7CE158 Airport Planning and Design

L-T-P: 3-0-0 Credits: 3

Objective: To introduce the elements related to airport planning and design. The subject knowledge of airport configurations, geometric design, design of terminal area, structural design of airfield pavements, airport lighting and markings and air traffic control.

Theory: 1. Aircraft characteristics related to airport design; Airport configuration - Runway configurations, Relation of terminal area to runways, Runway orientation, Wind rose diagram 9 Lectures

2. Geometric design of the airfield : ICAO and FAA design standards, Runways, Taxiways, Holding aprons and aprons 9 Lectures

3. Planning and design of the terminal area : Apron-gate system, Size and number of gates, Aircraft parking configurations, Passenger terminal system 8 Lectures

4. Structural design of airfield pavements 6 Lectures 5. Airport lighting and marking 4 Lectures 6. Air traffic control; Airport planning and air travel demand forecasting 6 Lectures

Scheme of Examination: Class test I/Assignment : 5Marks Class test II/Assignment : 5Marks Mid Semester Examination : 20Marks End Semester Examination : 70 Marks Text Books: 1. Khanna and Arora, Airport planning and design, Dhanpat Rai & Sons, New Delhi 2. Rangwala S.C., Airport Engineering, Charotar publishing house, Anand Reference Books: 1. Rao, G.V, Airport Planning and Design, TMH 2. Horonjeff .R and Francis X. McKelvey, Mc Grow Hill, New York 3. Saxena S. C., Airport Engineering(Planning and Design), CBS Publications & Distributors, New Delhi

Expected Outcome: The students should be able to plan and design the airports.