SARVAJANIK UNIVERSITY
Sarvajanik College of Engineering and Technology
Bachelor of Technology
Civil Engineering

B. Tech. – III Semester VI

Subject Name : Airport System Planning **Subject Code:** BTCL15601

Type of course: Open Elective - II

Prerequisite : -

Rationale : Understanding on airport systems planning and operation, basics of air route Planning and management.

Teaching and Examination Scheme:

TEACHING SCHEME				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	100
3	0	0	3	60	25	15	-	-	

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests **CA2:** Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems **TEE:** Term End Examination **TEP:** Term End Practical Exam (Performance and viva on practical skills learned in course) **CA3:** Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Topics	Teaching Hrs.	Module Weightage
1.	**Airport Planning:** Airport – Accessibility – Transport Connections –Network Expansion – Feasibility Studies – Environmental and Social Issues –Airport Site Selection	12	25%
2.	**Airport Components:** Types of Airport, Airport Classification, Planning of Airfield Components – Runway, Taxiway, Apron, Hanger, Passenger Terminals, Wind Rose Diagram	10	25%
3.	**National Aviation Vision and Misoon:** National aviation policy, Regional Connectivity and Safety, Route Dispersal Guidelines, Airport Performance- General requirement of international operation, Airports developed by State Governments, Private sector or in PPP mode	10	20%
4.	**Airport Socio-economic Development:** Conventional Approach, Economic impact, Financial feasibility, Cost-benefit, Impacts of Airports on Regional and Socioeconomic development, Access to Air transportation as location factors	13	30%

OE-II- Open Elective-II

Suggested Specification table with Marks (Theory):

% Distribution of Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
10	25	15	10	20	20

Legends: R: Remembrance, **U:** Understanding; **A:** Application, **N:** Analyze, **E:** Evaluate **C:** Create and above Levels **(Revised Bloom's Taxonomy)**

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Text Books:

Sr. No.	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication	Publication Edition
1	Planning and Design of Airports	Robert Honjeff and Francis X.Mckelvey	McGraw Hill, New York (ISBN: 9780071446419)	2010	5th
2	Airport Systems Planning and Design	Richard De Neufille and Amedeo Odoni	McGraw Hill, New York (ISBN: 978-0071770583)	2013	2nd
3	Airport Planning and Design	S.K.Khanna and M.G.Arora	Nem Chand and Bros (ISBN: 978-8185240688)	1999	1st
4	Airport Engineering Planning Design and Development of 21st Century Airports	Norman.J.Ashford, Sakleh.A Mumayiz and Paul.H.Wright	John Wiley and sons, New Jersey (ISBN: 978-0-470-39855-5)	2011	4th

Course Outcome:

Sr. No.	CO Statement After learning this subject, students will be able to	Marks % weightage
CO-1	Demonstrate airport systems planning and operation. *(R, U, N cognitive level)*	20%
CO-2	Explore the basics of air route planning. *(R, U, A, E cognitive level)*	20%
CO-3	Express the use of air traffic control and visual aids in the air traffic operation. *(R, U, A, E cognitive level)*	30%
CO-4	Identify the different airport components. *(R, U, A, N, E cognitive level)*	20%
CO-5	Recognise passenger choice, scheduling and fleet assignment. *(U, A, N, E cognitive level)*	10%

OE-II- Open Elective-II

Mapping with POs:

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO12	PSO 1	PSO 2	PSO 3
CO-1	2	2	2	2	1	1	-	3	3	2	2	3	1	1	3
CO-2	2	2	2	1	2	2	1	3	3	2	1	3	2	1	3
CO-3	2	2	2	2	2	2	1	2	2	2	2	3	1	2	3
CO-4	1	1	1	1	1	2	2	2	-	-	-	3	2	2	3
CO-5	1	1	1	1	2	2	2	3	3	3	1	3	2	2	3
Rationale *	**8**	**8**	**8**	**7**	**8**	**9**	**6**	**13**	**11**	**9**	**6**	**15**	**8**	**8**	**15**

Rationale*: The knowledge of the air-port system planning and air-traffic operation satisfying majority of programme outcomes and at the end of programme, the specific objectives are also satisfied.

List of Open Source/learning website:

- https://www.mwcog.org/transportation/planning-areas/airports/casp/
  - Continuous airport planning system
- https://www.faa.gov/airports
  - Airport Planning Process
- http://onlinepubs.trb.org/onlinepubs/millennium/00009.pdf
  - Aviation System Planning Addressing Airport Infrastructure Needs