J.J COLLEGE OF ENGINEERING AND TECHNOLOGY

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SOWDAMBIKAA GROUP OF INSTITUTIONS

ESTD. 1994

DEPARTMENT OF AERONAUTICAL ENGINEERING

AE3005–AIRPORT MANAGEMENT

QUESTION BANK

R-2021

INSTITUTE VISION & MISSION

VISION:

To become a globally recognized "Centre of Academic Excellence" providing Quality Education to all students.

MISSION:

To provide Quality Education in the fields of Engineering, Management, Information, Technology and other Engineering areas.

DEPARTMENT VISION & MISSION

VISION:

To prepare technically skilled and competent intellectual professional graduates to meet the challenges in the Aerospace industry

MISSION:

M1: To produce technologically competent graduates to be front-runner in their profession.

M2: To provide state-of-the-art facilities and laboratories so as to enhance excellence in teaching and learning process.

M3: To provide need-based quality training programmes in the field of the Aerospace industry.

M4: Enhance the students' sound knowledge in the latest technologies by organizing technical programs and encouraging students to make them present papers and participate in technical events.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO1	Apply knowledge in emerging and varied areas of Aerospace Engineering for higher studies, research, employment and product development
PEO2	Communicate their skills and have a sense of responsibility to protect the environment and have ethical conduct towards their profession and commitment to serve the society
PEO3	Exhibit managerial skills and leadership qualities while understanding the need for lifelong learning to be competent professionals

PROGRAM OUTCOMES (POs):

PO1	**Engineering knowledge**: Apply the knowledge of mathematics, science, engineeringfundamentalsandanengineeringspecializationtothesolutionof complex engineering problems.
PO2	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions Using first principles of mathematics, natural sciences, and engineering sciences.
PO3	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and the cultural, societal, and environmental considerations.
PO4	**Conduct investigations of complex problems:** Use research-based knowledge and research methods including the design of experiments, Analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex Engineering activities with an understanding of the limitations.
PO6	**The engineer and society:** Apply to reason in formed by the contextual Knowledge to assess societal, health, safety, legal and cultural issues and the Consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and Responsibilities and norms of the engineering practice.

PO9	**Individual and team work:** Function effectively as an individual, and as a Member or leader in Diverse teams, and in multidisciplinary settings.
PO10	**Communication:**Communicateeffectivelyoncomplexengineeringactivities with the engineering community and with society at large, such as, being able To comprehend And write effective reports and design documentation, make effective presentations, and give and Receive clear instructions.
PO11	**Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply These to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning:** Recognize the need for, and have the preparation and ability to Engage in in dependent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOs):

PSO1	To gather data using modern tools and apply design techniques to develop solutions for challenges in the domain of Aerodynamics, Propulsion, Aircraft Structures and Aircraft Maintenance with professional ethics.
PSO2	To function as engineering solution providers or entrepreneurs, who are able to manage, innovate, communicate, train and lead a team for continuous improvement.
PSO3	Graduate will be able to work as a team member which will be a main requirement in industry or research organization or in any business enterprise. This will pave the way for successful career for the graduate and also play a role for the success of the organization in which the graduate is employed.

AE3005 **AIRPORT MANAGEMENT** L T P C

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COURSE OBJECTIVES:

This course will familiarize the students to acquire solid background of managerial skills in airport management, develop personality to face business difficulties, identify the relevant analytical and logical skills to deal with problems in the airline industry, learn the concepts of performing well in teams, professionalism, and the knowledge acquired in the field.

UNITI INTRODUCTION 9

History of aviation - organisation, global, social & ethical environment - history of aviation in India -major players in the airline industry-swot analysis of the different airline companies in India -market potential of airline industry in India-new airport development plans-current challenges in the airline industry-competition in the airline industry - domestic and international from an Indian perspective

UNIT II AIRPORT INFRASTRUCTURE AND MANAGEMENT 8

Airport planning-terminal planning design and operation airport operations - airport functions -organisation structure in an airline-airport authority of India - comparison of global and Indian airport management-role of aai -airline privatisation-full privatisation-gradual privatisation-partial privatisation.

UNIT III AIR TRANSPORT SERVICES 12

Various airport services - international air transport Services-Indian scenario - an overview of airports in Delhi, Mumbai, Hyderabad and Bangalore - the role of private operators-airport development fees, rates, tariffs

UNIT IV INSTITUTIONAL FRAMEWORK 8

Role of DGCA-slot allocation - methodology followed by ATC and DGCA-management of bilateral -economic regulations

UNIT V CONTROLLING 8

Role of air traffic control airspace and navigational aids - control process - case studies in airline industry- Mumbai Delhi airport privatisation- navy Mumbai airport tendering process - 6 cases in the airline industry

TOTAL: 45 PERIODS

COURSE OUTCOMES

On completion of this course, the students expected to be able to:	
CO1	To interpret business difficulties.
CO2	To Dissect multicultural conditions.
CO3	To identify and apply the relevant analytical and logical skills to deal with problems in the airline industry.
CO4	To Develop well in teams, professionalism etc.
CO5	To apply the knowledge acquired in the field of airport planning, airport security, passengers forecasting, aerodromes work etc.

CO's – PO's & PSO's MAPPING

Correlation of COs with POs / PSOs															
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
CO1	3	1	3	1	2	2	2	1	2	3	2	1	1	2	3
CO2	3	3	3	2	1	2	1	1	2	2	2	1	1	2	3
CO3	2	2	2	1	1	2	2	1	2	2	1	1	1	2	3
CO4	3	3	3	2	1	2	1	1	2	2	2	1	1	2	3
CO5	2	2	2	1	1	2	2	1	2	2	1	1	1	2	3
AVG	**2.6**	**2.2**	**2.6**	**1.4**	**1.2**	**2**	**1.6**	**1**	**2**	**2**	**1.6**	**1**	**1**	**2**	**3**
3 – High; 2 – Medium; 1 – Low; - No correlation,															

TEXT BOOKS:

1. Graham.a. Managing airports: an international perspective - butterworth heinemann, oxford 2001.
2. Wells.a. Airport planning and management, 4th edition Mcgraw-Hill, london 2000.

REFERENCE BOOKS:

1. Doganis. R. The airport business routledge, london 1992
2. Alexender t. Wells, seth young, principles of airport management, mcgraw-hill 2003.
3. Ps senguttavan fundamentals of air transport management, excel books 2007
4. Richard de neufille, airport systems: planning, design and management, mcgraw- hill london 2007.
5. Manual of aerodrome licensing of aai airports - aai website - freely downloadable - issue may 2010.

UNIT– I

INTRODUCTION

PART–A				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Define aviation.	CO1	Remember	Low
2	What is the significance of the global airline industry?	CO1	Understand	Low
3	Mention any two ethical issues in the airline industry.	CO1	Remember	Low
4	What is the role of competition in the airline industry?	CO1	Understand	Low
5	Define airline market potential.	CO1	Remember	Low
6	What are the challenges in the airline industry today?	CO1	Understand	Low
7	Differentiate between domestic and international airlines.	CO1	Understand	Low
8	What is SWOT analysis in aviation?	CO1	Understand	Low
9	Name two major airline players in India.	CO1	Remember	Low
10	What is an airport development plan?	CO1	Understand	Low

PART–B				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Explain the history of aviation and its evolution in India.	CO1	Understand	Medium
2	Discuss the social and ethical issues in the airline industry.	CO1	Understand	Medium
3	Explain the SWOT analysis of different airline companies in India.	CO1	Understand	Medium
4	Describe the market potential of the airline industry in India.	CO1	Understand	Medium
5	Elaborate on new airport development plans in India.	CO1	Understand	Medium
6	Discuss the role of competition in the airline industry from an Indian perspective.	CO1	Understand	Medium
7	Explain the impact of globalization on the airline industry.	CO1	Understand	Medium
8	Discuss the significance of air travel in economic development.	CO1	Understand	Medium
9	Explain the major challenges faced by the airline industry today.	CO1	Understand	Medium
10	Write a detailed note on the different airline companies operating in India.	CO1	Understand	Medium

UNIT – II

AIRPORT INFRASTRUCTURE AND MANAGEMENT

PART–A				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Define airport planning.	CO2	Remember	Low
2	What is the significance of terminal planning?	CO2	Understand	Low
3	What are the major functions of an airport?	CO2	Understand	Low
4	Mention any two aspects of airport operations.	CO2	Remember	Low
5	Define infrastructure management in airports.	CO2	Remember	Low
6	What is the role of an airline in airport infrastructure?	CO2	Understand	Low
7	What is airport privatization?	CO2	Understand	Low
8	Define greenfield and brownfield airport projects.	CO2	Remember	Low
9	What is terminal expansion?	CO2	Understand	Low
10	Mention any two airport management challenges.	CO2	Remember	Low

PART–B				
Q.No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Explain the different components of airport planning.	CO2	Understand	Medium
2	Discuss the various functions of an airport.	CO2	Understand	Medium
3	Explain the importance of airport infrastructure and management.	CO2	Understand	Medium
4	Describe the role of an airline in airport infrastructure development.	CO2	Understand	Medium
5	Explain the impact of airport privatization on aviation.	CO2	Understand	Medium
6	Discuss greenfield and brownfield airport projects with examples.	CO2	Understand	Medium
7	Elaborate on the importance of terminal planning in modern airports.	CO2	Understand	Medium
8	Discuss the role of global organizations in airport management.	CO2	Understand	Medium
9	Explain how airport operations influence airline efficiency.	CO2	Understand	Medium
10	Discuss the challenges in airport infrastructure development in India.	CO2	Understand	Medium

UNIT – III

AIR TRANSPORT SERVICES

PART–A				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Define air transport services.	CO3	Remember	Low
2	What are international air transport services?	CO3	Understand	Low
3	Mention two major airports in India.	CO3	Remember	Low
4	What is the role of private operators in airport development?	CO3	Understand	Low
5	Define airport development fees.	CO3	Remember	Low
6	What are airport tariffs?	CO3	Understand	Low
7	Mention any two major Indian airline service providers.	CO3	Remember	Low
8	What is slot allocation in aviation?	CO3	Understand	Low
9	Define air cargo services.	CO3	Remember	Low
10	What is the significance of air transport in trade?	CO3	Understand	Low

PART–B				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Explain the different types of air transport services.	CO3	Understand	Medium
2	Discuss the international air transport services and their impact.	CO3	Understand	Medium
3	Explain the importance of air cargo services.	CO3	Understand	Medium
4	Elaborate on the role of private operators in airport management.	CO3	Evaluate	High
5	Discuss the airport development fees and tariffs.	CO3	Understand	Medium
6	Explain the various factors affecting air transport services in India.	CO3	Understand	Medium
7	Discuss the overview of major airports in India (Delhi, Mumbai, Hyderabad, Bangalore).	CO3	Understand	Medium
8	Describe the role of slot allocation in aviation.	CO3	Understand	Medium
9	Explain the challenges faced by air transport services in India.	CO3	Understand	Medium
10	Discuss the economic impact of air transport services.	CO3	Understand	Medium

UNIT – IV

INSTITUTIONAL FRAME WORKS

PART–A				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Define DGCA.	CO4	Remember	Low
2	What is slot allocation?	CO4	Understand	Low
3	Mention two responsibilities of AAI (Airports Authority of India).	CO4	Remember	Low
4	Define economic regulations in aviation.	CO4	Remember	Low
5	What is the role of bilateral agreements in aviation?	CO4	Understand	Low
6	What is the significance of airport management regulations?	CO4	Understand	Low
7	Name two regulatory bodies in international aviation.	CO4	Remember	Low
8	What is the purpose of airline safety regulations?	CO4	Understand	Low
9	Define airport certification.	CO4	Remember	Low
10	Mention two international aviation agreements.	CO4	Remember	Low

PART–B				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Explain the role of DGCA in Indian aviation.	CO4	Understand	Medium
2	Discuss the methodology followed by AAI and DGCA.	CO4	Understand	Medium
3	Explain the importance of economic regulations in the aviation industry.	CO4	Understand	Medium
4	Describe the significance of bilateral agreements in aviation.	CO4	Understand	Medium
5	Discuss the slot allocation process in aviation.	CO4	Understand	Medium
6	Explain the impact of aviation policies on airport operations.	CO4	Understand	Medium
7	Elaborate on the role of international aviation regulatory bodies.	CO4	Evaluate	High
8	Discuss the role of government regulations in the airline industry.	CO4	Understand	Medium
9	Explain how institutional frameworks affect air traffic management.	CO4	Understand	Medium
10	Describe the impact of airspace management regulations.	CO4	Understand	Medium

UNIT – V

CONTROLLING

PART–A				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Define air traffic control (ATC).	CO5	Remember	Low
2	What are navigational aids?	CO5	Understand	Low
3	Mention two airport privatization examples in India.	CO5	Remember	Low
4	Define airline industry benchmarking.	CO5	Remember	Low
5	What is an airspace management system?	CO5	Understand	Low
6	Mention any two case studies in airline industry management.	CO5	Remember	Low
7	What is the function of control towers at airports?	CO5	Understand	Low
8	Define airline route planning.	CO5	Remember	Low
9	Mention the importance of air traffic management.	CO5	Remember	Low
10	What is the significance of radar surveillance in aviation?	CO5	Understand	Low

PART–B				
Q. No	**Questions**	**CO Mapping**	**BT Level**	**Complexity**
1	Explain the role of air traffic control in aviation safety.	CO5	Understand	Medium
2	Discuss different types of navigational aids used in air transport.	CO5	Understand	Medium
3	Explain the impact of airspace regulations on flight operations.	CO5	Understand	Medium
4	Discuss Mumbai and Delhi airport privatization.	CO5	Understand	Medium
5	Explain the benchmarking process in the airline industry.	CO5	Understand	Medium
6	Elaborate on different strategies for air traffic control.	CO5	Evaluate	High
7	Discuss the role of automation in air traffic management.	CO5	Understand	Medium
8	Explain the process of flight path planning and optimization.	CO5	Understand	Medium
9	Discuss case studies related to air traffic control failures.	CO5	Understand	Medium
10	Explain how airport security and surveillance impact controlling operations.	CO5	Understand	Medium

THANK YOU

ALL THE BEST