

Hall Ticket No

Question Paper Code: AAE530



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

MODEL QUESTION PAPER-II

B.Tech VII Semester End Examinations, November/December – 2019

Regulations: IARE - R16

AIRPORT OPERATIONS

(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) Define the commercial service airports. Explain the term primary commercial service. [7M]
b) Explain Airport as a System-Function. How these systems are divided? Give block diagram and explain. [7M]
2. a) What is the difference between Financial plans and land use planning? [7M]
b) Discuss the role of complexity of airline planning. What are the major factors to be considered for airport planning? [7M]

UNIT – II

3. a) What are the facilities requirements in Airport system planning? Name few facilities and their importance in airport operations [7M]
b) Today “environmental planning” is one of the most critical area of planning. Explain What are the issues related with this planning. [7M]
4. a) Design a master plan for Hyderabad airport to be as a hub airport to tackle small regional airports [7M]
b) Explain Mathematical formulation for travelling salesman problem. Differentiate private airports and public use airports. [7M]

UNIT – III

5. a) Define the term Control of ground handling efficiency. Discuss the operating characteristics of baggage. [7M]
b) Define different types of gate assignment. Explain the process of the gate management. Give example of one method used in RGI airport Hyderabad. [7M]
6. a) Explain about airport fire fighting arrangements available in airport. Write a strategy for the fire fighting used in airport. [7M]

- b) Describe airline related passenger services. Explain different types of passenger services and how these services are utilized by the passengers? [7M]

UNIT – IV

7. a) Define Meteorology used in airport operations. Why it is so important in operation? [7M]
b) What are the equipments and systems available to undertake a communication with aircraft and airport? [7M]
8. a) Discuss aeronautical information related to technical services [7M]
b) Define non-passenger related airport authority functions. Discuss with example [7M]

UNIT – V

9. a) Write main parts of airport organization. Briefly explain two parts of this system. [7M]
What is Industry Bench Marking? Explain in brief.
b) What is AERA? How it differs from Airport Authority of India? [7M]
10. a) Explain the main features of the tactical approach to administration of any Indian Airport operations. [7M]
b) How the tactical airport operations administration is predicted? Explain the need of prediction with examples. [7M]



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COURSE OBJECTIVES:

The course should enable the students to:

The course should enable the students to:	
I	Understand about the commercial airport operations, functions, planning and facilities needed.
II	Describe about the procedure of ground handling of baggage and also to know about handling process, equipments, and technologies used
III	Explain about airport operation management, pavement management, rescue and safety hazards management.
IV	Impart knowledge on basics of airport terminals, ATC, and control access in different airport areas.
V	Apply the administrative and performance processes to get efficient output.

COURSE OUTCOMES (COs):

CO 1	Understand about the commercial airport operations, functions , planning and facilities needed.
CO 2	Describe about the procedure of ground handling of baggage and also to know about handling process, equipment's, and technologies used
CO 3	Explain about airport operation management, pavement management, resource, fire fighting, safety, hazardous materials handling managements.
CO 4	Explore the airport terminal services, Air traffic control system, access system, Tele-communication, Meteorology, Aeronautical information system
CO 5	Outline the operational administration and performance related to airport monitoring, equipment's and human resource considerations.

COURSE LEARNING OUTCOMES (CLOs):

AAE530.01	Remember about the difference between general aviation and commercial airports.
AAE530.02	Understand the hub and its types used in airport system.
AAE530.03	Describe airport planning and master plan.
AAE530.04	Explain about forecasting, design alternatives and land use for the airport operations.
AAE530.05	Remember ground, passenger and ramp handling procedure.
AAE530.06	Understand departure, control methods and divisions of responsibilities.
AAE530.07	Describe baggage handling process and equipment's requires for this purpose.
AAE530.08	Explain about organization management and performance matrices.
AAE530.09	Remember airport operations and pavement management
AAE530.10	Understand the aircraft rescue and firefighting system
AAE530.11	Understand safety aspects like bird and wild life hazards management.
AAE530.12	Remember the factors affecting the security at commercial and general aviation airport.
AAE530.13	Remember the airport technical services available in any airport.

AAE530.14	Understand the Tele-communication, meteorology and airport access.
AAE530.15	Remember the factors affecting airport access and its modes during airport operations.
AAE530.16	Understand the safety management system and Air Traffic control procedure.
AAE530.17	Understand the strategic and tactical administration of an airport.
AAE530.18	Remember the managing operations performance and its key factors.
AAE530.19	Understanding the factors of airport operations and control centers.
AAE530.20	Remember the best practices used for any commercial airport operations and future needs.

MAPPING OF SEMESTER END EXAMINATION TO COURSE OUTCOMES

SEE Question No	Marks Allotted	CLO Code	Course Learning Outcomes	Course outcomes	Blooms Taxonomy Level	
1	a	7	AAE530.01	Remember about the difference between general aviation and commercial airports.	CO1	Remember
	b	7	AAE530.02	Understand the hub and its types used in airport system.	CO1	Understand
2	a	7	AAE530.03	Describe airport planning and master plan.	CO1	Remember
	b	7	AAE530.04	Explain about forecasting, design alternatives and land use for the airport operations.	CO2	Understand
3	a	7	AAE530.05	Remember ground, passenger and ramp handling procedure.	CO2	Remember
	b	7	AAE530.06	Understand departure, control methods and divisions of responsibilities.	CO2	Evaluate
4	a	7	AAE530.07	Describe baggage handling process and equipment's requires for this purpose.	CO2	Remember
	b	7	AAE530.08	Explain about organization management and performance matrices.	CO2	Understand
5	a	7	AAE530.09	Remember airport operations and pavement management	CO3	Apply
	b	7	AAE530.10	Understand the aircraft rescue and firefighting system	CO3	Apply
6	a	7	AAE530.11	Understand safety aspects like bird and wild life hazards management.	CO3	Remember
	b	7	AAE530.12	Remember the factors affecting the security at commercial and general aviation airport.	CO3	Apply
7	a	7	AAE530.13	Remember the airport technical services available in any airport.	CO4	Remember
	b	7	AAE530.14	Understand the Tele-communication, meteorology and airport access.	CO4	Apply
8	a	7	AAE530.15	Remember the factors affecting airport access and its modes during airport operations.	CO4	Remember
	b	7	AAE530.16	Understand the safety management system and Air Traffic control procedure.	CO4	Apply
9	a	7	AAE530.17	Understand the strategic and tactical administration of an airport.	CO5	Remember
	b	7	AAE530.18	Remember the managing operations performance and its key factors.	CO5	Understand

SEE Question No	Marks Allotted	CLO Code	Course Learning Outcomes	Course outcomes	Blooms Taxonomy Level	
10	a	7	AAE530.19	Understanding the factors of airport operations and control centers.	CO5	Remember
	b	7	AAE530.20	Remember the best practices used for any commercial airport operations and future needs.	CO5	Understand

Signature of Course Coordinator

HOD, AE