

Hall Ticket No

Question Paper Code: AAE526



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

MODEL QUESTION PAPER-I

B.Tech VI Semester End Examinations, November- 2019

Regulations: R18

AIR TRANSPORTATION SYSTEM (AERONAUTICAL ENGINEERING)

Time: 3 hours

Max. Marks: 70

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

UNIT – I

1. a) What are economic characteristics of airline industries and explain about each characteristic factor in detail. [7M]
b) Describe briefly about the structure of Airline Industry between the years 1960-1980. [7M]
2. a) What do you mean by oligopolistic and Explain how Airlines acts as an oligopolists? [7M]
b) Explain the economic growth in the air transportation between the years 2000-2005 [7M]

UNIT – II

3. a) What is Demand forecasting? With help of a chart explain historical traffic exploration [7M]
b) What is very high frequency? Write about the use of press-to-transmit (PTT) buttons. [7M]
4. a) What is non-directional beacon and explain its functions in air transportation industry [7M]
b) Explain about the terms Wireless-telegraphy and radiotelephony in detail with help of neat sketches [7M]

UNIT – III

5. a) What do you mean by the ground-proximity warning systems and explain with the help of neat sketch? [7M]
b) What do you mean by Traffic Collision Avoidance System and explain with the help of neat sketch? [7M]
6. a) What do you mean by traffic conflict-alerting system and explain with the help of neat sketch [7M]
b) What do you mean by the Performance management systems and explain with the help of neat sketch? [7M]

UNIT – IV

7. a) Explain the direct cost in the aviation budgets for the airline growth and its development. [7M]
b) What do you mean by landing distance available and explain about Runway end safety areas? [7M]
8. a) What are Passenger terminals? Explain about different passenger terminals that are found in airports [7M]
b) What is Obstacle safeguarding in context of airports explain in detail about obstacle limitation surfaces with the help of a neat sketch? [7M]

UNIT – V

9. a) What is Federal Aviation Administration and discuss the main functions of the Federal Aviation Administration [7M]
b) What are first generation ‘automated’ ATC systems. Explain in detail about the working principle of automated atc system. [7M]
10. a) Explain in detail about different generations of ‘automated’ Air Traffic control systems [7M]
b) Explain about the International Civil Aviation Organization future air-navigation systems [7M]



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COURSE OBJECTIVES:

The course should enable the students to:

I	Apply knowledge and skills in the aviation industry and make more effective decisions for organization.
II	Provide insight into current trends and issues in civil aviation, such as aviation safety and security, law and new technology.
III	Understand complexity of air transport operation and to find best solution for the issues.
IV	Understand many transport issues involved in handling passengers, freight of aircraft.

COURSE OUTCOMES (COs):

CO 1	Explain the roles of the International Civil Aviation Organization and the International Air Transport Association in fostering safe and efficient air transport
CO 2	Describes national and international rules and regulations for air transportation
CO 3	Identify organizations controlling the regulatory processes in international aviation
CO 4	Apply basic science principles in estimating stopping and passing sight distance requirements
CO 5	Understand the factors influencing road vehicle performance characteristics and design.

COURSE LEARNING OUTCOMES (CLOs):

AAE526.01	Communicate at technical level with aviation service providers and aerospace professionals and organizations about aircraft and their systems.
AAE526.02	Describe the effects the atmosphere has on aircraft operations and the implications for the air transport industry.
AAE526.03	Analyze the aerodynamic and associated performance characteristics for aircraft and infer the corresponding economic implications.
AAE526.04	Assess the impact of contemporary challenges and practical aspects in air transportation.
AAE526.05	Evaluate pros and cons of emerging technological aspect and responses.
AAE526.06	Develop an applied knowledge to the global aviation industry and key issues.
AAE526.07	Understand international law and policies related to air transportation activities.
AAE526.08	Assess the impact of airline activities and operations on economics and finances.
AAE526.09	Evaluate the various factors influencing aviation industry and effects of these factors on air transportation.
AAE526.10	Developing capability to assess functions of airports, the basic principles of aviation policy.
AAE526.11	Execution of aviation policies related to airline economics and flight planning.
AAE526.12	Implementing standard procedure for air cargo handling and its management.
AAE526.13	Exposit legal, social, economic, ethical and environment interest while undertaking air transportation system.

AAE526.14	Acquire the competencies to handle airspace, aircrafts and air traffic control system.
AAE526.15	Develop knowledge to coordinate with different organization in the air transportation system.

MAPPING OF SEMESTER END EXAMINATION - COURSE OUTCOMES

SEE Question No	Course Learning Outcomes		Course Outcomes	Blooms Taxonomy Level	
1	a	AAE526.02	Describe the effects the atmosphere has on aircraft operations and the implications for the air transport industry	CO 1	Understand
	b	AAE526.02	Describe the effects the atmosphere has on aircraft operations and the implications for the air transport industry	CO 1	Understand
2	a	AAE526.01	Communicate at technical level with aviation service providers and aerospace professionals and organizations about aircraft and their systems.	CO 1	Understand
	b	AAE526.03	Analyze the aerodynamic and associated performance characteristics for aircraft and infer the corresponding economic implications	CO 1	Understand
3	a	AAE526.05	Evaluate pros and cons of emerging technological aspect and responses.	CO 2	Understand
	b	AAE526.06	Develop an applied knowledge to the global aviation industry and key issues..	CO 2	Remember
4	a	AAE526.07	Understand international law and policies related to air transportation activities.	CO 2	Understand
	b	AAE526.06	Develop an applied knowledge to the global aviation industry and key issues.	CO 2	Understand
5	a	AAE526.08	Assess the impact of airline activities and operations on economics and finances...	CO 3	Understand
	b	AAE526.09	Evaluate the various factors influencing aviation industry and effects of these factors on air transportation..	CO 3	Understand
6	a	AAE526.11	Execution of aviation policies related to airline economics and flight planning	CO 3	Understand
	b	AAE526.12	Implementing standard procedure for air cargo handling and its management	CO 3	Understand
7	a	AAE526.11	Execution of aviation policies related to airline economics and flight planning	CO 4	Understand
	b	AAE526.12	Implementing standard procedure for air cargo handling and its management	CO 4	Understand
8	a	AAE526.13	Exposit legal, social, economic, ethical and environment interest while undertaking air transportation system	CO 4	Understand
	b	AAE526.12	Implementing standard procedure for air cargo handling and its management	CO 4	Understand
9	a	AAE526.13	Exposit legal, social, economic, ethical and environment interest while undertaking air transportation system.	CO 5	Understand
	b	AAE526.15	Develop knowledge to coordinate with different organization in the air transportation system..	CO 5	Understand
10	a	AAE526.14	Acquire the competencies to handle airspace, aircrafts and air traffic control system.	CO 5	Understand
	b	AAE526.15	Develop knowledge to coordinate with different organization in the air transportation system..	CO 5	Understand

Signature of Course Coordinator

HOD, AE