Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 60108

B.E./B.Tech.DEGREE EXAMINATION, MAY/JUNE 2012.

Eighth Semester

Aeronautical Engineering

AE 1014/AE 1015 — AIR TRAFFIC CONTROL AND AERODROME DESIGN

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. How did airmail affect air traffic control?

2. What is meant by CNS/ATM?

3. Explain the purpose of RNP.

4. Define the first step of flight plan.

5. List the uses of radar in area of control services.

6. What is traffic advisory?

7. Define aerodrome reference code.

8. What is aerodrome elevation?

9. Define VASI.

10. Every PPI is equipped with video map selector .True/False.

PART B — (5 × 16 = 80 marks)

11. (a) What are the various kinds of separations?

Or

(b) Explain briefly about establishment, designation and identification of ATS.

12. (a) Explain vertical, lateral and longitudinal separation based on distance.

Or

(b) Discuss about position report and flight plans.

13. (a) Illustrate how you identify the use of primary and secondary radar.

Or

(b) Write a short note on:

(i) alerting service (8)

(ii) rules of the air. (8)

14. (a) Explain briefly about aerodrome data and also ~~discuss about terminology~~ of aerodrome.

Or

(b) Write a short note on:

(i) aerodrome reference temperature. (8)

(ii) obstacles restriction. (8)

15. (a) Discuss about various markings used on runway and the requirements of markings.

Or

(b) Illustrate a simple approach lighting system and various lighting system.

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Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 15757

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2012.

Eighth Semester

Aeronautical Engineering

AE 805 – AIR TRAFFIC CONTROL AND PLANNING

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is VHR?
2. Enumerate the various kinds of separation.
3. What is RNAV?
4. What is the purpose of ATC clearance?
5. Distinguish between primary radar and secondary radar.
6. What is meant by alerting service?
7. What does the term 'Aerodrome reference point' refer to?
8. Differentiate between primary runway and secondary runway.
9. State the characteristics of signal area.
10. What is VASI?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the objectives of ATS. (8

(ii) Describe the classification of ATS air spaces. (8

Or

(b) Discuss in detail about the designation and identification or units providing ATS. (16

12. (a) Discuss about the assignment of cruising levels minimum flight attitude ATC routes and significant points. (16)

Or

(b) Describe the vertical, lateral and longitudinal separations based on time/distance. (16)

13. (a) Explain the identification procedures using primary radar and secondary radar.

Or

(b) Write short notes on :

(i) Flight information and advisory service. (8)

(ii) Co-ordination and emergency procedures. (8)

14. (a) Explain the following :

(i) Aerodrome reference point. (6)

(ii) Aerodrome elevation. (6)

(iii) Aerodrome reference temperature. (4)

Or

(b) Describe the following :

(i) Width of runways and minimum distance between parallel runways. (8)

(ii) Instrument runway. (6)

(iii) Obstacles restriction. (2)

15. (a) Explain the visual aids used for navigation wind direction indicator. (16)

Or

(b) Explain the following :

(i) Simple approach lighting system. (8)

(ii) Visual aids for denoting obstacles. (8)

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 13126

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2012.

Eighth Semester

Aeronautical Engineering

080180061 — AIR TRAFFIC CONTROL AND AERODROME DESIGN

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are flight rules? And briefly explain about the basic types.
2. What is meant by controlled and non controlled airspace?
3. What is RADAR? And state their types.
4. What are the various other types of landing other than conventional landing?
5. What is a flight plan?
6. What is air traffic service? And give its objective.
7. What is aerodrome reference code?
8. What is obstacle restriction?
9. What are the minimum lightning requirements for an aerodrome?
10. What are the patterns followed in obstacle marking? And state the conditions for it.

PART B — (5 × 16 = 80 marks)

11. (i) Give the objectives of ATC. (4)

    (ii) Describe the classification of ATS air space. (12)

Or

(b) (i) Differentiate VFR from IFR. (6)

(ii) Give the basic layout of a domestic airport and label the sections. (10)

12. (a) Describe the contents of flight plan. (16)

Or

(b) (i) What are the four operating positions in a control tower? And elaborate the duties assigned. (10)

(ii) Write short notes on RNAV and RNP. (6)

13. (a) Explain the principle of secondary radar with a neat sketch and give its advantages over primary radar. (16)

Or

(b) What are the precautions taken for emergency belly landing, when there is no enough runway length? (16)

14. (a) Write short notes about : (16)

(i) Aerodrome reference code

(ii) Aerodrome reference point

(iii) Aerodrome reference temperature

(iv) Aerodrome data.

Or

(b) Calculate the actual length of the runway from the following data: (16)

Airport Elevation RL 100

Airport reference temperature 28 deg C

Basic length of runway 1600 m

Highest part along the length RL 98.2

Lowest part along the length RL 95.2

15. (a) (i) Explain about aerodrome beacons. (6)

(ii) Explain VASI and PAPI in detail. (10)

Or

(b) (i) Brief about the wind direction indicators and landing direction indicators. (8)

(ii) Explain in detail about the various runway markings for an instrumental runway. (8)

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 20111

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2012.

Eighth Semester

AERONAUTICAL ENGINEERING

AE 2035 — AIR TRAFFIC CONTROL AND PLANNING

(Regulation 2008)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the objectives of ATS?
2. List the parts of ATC service.
3. How is air space separated?
4. What is RNAV?
5. What is RADAR?
6. What are flight information services?
7. What is aerodrome data?
8. Enumerate aerodrome reference codes.
9. What are IFR and VFR?
10. What is aerodrome beacon? Where it is located?

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail the various ways of establishing and working of the ATS.

Or

(b) Discuss the ways of Air space control is set up.

12. (a) Explain of the ATC clears aircraft for flying.

Or

(b) Explain the air space separation and how it is implemented.

13. (a) What type of radar is used in area and approach control?

Or

(b) Write short notes on primary radar and secondary radar.

14. (a) Explain how aerodromes are designed.

Or

(b) Mention the ways of designing runways in an aerodrome.

15. (a) Explain in detail lighting systems used in runways.

Or

(b) Explain in detail VASI and PAPI.

Reg. No. : | | | | | | | | | | | |

Question Paper Code : D 2008

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2010.

Eighth Semester

Aeronautical Engineering

AE 1014 — AIR TRAFFIC CONTROL AND AERODROME DESIGN

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Describe the two basic types of flight rules.

2. What are the tree components of an ATC network?

3. Define RNAV.

4. Mention different categories of Airports.

5. Distinguish between ICAO system and calvert system.

6. What is meant by basic runway length? Describe three cases to be considered.

7. Define Aerodrome.

8. What is meant by runway Saturation?

9. What are the six groups of the airport markings?

10. Define terminal aids.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Enumerate the various ATC aids. (10)

(ii) Briefly discuss the various parts of the ATC service. (6)

Or

(b) Draw the typical layout of a small domestic terminal building and typical airport layout. Explain any one. (16)

12. (a) (i) What are the ATC? Clearance requirements for airport. (8)

(ii) Mention the approximate obstruction clearness requirements of the current airport. (8)

Or

(b) Write short notes on :

(i) Area control service. (6)

(ii) Runway lighting. (4)

(iii) Flight Plans (6)

13. (a) (i) Explain the four elements of the radar control and non radar control with the help of a neat sketch. (8)

(ii) An option is given ether to improve an existing airport on to develop a new airport. What will be the governing considerations? (8)

Or

(b) Write in detail on air transportation in India with special reference to the civil aviation department. (16)

14. (a) (i) Describe the procedure for the design of aerodrome. (8)

(ii) How are aerodromes classified in India? (8)

Or

(b) Calculate the actual length of the runway from the following data : (16)

Airport Elevation : RL 100

Airport reference temperature: 28°C

Basic length of runway : 600 m

Highest part along the length : RL 98.2

Lowest point along the length : RL 95.2

15. (a) Write short notes on :

(i) Airway aids and terminal aids. (8)

(ii) External aids and Internal aids. (8)

Or

(b) Briefly discuss the various requirements of an airport lighting system and airport marking system. (16)

Reg. No. : | | | | | | | | | | | |

Question Paper Code : 44108

B.E/B.Tech DEGREE EXAMINATION, NOVEMBER/DECEMBER 2011.

Eighth Semester

Aeronautical Engineering

AE1014 – AIR TRAFFIC CONTROL AND AERODROME DESIGN

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the objectives of ATS?
2. What is Altimeter setting?
3. Why should one assign the minimum cruising level?
4. Explain what is a flight plan.
5. What is the basic principle of Radar?
6. How is PAR approach is used to control air traffic?
7. What is the length of primary runway?
8. Why there should be obstacle restriction?
9. Explain why Aerodrome beacon lights are required.
10. What is the visual aid for wind direction?

PART B — (5 × 16 = 80 marks)

11. (a) What are the four operating positions in a control tower and what are the duties assigned to each?

Or

(b) Explain the various separation techniques.

12. (a) How do military and civilian ATC co-ordinate themselves?

Or

(b) What is the purpose of holding pattern and what are the variables affect the size of holding pattern?

13. (a) Describe the function of various components of Radar with a block diagram.

Or

(b) How does the use of Radar make the air traffic control system more efficient?

14. (a) What are the physical characteristics of primary, secondary and parallel runways?

Or

(b) Write short notes on:

(i) Aerodrome reference code

(ii) Aerodrome elevation.

15. (a) What are the visual aids used for obstacles, emergency services and signal area.

Or

(b) Explain the landing procedure with various lighting system.