

C-0386

Sub. Code

97213

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Year

Aviation

INTRODUCTION TO AVIATION INDUSTRY

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is LCC?
2. Write the types of Airlines.
3. Expand CISF.
4. What is Airport master plan?
5. What is an e-ticket?
6. What is code sharing?
7. Write the types of Airport planning.
8. Expand VISA.
9. What are the current challenges in Airline Industry?
10. What are the factors governing the competition in airline business?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain the types of Charters.
Or
(b) Describe the Freedom of Air with example.
12. (a) Explain the scope of low cost carriers in India.
Or
(b) Write a short note on Future of Indian Civil aviation.
13. (a) Describe the functions of DGCA.
Or
(b) Explain FAA and its functions.
14. (a) Explain the Different Terminal design.
Or
(b) Describe the various functions of airport.
15. (a) Explain the factors considered by an airline towards competition.
Or
(b) Describe the major players in Airline Industry in India.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Explain ICAO and its functions.
Or
(b) Describe IATA and its functions.

17. (a) Explain the organisational structure of an airport.

Or

(b) Narrate the role of BCAS and CISF.

18. (a) Explain Airport operations in detail.

Or

(b) Narrate the different types of airline operations.

C-0387

Sub. Code

97214

B.Sc DEGREE EXAMINATION, APRIL 2019

First Semester

Aviation

AIRPORT OPERATIONS

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Airport.
2. What is Floating Airport?
3. What is Solstice?
4. What is Heliport?
5. List out the various Airport cost.
6. Name the sources of Airport Revenue.
7. Define Runway.
8. Differences between Latitude and Longitude.
9. What is open sky policy?
10. What are the objectives of Air Traffic Services?

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain the History of Aviation.

Or

(b) Narrate the principles of Aviation.

12. (a) Describe the classification of Airports.

Or

(b) Write a short note on

(i) International Airport.

(ii) Regional Airport.

(iii) Domestic Airport.

13. (a) Describe the sources of Airport Revenue.

Or

(b) Explain the different types of customers in Airport business.

14. (a) Narrate the IATA Traffic conference Area.

Or

(b) Explain the planning Itenaries by Air.

15. (a) Explain the types of Runway with neat sketch.

Or

(b) Describe Airport Lighting.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain Airport structure with neat sketch.

Or

(b) Explain the History of Aviation.

17. (a) Narrate the Economic benefits of Airport business.

Or

(b) Describe the IATA Traffic conference areas.

18. (a) Explain Airport markings with neat sketch.

Or

(b) Describe the Ground support equipments in Airport operations.

C-0388

Sub. Code

97215

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Year

Aviation

ELECTRICAL AND ELECTRONICS (BASICS)

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define ohm's law.
2. State Power Factor.
3. What is meant by Single phase Transformer.
4. List out the usage of Ammeter, Voltmeter.
5. Define Logic Gates.
6. What is meant by Rectifiers and Types.
7. Define Zener Effect.
8. Define Flip-Flops and Types.
9. Define Modulation and Demodulation.
10. Draw a Block Diagram for Satellite and Optical fibre.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain Kirchhoff's law with neat diagram.

Or

- (b) Write short notes about Dynamometer type watt meters and Energy Meters.

12. (a) Explain Single phase Transformer with neat diagrams.

Or

- (b) Write short notes about steady state solution of DC circuits.

13. (a) Explain various characteristics of PN Junction diode.

Or

- (b) Explain CC, CB, and CE Configurations of transistors with diagrams.

14. (a) Explain A/D and D/A Conversion.

Or

- (b) Explain Various Logic gates with suitable diagrams.

15. (a) Define Modulation and Demodulation with examples.

Or

- (b) Explain Communication Systems (Radio, TV, Fax, Microwave).

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain Operating Principles of Moving Coil and Moving Instruments.

Or

- (b) Explain DC Generators and its principle, Diagram, Operation, and Basic Equations.

17. (a) Explain Transistors and its Configurations, BJT and its characteristic's.

Or

- (b) Explain briefly about Single phase induction motor with neat diagrams.

18. (a) Explain Briefly about Amplitude Modulation and Frequency Modulations.

Or

- (b) Explain Binary Number systems, Boolean algebra, A/D, D/A Conversion.

C-0389

Sub. Code

97216

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Year

Aviation

AIR REGULATIONS

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define
 - (a) Aircraft
 - (b) Controlled Flight
 - (c) Controlled Area
 - (d) Area Navigation
2. Define
 - (a) Way point
 - (b) Flight land
 - (c) Controlled air space
 - (d) Airway
3. What do mean by Convention?
4. Why we need Convention or Agreement with other countries in aviation industries?

5. Define
 - (a) Flight Information Services.
 - (b) Air Traffic Advisory Services.
6. What do you mean by serious injury? Explain.
7. What are the objectives of the investigation of accidents and incidents?
8. Explain
 - (a) Domestic Stress
 - (b) Work related Stress.
9. Explain
 - (a) Work load
 - (b) Overload
 - (c) Under load.
10. Write short note on
 - (a) Sleep
 - (b) Fatigue
 - (c) Shift work
 - (d) Drug Abuse.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) What are the objectives of Air Traffic Services?

Or

- (b) Write down the functions of DGCA.

12. (a) Write briefly about Chicago convention which was conducted on 07th December 1944.

Or

- (b) What is international Civil Aviation Organization (ICAO)?

13. (a) What are the powers of Aircraft Accident investigators?

Or

- (b) Explain committee of Inquiry, related Aircraft accidents and Incidents.

14. (a) Explain Air Traffic Control within Terminal Area.

Or

- (b) Write short note on Visual Flight Rules (VFR) and Instrument Flight Rules (IFR).

15. (a) What are the factors determining work load?

Or

- (b) Write briefly about stress management.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) What are the factors affecting Human performance?

Or

- (b) Write notes on

(i) Very high frequency omni directional range (VOR).

(ii) Tactical Navigation (TACAN).

- (iii) Air Ground Communication.
- (iv) Distance Measuring Equipment (DME).
- (v) Marker Beacon.

17. (a) Explain in detail
- (i) Controlled Airport (Air Space).
 - (ii) Uncontrolled Airport (Air Space).

Or

- (b) What are the duties, responsibilities and checks to be carried out in case of transporting dangerous goods by aircraft by the operator?

18. (a) Explain the minimum separation between departing. Aircraft with diagrams.

Or

- (b) List out the functions of DGCA.

C-0390

Sub. Code

97217

B.Sc. DEGREE EXAMINATION, APRIL 2019

First Year

Aviation

AIRCRAFT AND ENGINE (GENERAL)

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define fuselage.
2. What is Empennage?
3. What are the components of jet engines?
4. Explain Newton's laws of motion.
5. Define Drag.
6. Define propellers.
7. Define propeller pitch?
8. What is Lift coefficient?
9. Define Torsion.
10. Define Shear stress.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain the types of engines used in aircrafts.

Or

- (b) Explain the types of wings.

12. (a) Write short notes on Aerodynamic forces.

Or

- (b) Explain Mach number and Reynolds number.

13. (a) Explain about the APU.

Or

- (b) Briefly explain about the nose wheel steering system.

14. (a) Write notes on gust envelope.

Or

- (b) Define : Datum, Arm, Moment, CG, Empty weight.

15. (a) Briefly explain power assisted controls.

Or

- (b) Explain Asymmetric Thrust.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Briefly explain the parts of aircraft and their applications.

Or

- (b) Briefly explain the types of jet engines.

17. (a) Briefly Explain the Aerofoil shape and its types.

Or

(b) Write in detail about propellers.

18. (a) Explain the forces acting on an aircraft.

Or

(b) Explain the Emergency Descent procedure.

C-0391

Sub. Code

97223

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Year

Aviation

AVIATION WEATHER AND METEOROLOGY

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define aviation.
2. What is weather?
3. What is weather hazards?
4. What is the coriolis effect?
5. Define isothermal layers.
6. Define air temperature.
7. What is land friction layer?
8. Define downslop winds.
9. Define surface weather.
10. What is PRESSURE CHARTS?

Part B

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain about objectives of aviation weather.

Or

- (b) Write a short notes on mesosphere.

12. (a) Explain about turbulence in Weather hazards.

Or

- (b) Explain about the micro burst in aviation weather hazards.

13. (a) Explain a detail note on variation of air density with height.

Or

- (b) Write a short notes on surface air temperature.

14. (a) Explain the levels of clouds.

Or

- (b) Explain about backing and veering in winds.

15. (a) Explain about the SIGMET.

Or

- (b) Short notes on satellite weather image for the flight in meteorology.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the detail notes on thunderstorms in weather hazard.

Or

- (b) Briefly Explain about the types of air temperature in aviation.

17. (a) Discuss on the meteorology satellite and satellite cloud imageries.

Or

- (b) Explain about variation of pressure with altitude.

18. (a) Short notes on

(i) METAR

(ii) TAF

Or

- (b) Briefly notes on flight planning in meteorology.

C-0392

Sub. Code

97224

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Year

Aviation

PERSONALITY DEVELOPMENT

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Communication.
2. What is emotional Intelligence?
3. Name three skills that are required for a Manager.
4. What do you understand by the term “Emotional Competency”?
5. What is soft skill?
6. What is observation?
7. Briefly explain about Group Discussion.
8. Define Empathy.
9. Briefly explain about Personal Appearance.
10. Define Training.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Explain barriers to listening.

Or

(b) Explain communication skills.

12. (a) Explain methods of measuring emotional competency.

Or

(b) What are the rules for personal goal setting? Explain.

13. (a) Explain various leadership styles.

Or

(b) Is time management important in life? Briefly explain.

14. (a) Explain some of the illegal questions that should not be asked during Interview.

Or

(b) Explain the three steps for effective follow-up.

15. (a) Explain soft skills needed in order to be successful.

Or

(b) Explain in detail about Group Discussion.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the stages of listening process.

Or

(b) Explain the ten blocks that affect creativity.

17. (a) Briefly explain the various methods by which a person can improve his creativity.

Or

(b) What is time wasting? Explain some of our time wasters.

18. (a) Explain seven steps to success at an Interview.

Or

(b) Explain top leadership qualities.

C-0393

Sub. Code

97226

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Year

Aviation

AIR NAVIGATION (GENERAL)

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Airspace.
2. What is controlled airspace?
3. Define Time conversion.
4. When can you test your Emergency Locator Transmitter (ELT) in your aircraft?
5. Write short note on rate of climb and rate of descent of an aircraft.
6. What is the relation between the speed of aircraft and the climb of an aircraft?
7. Define :
 - (a) Heading
 - (b) Airspeed
 - (c) True Course
 - (d) Deviation.

8. What do you mean by cruise altitude?
9. What do you mean by Magnetic heading and True heading?
10. Explain the term :
 - (a) Fatigue
 - (b) Unusable fuel.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Write short note on great circle course on a spherical earth.

Or

- (b) How does a Magnetic Compass work?
12. (a) Write a short note on check and maintenance of Emergency Locator Transmitter.

Or

- (b) What is
 - (i) Traffic advisory?
 - (ii) Resolution advisory in TCAS?
13. (a) Write down the Tare weight and Ramp weight.

Or

- (b) Differentiate between useable fuel and unusable fuel.
14. (a) Write short note on takeoff distance and landing distance.

Or

- (b) What are the different types of navigation system? Explain any one.

15. (a) What are the different types of communication system available in aircraft? Explain any two.

Or

- (b) How does Traffic Collision Avoidance System (TCAS) work? Explain in detail.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the procedure followed to find out the points of Center of Gravity (CG) at its extreme positions.

Or

- (b) Define the following :
- (i) Calibrated Air Speed (CAS)
 - (ii) Indicated Air Speed (IAS)
 - (iii) Ground Speed (GS)
 - (iv) True Air Speed (TAS)
 - (v) Indicate Altitude
 - (vi) Pressure Altitude
 - (vii) Radio Altitude
 - (viii) True North
 - (ix) Magnetic North
 - (x) Compass Heading.

17. (a) What are the principles of weight and Balance Computations?

Or

- (b) Write briefly about Takeoff and Landing Performance of an aircraft.

18. (a) Write briefly about LORAN-C navigation and its uses.

Or

- (b) What factors determines the maximum altitude for an airplane?
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C-0394

Sub. Code

97227

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Year

Aviation

LOGISTICS AND AIR CARGO MANAGEMENT

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What are the logistics channel?
2. What is JIT?
3. What is warehouse?
4. Define TQM.
5. What is Inbound Logistics?
6. Who is a Freight Forwarder?
7. What is SLI?
8. What is special cargo?
9. What is Bill of Entry?
10. Name any Four Air Cargo Carriers.

Part B**(5 × 5 = 25)**Answer **all** questions.

11. (a) Describe the components of logistics.
Or
(b) Write a short note on MRP and DRP.
12. (a) Describe the types of product packaging in detail.
Or
(b) Explain the role of warehouse.
13. (a) Explain the significance of TQM.
Or
(b) Describe the various steps improving logistics performance.
14. (a) Write a short note on perishable cargo and valuable cargo.
Or
(b) Describe the Air Cargo Tariff, rates and charges.
15. (a) Explain the Emerging Trends in cargo operations.
Or
(b) Describe the functions of airport cargo activity.

Part C**(3 × 10 = 30)**Answer **all** questions.

16. (a) Explain the objectives and types of Inventory Management.
Or
(b) Describe the major documents required for air cargo logistics.

17. (a) Explain the types of cargo in detail.

Or

(b) Classify the logistics and supply chain.

18. (a) Explain Airway Bill – functions, purpose and validation.

Or

(b) Explain Cargo Terminals and facilities.

C-0395

Sub. Code

97228

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Year

Aviation

PUBLIC RELATIONSHIP IN THE AVIATION INDUSTRY

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is service marketing?
2. What is a mission?
3. What is a crisis in public relations?
4. Define media.
5. What is differentiation in airline industry?
6. What is electronic media? Give examples of electronic media in airport.
7. Explain leisure services.
8. What is marketing mix decision?
9. Define price.
10. What is promotion?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Briefly explain the importance of service marketing to aviation industry.

Or

- (b) Explain various kinds of pricing used by airlines.

12. (a) What are the drawbacks of poor customer service support?

Or

- (b) Explain positioning and differentiation strategies.

13. (a) What is electronic media in aviation industry? Explain.

Or

- (b) Explain the issues in P.R.

14. (a) Write short notes on CRISIS MANAGEMENT.

Or

- (b) What are the four steps to public relation process?

15. (a) What are the strategies for successful public relation personnel in aviation industry?

Or

- (b) Explain various alternatives and choices in communication in airport.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain some of the challenges faced by P.R. officer working in airport.

Or

- (b) Explain the Do's and Dont's in media handling.
17. (a) What is service marketing? Explain the types and nature of services.

Or

- (b) Explain the essential elements for a successful public relation officer at the airport.
18. (a) Explain marketing mix descisions.

Or

- (b) Is public relation essential in aviation industry? Elaborate.
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C-0396

Sub. Code

97229

B.Sc. DEGREE EXAMINATION, APRIL 2019

Second Year

Aviation

FLIGHT SAFETY AND SUPPORT SYSTEMS

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What you understand by Towing?
2. What a signal man should do and where he should be standing?
3. Name the different aircraft parking configuration with neat sketch.
4. Define Stopway and Clearway.
5. Describe Fire. What are its elements?
6. What you understand by trestle? State the purpose of it.
7. What you mean by angular alignment check?
8. Write a note on Tensiometer.
9. What are the causes for excess brake pedal travel?
10. Describe the Tire inflating precautions.

Part B

(5 × 5 = 25)

Answer **all** questions

11. (a) Describe the safety precautions of leveling of an aircraft.

Or

- (b) Describe the helicopter securing procedure.

12. (a) Explain Airport Lightings with neat sketch.

Or

- (b) Explain Runway markings and Configurations.

13. (a) Describe the air-conditioning and heating unit.

Or

- (b) Explain the maintenance of ground Air Start Unit.

14. (a) Explain the balance check of flying control surface.

Or

- (b) Explain the rigging procedure of flight control surfaces.

15. (a) Explain in detail about bleeding of brake unit.

Or

- (b) Describe in detail about Landing Gear Strut assembly inspection.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Describe the precautions to be observed against wind storm damage.

Or

- (b) Briefly explain the aircraft jacking procedure.

17. (a) Explain flights plan and its content.

Or

(b) Briefly explain class of fire vs Fire extinguishing agents.

18. (a) Explain the rigging of Flight control surface in detail.

Or

(b) Explain the inspection and maintenance of brake assembly.
