

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY**IV B.TECH II SEMESTER – AERONAUTICAL ENGINEERING****LAUNCH VEHICLE AND MISSILE TECHNOLOGY (R13)****MODEL PAPER – I****MAXIMUM MARKS – 75****PART A****Max Marks: 25**

- i. All questions in this section are compulsory
- ii. Answer in TWO to FOUR sentences.
1. Define thermal efficiency, propulsive efficiency and overall efficiency of a turbojet engine. [2m]
2. Draw the graph showing the variation of total pressure, velocity, Temperature across a turbojet engine. [2m]
3. Write the equation of thrust and explain each term in it. [2m]
4. Draw schematic diagram of a turbofan engine and mention the station numbering of the components. [2m]
5. Draw the operating envelope and operational limits of different flight vehicles. [2m]
6. Draw the P-V and T-S diagrams of a brayton cycle and mention the processes in them [3m]
7. Explain the effect of ambient temperature on the take-off thrust of a jet aircraft. [3m]
8. Draw the graph showing the variation of total pressure, velocity, Temperature across a turbojet engine [3m]
9. Show a graph showing ram effect on thrust of an aircraft [3m]
10. Differentiate between installed and uninstalled thrust of a turbojet engine [3m]

PART B**Max Marks: 50**

- i. Answer only one question among the two questions in choice.
 - ii. Each question answer (irrespective of the bits) carries 10M.
 11. Why a re-entry body develops high temperatures on its skin during re-entry? What is the remedy?
- or
12. What do you mean by rocket dispersion? How the dispersion can be restricted?
 13. Draw a neat sketch of a solid propellant rocket motor and identify the parts, briefly describe their functions

or

14. Describe a typical liquid propellant engine with a sketch. Identify parts and their functions.
15. Compare solid propulsion and liquid propulsion systems and their usage. What are hybrid propellants?

or

16. Explain the advantages of multi staging of large rockets/ missiles.
17. Describe typical trajectories of a long range ballistic missile and a space launch vehicle.

or

18. Derive Tsiolkovsky rocket equation (for burn out velocity of a rocket stage)
19. Describe the operation of any one space launch vehicle (like SATURN V, GSLV...)

or

20. Explain why thrust vector control (TVC) is needed in space and the usual TVC methods adopted with solid propulsion and liquid propulsion engines

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LAUNCH VEHICLE AND MISSILE TECHNOLOGY (R13)****MODEL PAPER – II
MAXIMUM MARKS – 75****PART A****Max Marks: 25**

- iii. All questions in this section are compulsory
 - iv. Answer in TWO to FOUR sentences.
1. What are the functions of air intake in a gas turbine engine?
[2m]
 2. Write Two applications using MISSILE and give their examples on their application
[2m]
 3. Draw the velocity triangles of an axial flow compressor stage indicating the angles and velocity components.
[2m]
 4. Describe the types of launch vehicles
[2m]
 5. Write down types of Igniters and write a short note on its types?
[2m]
 6. Write a short note liners, insulators and inhibitors?
[3m]
 7. Derive an expression for propulsive efficiency
[3m]
 8. State the functions of an air intake in a gas turbine
[3m]
 9. Compare the air intake design point, supercritical and subcritical conditions with the help of neat diagrams.
[3m]
 10. State the differences in the blade profiles of axial flow compressor and turbine.
[3m]

PART B**Max Marks: 50**

- iii. Answer only one question among the two questions in choice.
 - iv. Each question answer (irrespective of the bits) carries 10M.
11. Why is multistaging necessary in rocket propulsion? Explain optimal rockets. What are the two stage and three stage optimal rockets?
Or
 12. List down the thrust vector control methods commonly employed in rocketry and explain any one of them.
 13. Describe the salient features of a chemical rocket.
or
 14. Write down the equations of a two dimensional rocket motion in gravity turn trajectory neglecting the aerodynamic forces.

15. Derive an expression for ideal velocity of a rocket in terms of payload ratio, structural efficiency and specific impulse.

or

16. What are the factors considered for the selection of airfoil shapes preferred for a supersonic missile?

17. Differentiate ballistic missile from cruise missile. Give examples.

or

18. Name and Explain different types of propellant used in solid rocket vehicles

19. How do you provide separation velocity needed for the upper stage of a space vehicle during stage separation.

or

20. Explain gravity turn trajectory of a rocket.

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LAUNCH VEHICLE AND MISSILE TECHNOLOGY (R13)****MODEL PAPER – III
MAXIMUM MARKS – 75****PART A****Max Marks: 25**

- i. All questions in this section are compulsory
 - ii. Answer in TWO to FOUR sentences.
1. What are different phases an aircraft undergoes during off-design operation?
[2m]
 2. Explain flammability limits with a neat graph.
[2m]
 3. State five differences between compressor and turbine in a gas turbine engine.
[2m]
 4. Explain the effect of Variable area exhaust nozzle in the operation of jet engine.
[2m]
 5. Explain the purpose of cascade analysis in an axial flow compressor
[2m]
 6. Draw a neat diagram of main burner of gas turbine engine and indicate all the parts.
[2m]
 7. What are different types of combustion chamber geometries used in gas turbine engines
[3m]
 8. Draw turbine performance map for a twin spool engine at design condition
[3m]
 9. Write the Euler's equation for turbine and pump separately and explain the term.
[3m]
 10. Discuss with a neat sketch any two types of cooling in turbine blades.
[3m]

PART B**Max Marks: 50**

- i. Answer only one question among the two questions in choice.
 - ii. Each question answer (irrespective of the bits) carries 10M.
11. Mention airframe components of rockets and missiles.
Or
 12. Draw a neat sketch of electric rocket and explain briefly?
 13. What are the different materials used in rockets? What are its special requirements?
or
 14. Write a short note on different types of chemical rockets.
 15. What is the maximum altitude attained in a rocket? How can this altitude increase?
or
 16. Explain the following terms Combustion pressure.

17. Write down the equations of a two dimensional rocket motion at constant pitch angle in an inclined trajectory with homogeneous gravitational field. Derive expressions for burn out and culmination range.

or

18. What is the need for thrust vector control for rockets?

19. What are the two stage and three stage optimal rockets?

or

20. Explain the three stages in Pegasus launcher.

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**IV B.TECH II SEMESTER – AERONAUTICAL ENGINEERING
LAUNCH VEHICLE AND MISSILE TECHNOLOGY (R13)**

**MODEL PAPER – IV
MAXIMUM MARKS – 75**

PART A

Max Marks: 25

- iii. All questions in this section are compulsory
iv. Answer in TWO to FOUR sentences.
1. Define Mission Profile. [2m]
 2. Differentiate between under-expanded and over-expanded nozzle. [2m]
 3. Explain the need for variable area nozzle in a turbojet engine. [2m]
 4. Explain the different nozzle coefficients that indicate the performance of the exhaust nozzle.
 5. Explain the term flammability limits [2m]
 6. Explain the purpose of primary, secondary and mixing air in the main burner of a gas turbine engine. [2m]
 7. Differentiate between impulse and reaction turbine in a gas turbine engine, [3m]
 8. Briefly explain blade stresses in an axial flow turbine [3m]
 9. What is purpose of cascade analysis of compressor stage?. [3m]
 10. What are the conditions that should be satisfied to ensure perfect component matching in a gas turbine engine? [3m]

PART B

Max Marks: 50

- iii. Answer only one question among the two questions in choice.
iv. Each question answer (irrespective of the bits) carries 10M.
11. Explain the three stages in MU-3-S-II.
Or
 12. Explain briefly about thrust termination.
 13. Explain parallel staging technique.
or
 14. List out the types of tests can be performed on a rocket
 15. What do you mean by rocket dispersion? How the dispersion can be restricted?
or
 16. Discuss the requirements for the choice of materials for liners, insulators, inhibitors at cryogenic temperatures.
 17. Describe typical trajectories of a long range ballistic missile and a space launch vehicle.
or
 18. Discuss the requirements for the choice of materials for insulators, inhibitors at cryogenic temperatures?
 19. Describe the operation of any one space launch vehicle (like SATURN V, GSLV...)

or

20. Discuss the requirements of materials at extremely high temperatures?

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LAUNCH VEHICLE AND MISSILE TECHNOLOGY (R13)****MODEL PAPER – V
MAXIMUM MARKS – 75****PART A****Max Marks: 25**

- v. All questions in this section are compulsory
 - vi. Answer in TWO to FOUR sentences.
1. Explain the role of propulsion in aircraft.
[2m]
 2. Draw the cycle representation of turbojet engine with reheat, and discuss how the nodal points/processes change in actual cycle.
[2m]
 3. Discuss need for off-design performance analysis in a gas turbine engine.
[2m]
 4. Draw performance map of an two stage axial flow turbine and indicate choked points.
[2m]
 5. Discuss the meaning of mass balancing and energy balancing in a gas turbine engine.
[2m]
 6. Explain the relevance of operating line on a compressor map.
[2m]
 7. State five differences between the compressor and turbine blade profiles?
[2m]
 8. Explain the purpose of thrust vectoring and thrust reversal in gas turbine engines
[3m]
 9. Explain the purpose of using dimensionless & corrected parameters in component performance maps
[3m]
 10. What is the significance of engine performance analysis of gas turbine engine?
[3m]

PART B**Max Marks: 50**

- v. Answer only one question among the two questions in choice.
 - vi. Each question answer (irrespective of the bits) carries 10M.
11. What are the required properties for the materials used to make the hardware of the rockets and missiles and explain the common materials?
Or
 12. What are the salient features of ground tests and flight tests of the rockets and missiles? How is the trajectory monitored?
 13. Explain the TVC (Thrust Vector Control) for solid and liquid propellant engine.
or
 14. What is the criticality of stage separation of stage?

15. Why a re-entry body develops high temperatures on its skin during re-entry? What is the remedy?

or

16. What do you mean by rocket dispersion?

17. Draw a neat sketch of a solid propellant rocket motor and identify the parts, briefly describe their functions/salient feature.

or

18. Describe a typical liquid propellant engine with a sketch. Identify parts and their functions.

19. What are the methods employed for the stage separation?

or

20. How is rocket dispersion can be restricted?

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MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY**IV B.TECH II SEMESTER – AERONAUTICAL ENGINEERING****R13****AVIONICS & INSTRUMENTS & SYSTEMS****Time: 3 Hours****Max marks: 75****MODEL QUESTION PAPER- 1**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B contains of 5 units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART –A (25 Marks)

1. (a) Enumerate core avionics systems in modern aircraft. (3)
- (b) List few aircraft state sensors. (2)
- (c) List components of Head-up display (HUD). (3)
- (d) List the limitations of VHF communications against HF Communication system. (2)
- (e) Draw a neat block diagram of a ring laser gyro illustrating various parts. (3)
- (f) List the errors in inertial systems. (2)
- (g) Illustrate the purpose of VHF Omni-range and distance measuring equipment. (3)
- (h) How is the inertial navigation system aligned? (2)
- (i) Explain the principle of autopilot. (3)
- (j) Explain the purpose of flight management system. (2)

PART- B

2. (a) Discuss the importance and role of Avionics in modern aircraft.
- (b) Illustrate the function of ARINC and MIL-STD-1553 B data bus.

OR

3. (a) Explain the method for protecting avionics systems against environmental conditions.
- (b) Differentiate between electrical and optical data bus system.
4. (a) Discuss the solid state standby display systems.
- (b) Explain Head down displays in military fighter aircraft cockpit.

OR

5. (a) With the help of a neat diagram, explain the principle of radio voice communication.
(b) Explain the principle of satellite communications.
6. (a) Explain the principle of mechanical gyroscopes.
(b) Explain the functioning of differential global positioning system.

OR

7. (a) Explain the functioning of spring restrained pendulous accelerometers.
(b) Explain the requirement and process of integration of GPS and INS.
8. (a) Discuss the principle of strap-down inertial navigation system.
(b) With neat diagram explain the purpose and functioning of attitude and heading reference system.

OR

9. (a) Explain the purpose and functioning of Kalman filters.
(b) Explain the functioning of automatic direction finders in an aircraft.
10. Write short notes on.
(a) Traffic collision and avoidance system (TCAS)
(b) Enhanced ground proximity warning system (EGPWS)

OR

11. Explain the principle of following auto pilot.
(a) Height control
(b) Heading control.

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY**IV B.TECH II SEMESTER – AERONAUTICAL ENGINEERING****R13****AVIONICS & INSTRUMENTS & SYSTEMS****Time: 3 Hours****Max marks: 75****MODEL QUESTION PAPER- 2**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B contains of 5 units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART –A (25 Marks)

1. (a) Enumerate various outside world sensors.
(2)
- (b) List the purpose and method of avionics packaging. (3)
- (c) List the purpose of helmet mounted display. (2)
- (d) List the various head down displays in fighter aircraft.
(3)
- (e) Explain the basic principle of accelerometer as sensor.
(2)
- (f) Differentiate between strap-up and strap-down inertial navigation system.
(3)
- (g) What do you mean by gyro compassing with respect to inertial navigation system?
(2)
- (h) Discuss the functioning of localizer with a diagram in landing system.
(3)
- (i) Discuss the role of Mode S transponder.
(3)
- (j) Explain the purpose of ILS coupled autopilot control. (2)

PART-B

2 Explain the requirement of Avionics equipment and systems with respect to

- (i) Environment
- (ii) Reliability

OR

3 (a) Discuss how various avionics systems are interfaced with the pilot.

(b) Discuss the functioning of MIL-STD-1553B data bus.

4. (a) Discuss intelligent display management systems in modern aircraft.

(b) Explain the functioning of data recorder systems in an aircraft.

OR

5. (a) Explain ACARS data communication systems.

(b) Write short notes on

(i) Audio management system

(ii) In-flight entertainment system

6 (a) Explain the functioning of micro machined vibrating mass rate gyro.

(b) Discuss the principle and functioning of torque balancer pendulous accelerometer.

OR

7. With the help of neat diagram explain the principle and various segments of a global positioning system.

8. (a) Discuss the principle and components of Radio-navigation system.

(b) How are the angular rate and acceleration corrections provided in inertial navigation system?

OR

9(a) Explain the principle of strap-down INS computing.

(b) Explain the functioning of glide-slope and marker systems in ILS.

10. (a) Discuss the principle of weather radar systems.

(b) How is auto-stabilization achieved in an aircraft?

OR

11. (a) Explain the functioning of speed control and auto throttle control systems.

(b) Write short note on flight management system.

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY**IV B.TECH II SEMESTER – AERONAUTICAL ENGINEERING****R13****AVIONICS & INSTRUMENTS & SYSTEMS****Time: 3 Hours****Max marks: 75****MODEL QUESTION PAPER- 3**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B contains of 5 units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART –A (25 Marks)

1. (a) Enumerate core avionics systems. (3)
- (b) What are the reliability requirements of avionics system? (2)
- (c) List the components of head tracking system. (3)
- (d) What is the purpose and meaning of data fusion in displays? (2)
- (e) List the basic principles of gyroscope. (3)
- (f) What is the purpose of integration of INS with GPS? (2)
- (g) How is INS aligned? (3)
- (h) List the categories of Instrument landing systems. (2)
- (i) Enumerate the functioning of air traffic control systems. (3)
- (j) Draw the block diagram of speed control system. (2)

PART-B

2. (a) Explain the purpose and functioning of electrical data bus systems.
- (b) What are the various task automation systems? How do they function?

OR

3. (a) Discuss briefly ARINC specifications.

(b) Write short note on avionics packaging.

4. (a) Explain the display systems in modern military aircraft.

(b) Discuss the functioning of helmet mounted displays.

OR

5. (a) With neat diagram explain the functioning of data communication system.

(b) Discuss the role and functioning of audio management system in a modern civil aircraft.

6. (a) Discuss the principle of ring laser gyro with the help of a diagram.

(b) Discuss the purpose and functioning of differential GPS.

OR

7. (a) Write short note on augmented satellite navigation system.

(b) What are the sources of errors in inertial systems? Explain.

8. (a) Explain the purpose and operation of attitude and heading reference system.

(b) How is angular rate correction done in inertial system?

OR

9. Explain the principle of instrument landing system including localizer, glide slope and marker systems.

10. (a) Explain the operation of airborne weather warning radar system and associated display.

(b) Discuss the purpose and functioning of stability augmentation system.

OR

11. (a) Explain the principle and operation of height hold autopilot with the help of neat diagram.

(b) How is the response of an aircraft determined due to longitudinal control? Briefly explain.

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY**IV B.TECH II SEMESTER – AERONAUTICAL ENGINEERING****R13****AVIONICS & INSTRUMENTS & SYSTEMS****Time: 3 Hours****Max marks: 75****MODEL QUESTION PAPER- 4**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B contains of 5 units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART –A (25 Marks)

1. (a) List core avionics systems. (2)
- (b) What are the main types of dead reckoning navigation systems? (3)
- (c) List the main advantages of head-up display in civil aircraft. (3)
- (d) Draw the block diagram of an intelligent display management system. (2)
- (e) Elaborate multi-path error in GPS. (2)
- (f) Discuss the requirement of integration of INS and GPS. (3)
- (g) List various range and bearing radio navigation aids. (3)
- (h) What are the various angular rate correction terms? (2)
- (i) Write the purpose of stability augmentation system. (2)
- (j) List the functions performed by flight management system. (3)

PART-B

2. (a) Discuss various task automation systems in modern aircraft.
- (b) Briefly explain electrical data bus systems.

OR

3. (a) Discuss integrated avionics system architecture in a civil aircraft.
- (b) Discuss environment and reliability requirements of avionics equipment.
4. (a) Briefly explain the working of head tracking systems.
- (b) Discuss the functions of solid state standby display systems.

OR

5. (a) Discuss the components of voice communication systems in an aircraft.
(b) Explain the functioning and purpose of data recorder systems in an aircraft.
6. (a) Explain the principle of micro electro-mechanical systems (MEMS) technology rate gyros.
(b) Explain the functioning of simple spring restrained pendulous accelerometer.

OR

7. (a) Write short notes on
(i) Differential GPS
(ii) Augmented satellite navigation systems.
(b) Discuss various errors in inertial systems.
8. (a) Discuss the basic principle and attributes of inertial navigation.
(b) Discuss the effect of accelerometer bias and Gyro drift on the errors in inertial navigation system.

OR

9. Explain the functioning of aided INS and Kalman filters.
10. (a) Discuss the purpose and functioning of speed control and auto-throttle systems.
(b) Explain how performance prediction and flight path optimization is achieved.

OR

11. (a) Discuss the purpose and process of flight planning.
(b) Discuss how a coordinated turn is achieved in an aircraft. Derive the necessary relation between bank angle, rate of turn and aircraft velocity.

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY**IV B.TECH II SEMESTER – AERONAUTICAL ENGINEERING****R13****AVIONICS & INSTRUMENTS & SYSTEMS****Time: 3 Hours****Max marks: 75****MODEL QUESTION PAPER- 5**

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B contains of 5 units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART –A (25 Marks)

1. (a) List various aircraft state sensors. (2)
- (b) List the task performed by flight management system. (3)
- (c) Write the advantages of HF communication systems. (2)
- (d) What are the components of HUD electronics? (3)
- (e) Explain the purpose of gyro and accelerometer in inertial system. (3)
- (f) What is the purpose of INS and GPS integration? (2)
- (g) Explain the purpose of initial alignment in INS. (3)
- (h) Explain the purpose of markers in instrument landing system. (2)
- (i) Write the purpose of mode S transponder. (3)
- (j) Draw the block diagram of a height control autopilot. (2)

PART-B

2. Discuss the requirements of avionics equipment with respect to following:

- (i) Environment
- (ii) Weight
- (iii) Reliability.

OR

3. Discuss the purpose and functioning of various data bus systems in civil and military aircraft.
4. Write short notes on

- (i) Data fusion in displays.
- (ii) Head down displays in military cockpit.

OR

5. Write short notes on

- (i) In-flight entertainment system
- (ii) ACARS data communication system.

- 6.(a) Explain the functioning and components of global positioning system.
- (b) Explain the functioning of differential GPS.

OR

7. Explain various errors and their compensation methods in inertial navigation systems.

8. Write short notes on

- (i) VHF omni-range
- (ii) Distance measuring equipment
- (iii) Automatic direction finding.

OR

9. Explain the function of instrument landing system including localizer, glide slope and marker beacons.

10. Write short notes on

- (i) TCAS
- (ii) EGPWS

OR

11. Discuss in detail longitudinal and lateral control and response of aircraft.

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF AERONAUTICAL ENGINEERING
AIRPORT PLANNING & OPERATION
MODEL PAPER -I

PART –A

Answer all the questions

1. Describe about ground airports? [3]
2. Define Hub classification? [2]
3. What is hub classification? [2]
4. What is called as air side and land side? [2]
5. What is airport master plan? [3]
6. What is meant complexity of airport operation? [3]
7. What is role of relieve airport? [2]
8. Define small hubs? [2]
9. What are facility requirements of airport? [3]
10. Write about land in of planning? [3]

PART-B

1. Describe about private airport in detail? [10]
OR
2. Differentiate between public and commercial service airport? [10]
3. Draw airport layout with neat sketch with components? [10]
OR
4. Discuss in detail about financial plans in construction of airport? [10]
5. What are role of an airport and discuss the various types of aircraft? [10]
OR
6. Discuss about passenger and ramp handling? [10]
7. What are the functions of passenger terminal? [10]
OR
8. What are the different types of cargo loading devices? [10]
9. Discuss about air traffic control in detail? [10]
OR
10. What are the factors effecting access mode choice? [10]

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DEPARTMENT OF AERONAUTICAL ENGINEERING
AIRPORT PLANNING & OPERATION
MODEL PAPER -II

PART –A

Answer all the questions

1. Define hub classification? [2]
2. Differentiate between long hub and medium hub? [3]
3. Write the components of airport? [3]
4. What is an airport planning system? [2]
5. Differentiate land side and air side? [3]
6. Write functions of airport? [2]
7. Draw airport layout? [3]
8. What is financial planning? [2]
9. Define forecasting of airport planning? [2]
10. What are design alternatives? [3]

PART-B

1. Discuss about private and general airport in detail? [10]
OR
2. Write function of airport in detail? [10]
3. Describe financial planning of airport? [10]
OR
4. Discuss in detail diverse alternatives? [10]
5. Explain departure control and achieved in airport? [10]
OR
6. What are the non-passenger related airport functions? [10]
7. What are characteristics of baggage handling system? [10]
OR
8. Describe about art band baggage system in detail? [10]
9. What is requirement of aeronautical information system in airport operations? [10]
OR
10. Discuss about access modes in town and off airport terminals? [10]

DEPARTMENT OF AERONAUTICAL ENGINEERING

AIRPORT PLANNING & OPERATION

MODEL PAPER -III

PART –A

Answer all the questions

1. What is function of airport? [2]
2. Discuss primary role of commercial service airport? [2]
3. Draw airport layout? [2]
4. What is land use planning [3]
5. Explain baggage load planning? [2]
6. What is meant by environmental planning? [3]
7. What is medium hub? [2]
8. Discuss about general aviation airport? [3]
9. Discuss any two design alternatives? [3]
10. What are financial plans of an aircraft? [3]

PART-B

1. Differentiate long, small and medium hubs? [10]
OR
2. Write in detail functions of an aircraft? [10]
3. Discuss about financial planning of airport? [10]
OR
4. Discuss about master plan of airport? [10]
5. What are responsibilities of ground handling? [10]
OR
6. Discuss about ramp handling and services? [10]
7. What are airline related operational functions? [10]
OR
8. How do you process VIP in Airport terminal building? [10]
9. What is role of metrology department in airport operation? [10]
OR
10. Discuss about access any part of airport systems? [10]

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DEPARTMENT OF AERONAUTICAL ENGINEERING

AIRPORT PLANNING & OPERATION

MODEL PAPER -IV

PART –A

Answer all the questions

1. Distinguish between public and private airport? [3]
2. Describe about commercial service airport? [2]
3. Define small hub? [2]
4. What is an airside? [2]
5. Write about relieve airport? [3]
6. What are complexities of airport operations? [3]
7. What is meant by environmental planning? [3]
8. What are the facility requirements of airport? [2]
9. Write components of airport? [3]
10. Write about land use planning? [2]

PART-B

1. Draw the components of airside and landside of an airport? [10]
- OR
2. Describe functions of airport? [10]
3. What are design alternatives of airport? [10]
- OR
4. Discuss about environmental planning of airport? [10]
5. What are the operating characteristics of baggage handling systems? [10]
- OR
6. Discuss about out bound baggage system? [10]
7. Write about
 1. Direct passenger services [5]
 2. Airline related passenger services [5]
- OR
8. What are government requirements of airport operations? [10]
9. Discuss about aeronautical information system? [10]
- OR
10. What are requirements of technical services in airport ATC? [10]

MRCET(UGC AUTONOMOUS)

MALLA REDDY COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF AERONAUTICAL ENGINEERING

AIRPORT PLANNING & OPERATION

MODEL PAPER -V

PART –A

Answer all the questions

1. What is meant by giant airports? [2]
2. Write the components of airport? [2]
3. Define medium hubs? [2]
4. What is land side? [2]
5. What do you understand by airport planning? [3]
6. What is airport master plan? [3]
7. What is forecasting of airport planning? [3]
8. Write components of airport [2]
9. Define airport plan layout? [3]
10. What are the facilities of print airport? [3]

PART-B

1. Discuss in detail the general aviation airport? [10]
OR
2. Write about relive airport and general airport? [10]
3. Discuss in detail about airport planning system? [10]
OR
4. What are facility requirements of an airport? Discuss in detail about terminal/parking of an aircraft? [10]
5. Differentiate between general and relieve airport? [10]
OR
6. Draw layout of an airport and its components? [10]
7. What are the duties of ground handling departments? [10]
OR
8. Explain about baggage handling procedure? [10]
9. Explain about cargo airport operation in detail? [10]
OR
10. What is the function of passenger related airport authority? [10]