

FLIGHT SAFETY

DETAILED SYLLABUS

OBJECTIVES

To enable the importance of safety in Aviation field.

UNIT- I Introduction to Aviation, Flight and maintenance safety & Role of Air Safety, Flight Safety Maintenance safety organizations

- Introduction, meaning of aviation safety, flight safety and maintenance safety concepts.
- Purpose of aviation safety,
- Purpose of flight safety,
- Purpose of maintenance safety
- Various regulatory agencies/organizations set up at national & international levels to monitor various safety aspects.
- Regulatory agency in India
- DGCA set up for monitoring various safety aspects, inspections by DGCA.
- Role of flight safety and maintenance safety officer at airport and repair agency level

UNIT- II Quality control of ATF

- Purposes of quality control check on ATF
- Places where checks are to be conducted such as BPI, Bowser
- Common methods for ATF quality checks- brief description
- Contamination: types of contamination on ATF,
- hydraulic oil and greases

UNIT- III Preservation and de preservation Aircraft and Engine

- Aircraft and engine awaiting repairs or critical components, need for preservation of aircraft and engine, safety precautions to be taken.
- Need for proper care and documentations, log book entries
- Cannibalization of parts and sub/full assemblies from the aircraft awaiting repairs/components, improper documentations in log books/records, effects at later stages.
- De-preservation of new/ preserved engines, checks to be performed

UNIT- IV Aircraft Tires and operational safety

- Aircraft tires- normal types ,special types
- General care to be taken for tires- on storage, parking out in open/ in sun light
- Effect of under pressure and over pressures in tires- in small, medium and big aircrafts, in fighter planes on braking, during take off, during landings
- Effect of condition of landing field/surface on aircraft tires
- Hydroplaning of aircraft- reasons/methods of preventions , effect on aircraft and flight safety

UNIT- V Accidents-Important Case studies

- Basic need for training flying crew/maintenance crew on reasons findings and recommendation by agencies conducting investigations and cost of repeating same errors.
- Some important case study of structural failures, pilot errors, maintenance errors
- Wikipedia -national geographic accident case files/ video clips from the web site, lessons to be learnt by the students

UNIT- VI Environmental Issues

- Environmental problems of having airport close to city/urban areas
- Noise Pollution, effect on human beings in the vicinity of airport- short term ,long term effects, effect on hearing, sleeping,
- Effect of garbage, waste food , meat cutting shops near airport on aircraft flying and flight safety.
- Methods to reduce bird strikes on aircrafts during take off, landing

REFERENCES

Flights to disaster Andrew J Brookes Shepperton, Surrey : Ian Allan, ©1996