		**7**
6	**Air cargo Rates & Charges:** Rates & surcharges, Industry and carrier specific rates, Industry, country and carrier specific charges for charges collect, class rates and dangerous goods, Calculation of charges and cargo Claims-Customs & security.		**7**
	Total		**42**

Text & Reference Books :

1. IATA- Cargo Handling Manual (Latest Editionto be used)
2. IATA- The Air Cargo Tariff (TACT) (Latest Edition to be used)
3. IATA- Dangerous Goods Regulations (Latest Edition to be used)
4. IATA- Live Animals Regulations (Latest Edition to be used)
5. IATA- Perishable Cargo Regulations (Latest Edition to be used)
6. IATA- Perishable Cargo Shipping Guidelines (Latest Edition to be used)
7. IATA- Infectious Substances Shipping Guidelines (Latest Edition to be used)
8. IATA- Lithium-battery-shipping-guidelines(Latest Edition to be used)
9. IATA- ULD (Unit Load Device) Regulations (Latest Edition to be used)
10. IATA-Temperature-control-regulations(Latest Edition to be used)
11. ICAO Annexes Booklet (https://www.icao.int/safety/airnavigation/NationalityMarks/annexes_booklet_en.pdf)

Subject/ course Code:		**Subject/ course: Freighters and charters.**	
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The goals of freighters and charters for students focus on enhancing educational experiences through practical engagement. These initiatives aim to provide students with opportunities to explore logistics, transportation, and supply chain management in a real-world context.		
Unit	**Content**		**Contact Hours**
1	**Air Cargo- Aircraft Types:** Passenger, Cargo(Freighters), Combi Aircraft, Nature of Business & Permits for Operation of Freighters & Charters, Types of Lease/Ownership- Concept of Dry Lease & Wet Lease.		6
2	**Ground Support Equipment (GSE) :** Overview of Ground Service Equipment used in Aircraft Operations & Turnaround.		3
3	**Loading Principles and Load Control :** Weight and Volume considerations, Usage of Spreaders, Cargo needing special attention and Restrictions in Air Cargo Acceptance, Load Control ,Objectives of Load Control ,Key Terminologies in Load Control Process ,Loading Priorities ,Special Load Remarks, Load & Trim sheet- General, Submission, Last Minute Changes, Regulatory Filing requirements.		6
4	**EXIM:** Introduction to EXIM, Freight forwarding and custom clearance – types of custom clearances, Importance of custom clearance – certificate of origin, ICEGATE and insurance – custom Act – Regulations pertaining to custom clearance – different modes of freight forwarding — process of freight forwarding.		6
5	**Operation Procedures of Freight Forwarding**: The procedures for Pre-Operating Checks and Operational checks to be performed for every shipment /consignment.		3
6	**List of basic handling of errors and the Operational errors that occur in common**: Procedure for checking of shipping bill, Airway bill based on invoice and packing list received from department for Freight Forwarding. Regulations (EXIM/IATA/Countries)/COM based on permutations and combinations of weight vs volume.		6
7	**Handling of Cargo:** Cargo handling, INCO terms and terminologies used in Cargoes - Different Types of Cargoes for transportation– Importer and exporter Code (IEC), The registered PAN based Business Identification Number received from the Directorate General of Foreign Trade - Packaging requirement for the cargo during shipment from the shipper, Inspection procedure for the cargo while unloading - DO's and DON'T's while handling different cargo.		6
8	**Documentation of Freight Forwarding process as per customer timelines and requirements**: Carting, unloading, Stacking, Loading; and Stuffing - Procedure for dealing with loss or damage to goods - Different P.G.A and their roles. -Containers; Pallets; Palletization; Fumigation - Letters of Credit and payment Terms. Etc. - computer and its application in internal systems of documentation.		6
	Total		**42**

Text & Reference Books:

1. Air Cargo Management- Air Freight and The Global Supply Chain- Michael Sales- Routledge (2016)

2. Air Cargo and Logistics - Classics and Contemporary practice by Rico Merket and Jackie Walters- Academic Publishers (01 June, 2019)

3. Moving Boxes by Air - The Economics of International Air Cargo by Peter S. Morrell and Thomas Klein - Routledge; 2 edition (19 October 2018)

Subject/ course Code:		**Subject/ course: Air cargo agreements and alliance.**
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The goals of air cargo agreements and alliances for students focus on enhancing their understanding of the logistics and transportation sectors. These agreements aim to provide students with practical insights into the operational frameworks and strategic partnerships that drive the air cargo industry.	
Unit	**Content**	**Contact Hours**
1	**Strategic Alliances:** Meaning, Importance, selection of strategic air cargo alliance by airlines, **SkyTeam** Cargo or WOW Alliance.	7
2	**Agreements :** Definition of an Agreement, Types of Agreements- Bilateral, Multilateral, Interline .	7
3	Key ideas and partnerships to realize the full potential of the air freight industry emerged at the 10th edition of air cargo India.	7
4	**Security & Safety :** a. Definition of Security & Safety b. Difference between Security & Safety .	7
5	**Competition:** a. Global Anti-trust Laws And Provisions b. Competition Commission of India- Role, Key Officials & Responsibilities c. The Competition Act, 2002 .	7
6	Concept of CAPA (Corrective and Preventive Action), Penalties for Non-compliance, Record keeping.	7
7	Case Study of GCA Global Cargo Alliance Company.	7
	Total	**42**

Text & Reference Books:

1. Integrated Carriers, Threat or Opportunity to Conventional Air Cargo Airlines by Kai-Chi Lau-Open Dissertation Press (26 January 2017)

2. Wow and SkyTeam Cargo: An In-Depth Analysis of Strategic Alliances for Air Cargo Carriers and the Impact on Cargo Airlines' Operations and SU- Florian Smeritschnig- Anchor Academic Publishing (August 1, 2013)

3. Competition Act, 2002- Dr V.K. Agarwal-Bharat Law House, Delhi; 2019 edition

Subject/ course Code:		Subject/ course: Air Cargo Planning, Design and Control.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The goals of Air Cargo Planning, Design, and Control for students encompass a comprehensive understanding of the logistics and operational frameworks that govern air freight transportation. Students are expected to grasp the intricacies of cargo management, including the optimization of routes, capacity planning, and the integration of technology in air cargo operations.	
Unit	**Content**	**Contact Hours**
1	**Air Cargo Facility Analysis:** Capacity Impact, Infrastructure strategy, Total Land area requirement, Functional area requirement, Cargo operator type, Air Cargo Building, Aircraft Parking Position, Landside Effectiveness, Operational considerations, Layout planning issues.	12
2	Genesis and evolution of Cargo Terminal.	
3	Concept of Single handling Agency	3
4	Role of Cargo Terminal Operator, Role of Facilitating / Handling Agencies, Role of Aircraft Operator.	3
5	Loading Procedure: Narrow and Wide Body Aircraft.	3
6	Export and Import: Cargo Handling Procedure and Documentation.	6
7	Warehouse Management.	3
8	Handling of Special Cargo, Disposal of Unclaimed and Uncleared Cargo.	6
9	Freighter and Charters Controls : (i) Types of Cargo Aircraft, Pallets and Containers (ii) Ground Support Equipments : Cargo (iii) Weight and Balance (iv) Handling and Reporting of Incidents/Accidents: Cargo (v) Load Control and terminologies.	6
	Total	**42**

References and Text Books:

1. Integrated Carriers, Threat or Opportunity to Conventional Air Cargo Airlines by Kai-Chi Lau-Open Dissertation Press (26 January 2017)

2. Wow and SkyTeam Cargo: An In-Depth Analysis of Strategic Alliances for Air Cargo Carriers and the Impact on Cargo Airlines' Operations and SU- Florian Smeritschnig- Anchor Academic Publishing (August 1, 2013)

3. ACI Website (www.airportscouncil.org)

Subject/ course Code:		Subject/ course: Dangerous Goods Regulations.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The objectives of Dangerous Goods Regulations for students encompass the promotion safety and awareness regarding the handling, storage, and transportation of hazardo materials. These regulations aim to equip students with the necessary knowledge to identi dangerous goods and understand the associated risks, thereby fostering a culture of safety various environments.	
Unit	**Content**	**Contact Hours**
1	**Introduction to Dangerous Goods in Aviation:** Definition and classification of dangerous goods, Historical incidents and the need for regulations.	3
2	**International Regulatory Framework:** Overview of international organizations governing dangerous goods in aviation (ICAO, IATA), Role of national aviation authorities in enforcing regulations.	3
3	**IATA Dangerous Goods Regulations (DGR):** Comprehensive study of the IATA DGR manual. Application of IATA DGR in air transportation.	3
4	**Classification and Identification of Dangerous Goods:** Criteria for classifying substances as dangerous goods, Proper identification and labeling of dangerous goods.	4
5	**Packaging and Marking Requirements:** Packaging specifications for different classes of dangerous goods, Marking and labeling requirements on packages.	4
6	**Documentation and Handling Procedures:** Preparation of Shipper's Declaration for Dangerous Goods, Procedures for handling, loading, and unloading dangerous goods.	4
7	**Notifiable Dangerous Goods:** Identification of goods that require special notification, Reporting procedures for incidents involving dangerous goods.	4
8	**Security Considerations for Dangerous Goods:** Security measures to prevent the unauthorized access to or tampering with dangerous goods, Coordination between security and dangerous goods handling.	3
9	**Emergency Response Planning:** Developing and implementing emergency response plans for incidents involving dangerous goods, Cooperation with local emergency services.	3
10	**Airline and Airport Responsibilities:** Responsibilities of airlines and airports in handling dangerous goods, Coordination between different stakeholders in the supply chain.	4
11	**Training and Certification:** Training requirements for personnel involved in the transportation of dangerous goods, Certification programs and recurrent training.	3
12	**Technological Innovations in Dangerous Goods Handling:** Use of technology for tracking and monitoring dangerous goods shipments, Implementing digital solutions for compliance and efficiency.	4
	Total	**42**

References and Text Books:

1. ICAO- Website (https://www.icao.int)
2. IATA – Website (www.iata.org)
3. ACI- Website (www.aci.aero)

Subject/ course Code:		**Programme Title: Fleet Planning and Management**	
Contact Hrs.	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	To equip students with the essential knowledge and skills in fleet planning and management, enabling them to analyze and optimize fleet operations, make data-driven decisions for resource allocation, and implement strategies that enhance operational efficiency and cost-effectiveness within the aviation sector.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Fleet Planning:** Overview of fleet planning concepts, importance in aviation, and the role of fleet management in operational efficiency. **Case Study**: Analysis of a successful fleet planning strategy of a major airline. **Discussion**: Impact of global events on fleet strategies.		6
2	**Aircraft Selection and Acquisition:** Factors influencing aircraft selection, including performance, capacity, and cost considerations. Exploring various acquisition strategies (purchase vs. lease). **Practical Workshop**: Evaluating different aircraft models based on operational requirements. **Guest Lecture**: Industry expert discussing the selection process in practice.		6
3	**Fleet Optimization Techniques:** Techniques for optimizing fleet utilization, including scheduling, route planning, and load factor analysis. **Case Study**: Analysis of fleet optimization in a leading airline. **Guest Lecture**: Expert on fleet optimization strategies.		6
4	**Maintenance Management:** Understanding maintenance strategies and their impact on fleet availability and operational efficiency. Discussing regulatory requirements and safety considerations. **Case Study**: Examination of maintenance practices in a leading airline, including diversity in maintenance teams.		6
5	**Cost Management and Financial Analysis:** Exploring cost structures in fleet management, including direct and indirect costs. Introduction to financial analysis techniques for fleet investment decisions. **Practical Exercise**: Conducting a cost-benefit analysis for fleet expansion, with a focus on sustainability initiatives.		6
6	**Sustainability in Fleet Management:** Examining sustainability initiatives in fleet management, including fuel efficiency, emissions reduction, and alternative fuels. Discussion on diversity and inclusion in fleet management practices. **Group Project**: Developing a sustainability plan for an airline's fleet.		6
7	**Future Trends in Fleet Management:** Discussion on emerging trends in fleet management, including technology advancements (e.g., predictive maintenance, fleet management software) and the impact of globalization. **Final Project Presentations**: Strategic recommendations for fleet management addressing future challenges and opportunities, incorporating diverse perspectives and technology trends.		6
	Total		**42**

Textbooks:

"Airline Operations and Management: A Management Textbook" by Paul Steele, Routledge, 2019.

"Fleet Management: A Comprehensive Guide to Fleet Operations" by David A. C. T. H. Hu, Business Expert Press, 2020.

Reference Books:

"Aircraft Maintenance and Repair" by Michael Kroes and William Tibbs, McGraw-Hill Education, 2016.

"Aviation Management: A Strategic Management Approach" by Michael C. Thomsen, Palgrave Macmillan, 2019.

Software and Tools:

Fleet Management Software: Tools for optimizing fleet operations and management (e.g., FLTPlan,

Aviation InterTec).
Microsoft Excel: For data analysis and financial modeling.
Maintenance Management Systems (MMS): For managing maintenance schedules and compliance.

D. Aviation Safety, Security & Legal Segment.

Subject/ course Code:		**Subject/ course: Aviation Law (Aviation Legal Environment)**	
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**		
Objectives	The objectives of Aviation Law, within the context of the Aviation Legal Environment, are essential for students to understand the regulatory framework governing the aviation industry. This field encompasses various legal principles that ensure safety, security, and efficiency in air travel, while also addressing issues such as liability, environmental impact, and international treaties.		
Unit	**Content**		**Contact Hours**
1	**Introduction to Aviation Law:** Understanding the legal framework governing the aviation industry, Historical development and evolution of aviation law.		3
2	**International Civil Aviation Organization (ICAO):** Role and functions of ICAO in establishing global aviation standards. Airworthiness and safety regulations set by ICAO.		3
3	**Directorate General of Civil Aviation (DGCA):** Role and functions of DGCA as the national aviation regulatory authority in India. DGCA's responsibilities in overseeing and enforcing aviation regulations.		3
4	**Indian Aircraft Act and Rules:** Overview of the Aircraft Act and related rules governing civil aviation in India, Legal requirements for aircraft registration, airworthiness, and operations.		6
5	**Civil Aviation Requirements (CARs):** Understanding the CARs issued by DGCA for various aspects of civil aviation, Compliance requirements for airlines, operators, and aviation stakeholders.		6
6	**Air Operator's Certificate (AOC):** Procedures and legal requirements for obtaining and maintaining an AOC, Regulatory standards for airline operations in India.		3
7	**Air Navigation Services:** Regulations governing air traffic management and navigation services in India, Coordination between regulatory authorities and air navigation service providers.		3
8	**Bilateral Air Services Agreements:** India's agreements with other countries on air services and routes, Compliance with bilateral agreements and international air law.		3
9	**Indian Aviation Security Regulations:** Legal framework for ensuring aviation security in India, Implementation of security measures at airports and during air travel.		3
10	**Consumer Protection Regulations:** Legal provisions for protecting the rights of air passengers in India, Grievance redressal mechanisms and obligations of airlines.		3
11	**Environmental Regulations:** Compliance with environmental laws and regulations in the Indian aviation sector, Sustainable aviation practices and initiatives.		3
12	**Indian Drone Regulations:** Legal requirements for the operation of drones in Indian airspace, Licensing and compliance obligations for drone operators.		3
	Total		**42**

References and Text Books:

Risk and Liablity in Air Laws, George Leloudes, Rouledge Taylors & Francis Group, London.
DGCA India, Website (www.dgca.gov.in)

Subject/ course Code:		Subject/ course: Aviation Insurance.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	Aviation insurance aims to provide students with a comprehensive understanding of the various risks associated with the aviation industry. It encompasses the principles of risk management, coverage options, and the legal implications of aviation operations. By studying aviation insurance, students can gain insights into how insurance policies are structured to protect both individuals and organizations involved in aviation activities.	
Unit	**Content**	**Contact Hours**
1	**Insurance:** Identifying and managing financial risks inherent in airline operations. The role of insurance in mitigating risks related to aircraft, liability, and business interruption.	3
2	**Aircraft Insurance Costs:** Analysis of factors such as aircraft type, age, and usage influencing insurance premiums. Exploration of regional and geopolitical factors affecting insurance rates.	3
3	**Coverage of Aviation Insurance Policies:** Aircraft Hull All Risks , Aircraft Liability , Aircraft Hull Deductible, Aircraft Spares All Risks, Aircraft Hull and Spares War Risks, Aviation Personal Accident, Loss of License Pilots Aircraft Hull All Risks, Aircraft Liability, Aircraft Hull Deductible , Aircraft Spares All Risks , Aircraft Hull and Spares War Risks , Aviation Personal Accident , Loss of License Pilots.	6
4	**ge of Aerospace Aviation Insurance Policies:** Airport Owners & Operators Liability, Aviation Fuelling Liability, Aviation Product Liability, Ground Handlers Liability, Aviation Caterers Liability, Manufacturers / Repairs Liability.	6
5	**Hull Insurance:** Explanation of hull insurance covering physical damage to aircraft. Factors influencing coverage, such as aircraft age, condition, and market value. Case studies illustrating the importance of hull insurance in safeguarding airline assets.	5
6	**Hull and Liability :**Aircraft assets, spare, Liability- Passengers, Crew, Third parties, Cargo, Mail and Baggage, Products.	3
7	**Data : Airline Key points for Risk Rating :** Fleet Schedule – aircraft type, Estimated Average Fleet Value (AFV), Passengers and departures, Maintenance provider, Maximum agreed aircraft value, Liability limits, Pilot experience / training, Geographical areas of operations and route, network, Claims history.	4
8	**Data :Aerospace Key points for Risk Rating :** Estimated annual aviation revenue, Description of parts manufactured or sold to allow insurers to assess criticality, Domicile of the Insured and sales split per territory, Limits of liability, Aircraft movements (Airports/Air Traffic Control) , Passengers (Airports and ground handlers) , Throughput (Refuellers/Refiners), Claims history.	4
		42

References and Text Books:

1. Aviation Insurance, Walter C. Crowdus, Journal of Air Laws and Commerce, Volum 2 , Issue 2.
2. Alexander T. Wells and Bruce D. Chadbourne, Introduction to Aviation Insurance and Risk Management, Kreiger Pub. 2007

Subject/ course Code:		Subject/ course: International Civil Aviation Conventions and Association & Bodies for cooperation.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The goals of International Civil Aviation Conventions and the associated organizations focus on fostering collaboration among nations in the field of aviation. These conventions aim to establish a framework for safe, efficient, and orderly air transport, ensuring that member states adhere to common standards and practices. They provide platforms for knowledge exchange, promote best practices, and support the development of future leaders in civil aviation through educational initiatives and networking opportunities.	
Unit	**Content**	**Contact Hours**
1	**The History of ICAO and the Chicago Convention:** ICAO and the United Nations, Civil Aviation Pre-ICAO, Selection of Montreal to host ICAO, Establishment of Regional Offices, Milestones in International Civil Aviation, Chicago Conference.	6
2	**ICAO Important Conventions:** Warsaw Convention (1929). Rules for international carriage by air, Transport Agreement. Five freedoms of the air, Convention on the Privileges and Immunities of the Specialized Agencies (1947), Geneva Convention (1948). Recognition of rights in aircraft, Rome Convention (1952). Damage to third parties on surface, The Hague Protocol (1955). Amending Warsaw Convention of 1929, Guadalajara Convention (1961). Supplementing Warsaw Convention of 1929, Tokyo Convention (1963). Offences and other acts committed on board aircraft, Paris Multilateral Agreement (1967). Tariffs for Scheduled Air Services, Hague Convention (1970). Unlawful seizure of aircraft, Guatemala City Protocol (1971). Amending Warsaw Convention of 1929 as amended by The Hague Protocol of 1955, Montreal Convention (1971). Unlawful acts against the safety of civil aviation, Montreal Convention (1999). Rules for International carriage by air, Cape Town Convention on Mobile Equipment (2001), General Risks Convention (2009), Beijing Convention (2010).	18
3	**The International Air Transport Association (IATA):** History of IATA, IATA Management, Strategic partnership Program of IATA, Programs & Policies of ITATA- Cargo, Passenger experience, Sustainability, Safety, Aviation Security. IATA Programs-Travel agency & Cargo agency, Programmes & Certifications by IATA in Aviation.	6
4	**Airports Council International (ACI):** Mission & Objectives of ACI, Programs & Services of ACI- ASQ, Airport Accreditation, Assessment, Environment, Airport Operations, Airport Training Programs of ACI.	6
5	**Other Associations & Bodies :** The Federation of Indian Airlines (FIA), Aerospace and Aviation Sector Skill Council (AASSC) **,** Aero Club of India, Aeronautical Society of India, Rotary Wing Society of India, CII Civil Aviation, FICCI Civil Aviation, Air Cargo Agents Association of India, Travel Agents Association of India.	6
	Total	**42**

References and Text Books:

ICAO- Website (https://www.icao.int)
IATA – Website (www.iata.org)
ACI- Website (www.aci.aero)

Subject/ course Code:		Subject/ course: Safety Management System (SMS).
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	The objectives of a Safety Management System (SMS) for students encompass the establishment of a structured approach to managing safety risks within educational environments. This system aims to promote a culture of safety awareness, ensuring that students are equipped with the knowledge and skills necessary to identify hazards and respond appropriately.	
Unit	**Content**	**Contact Hours**
1	**Safety Management Systems (SMS):** Principles and components of Safety Management Systems. Implementing SMS for proactive risk management and incident prevention, Fundamental of Safety Management System.	6
2	**ICAO Safety Management Requirements.**	4
3	**Safety Policies and Objectives.**	4
4	**Basic Safety Concepts.**	4
5	**SMS Regulatory Requirements.**	4
6	**Safety Accountabilities and Responsibilities.**	4
7	**l:** Understanding Hazards and Identification and Hazard Identification Methodologies.	4
8	**Safety Incident Reporting.**	4
9	**Safety Assurance, Safety Assessment Procedures, Safety Training, Promotion and Communication.**	6
10	**Breath Analyser (BA) Test and Safety Audits.**	2
	Total	**42**

References and Text Books:

1. Safey Management Handbook, Fist Edition, 2016, ACI World Safety and technical Committee , ACI World, Montréal, Canada.
2. ICAO Annexure 19-Safety Management.

Subject/ course Code:		Subject/ course: Quality Assurance Management in Aviation.
Contact Hours	**Lecture- 3 Tutorial-0 Practical-0 Credit-3**	
Objectives	Quality Assurance Management in Aviation aims to ensure that students understand the critical standards and practices necessary for maintaining safety and efficiency in the aviation industry. This includes familiarizing them with regulatory requirements, risk management strategies, and the importance of continuous improvement in operational processes.	
Unit	**Content**	**Contact Hours**
1	**Airport Service Quality:** Purpose of the Airport Service Quality, Dimensions of Service Quality, ACI Airport Quality Programme, Airport Quality Index.	4
2	**Quality Management System :** Need for quality assurance, General on State responsibilities, State safety oversight function.	5
3	**Concepts and Vocabulary:** Standards and ISO, Background to ISO 9000:2000 series, What is quality?, Quality control, Quality assurance, Quality improvement, QMS, Quantifying quality costs, Quality management principles, The ISO 9000 series of standards.	6
4	**natomy of the ISO 9001:2008 QMS :** Introduction, Structure of ISO 9001:2008, The process model, General requirements, Management responsibility, Administration, Resource management, Product development and realization, Design and/or development planning, Customer satisfaction.	6
5	**Documentation:** Structure of QMS documentation, General documentation requirements, Documentation, Documented procedures, Document master list, Quality manual. Quality manual, Control of documents, Document master copy, Document owner, Controlled and uncontrolled copies, Control of quality records.	6
6	**ng Processes: Audit** objectives, Audit types, Process auditing approach, Certification/ registration audit, Surveillance.	6
7	**nformance Reports and Corrective Action :** Meaning of certification and registration, Control of non-conforming product, Corrective action and error analysis, Error tracking process, Change procedures.	6
8	**o Certification and other Practical Issues:** Responsibility for initiating a QMS, QMS implementation project.	3
	Total	**42**

References and Text Books:

1. Manual on the Quality Management System for Aeronautical Information Service, ICAO.
2. Safety Management System for Aviation a Practical Guide, SMS-4, Safety Assurance, Civil Aviation Authority , Australia.