

AIRPORT PLANNING (Elective-I)

Course Code: 13CE2107

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Course Outcomes:

At the end of the course, the student will be able to:

CO1 : Describe the different components of airport and aircrafts.

CO2 : Analyse the requirements of an airport layout with respect to international regulations.

CO3 : Explain the airport runway design.

CO4 : Design Taxiways & Aprons.

CO5 : Summarise the concepts of the terminal service facilities.

UNIT-I

AIR TRANSPORTATION: Airport terminology, component parts of Aeroplane, Classification and size of airports; Aircraft characteristics. Air traffic control need for ATC, Air traffic control network, Air traffic control aids –enroute aids, landing aids.

Airport site location and necessary surveys for site section, airport obstructions.

UNIT-II

PLANNING: Airport master plan – FAA recommendations, Regional Planning, ICAO recommendations, Estimation of future air port traffic needs- layout of Air Port.

UNIT-III

RUNWAYS: Runway orientation, basic runway length, corrections for elevation, temperature and gradient, runway geometric design.

UNIT-IV

TAXIWAYS AND APRONS: Loading aprons – holding aprons – Geometric design standards, exit taxiways – optional location, design, and fillet and separation clearance.

UNIT-V

TERMINAL SERVICE FACILITIES: Passenger, baggage and cargo handling systems; Lighting, visual airport marking, air port lighting aids, airport drainage.

OPERATIONS AND SCHEDULING: Ground transportation facilities; Airport capacity, runway capacity and delays.

TEXT BOOKS

1. Khanna S.K., Arora M.G., Jain S.S., “*Airport Planning & Design*”, 1st Edition, Nemchand Bros. Roorkee, 2009.
2. Robert Horonjeff, Francis McKelvey, William Sproule and Seth Young, “*Planning and Design of Airports*” 5th Edition, 2010.

REFERENCES

1. Heronjeff, R, Mc Kelvey, F.X, “*Planning & Design of Airports*”, 2nd Edition, Mc Graw Hill Book Co, 1994.
2. Norman J. Ashford, Saleh Mumayiz and Paul H. Wright, “*Planning, Design and Development of 21st Century Airports*”, 4th Edition, John Wiley & Sons, 2011.
3. Subramian K.P., “*Highway, Railway, Airport and Harbour Engineering*”, 1st Edition, Scitech Publications Private Limited, 2013.
4. Alexander T.Wells, Ed.D & Seth, B. Young, “*Airport Planning and Management*”, 5th Edition, 2008.
