

CP-9547

Sub. Code

97213

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

First Year

Aviation

INTRODUCTION TO AVIATION INDUSTRY

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List out the types of Airlines.
2. What is Bilateral agreement?
3. Expand CISF.
4. Name any three low cost carriers in India.
5. Difference between layover and stopover.
6. What is code sharing?
7. List out the functions of airport.
8. What are the types of airport planning?
9. List out the major players of airline industry in India.
10. What are the factors governing the competition in airline industry?

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

11. (a) Describe the freedom of air with suitable examples.

Or

- (b) Explain about the evolution of aviation.

12. (a) Explain the low cost carriers in India.

Or

- (b) Describe the future of Indian civil aviation.

13. (a) Explain DGCA and its functions.

Or

- (b) Describe FAA and its functions.

14. (a) Explain the different terminal design.

Or

- (b) Describe the functions of airport.

15. (a) Explain the various factors considered by an airline towards competition.

Or

- (b) Narrate the market potential on Indian airline Industry.

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

16. (a) Explain IATA and its functions.

Or

- (b) Narrate ICAO and its functions.

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

Or

(b) Write a brief note on BCAS and CISO.

18. (a) Explain the current challenges in airline industry.

Or

(b) Explain the airport operations in detail.

CP-9548

Sub. Code

97214

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

First Year

Aviation

AIRPORT OPERATIONS

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define Aviation.
2. What is floating airport?
3. What is Equinox?
4. What is solstice?
5. What is RAMP?
6. What are the various airport cost?
7. Difference between latitude and longitude.
8. What is Runway?
9. What are the functions of Air traffic services?
10. What is open sky policy?

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

11. (a) Describe the History of Aviation.

Or

(b) Explain the principles of Aviation.

12. (a) Describe the types of airport.

Or

(b) Write a short note on:

(i) Domestic Airport

(ii) Water Airport

(iii) Heliport.

13. (a) Describe the different types of customers in Airport business.

Or

(b) Explain the various Airport cost.

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

Or

(b) Describe the planning Itenaries by Air.

15. (a) Explain Airport Lighting.

Or

(b) Describe the functions of Ramp services.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the various Airport organisation.

Or

(b) Explain the sources of Airport revenues.

17. (a) Narrate the airport structure with neat sketch.

Or

(b) Explain the types of runway.

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

Or

(b) Describe the features of Air traffic services.

CP-9549

Sub. Code

97215

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

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 Kirchhoff's law.
2. Define Counters and Registers.
3. Define Analog and Digital Signals.
4. Define Boolean Algebra.
5. What is meant by Single phase induction motor?
6. Define Dynamometer type Watt meters.
7. Define Half and Full Adders.
8. What is meant by Voltage regulation?
9. Define Zener Effect.
10. What is meant by Communication systems?

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

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

Or

- (b) Write short notes about Steady State solution of DC circuits.

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

Or

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

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

Or

- (b) Explain Zener diode and its characteristics with diagrams.

14. (a) Explain Flip-Flops and its types with neat diagrams.

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 various instrument meters using for measurements (Dynamometer type Watt meters, Energy Meters).

Or

- (b) Explain DC Generators and its principle, Diagram, Operation and Basic Equations.
17. (a) Explain briefly about Single phase Transformer with neat diagrams.

Or

- (b) Explain Binary Number systems, Boolean Algebra, Half and Full adders.
18. (a) Explain Transistors and its Configurations, BJT and its characteristic are with neat diagrams.

Or

- (b) Explain Briefly about Amplitude Modulation and Frequency Modulations with neat diagrams.
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CP-9550

Sub. Code

97216

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

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) Aerodrome
- (c) Air traffic services
- (d) Controlled airspace.

2. Define :

- (a) Way point
- (b) Area Navigation
- (c) Flight information region
- (d) Flight land

3. Define :
 - (a) Air Traffic Control Service
 - (b) Approach control service
 - (c) Aerodrome control service
 - (d) Flight Information service.
4. What are the objects of Air Traffic Services?
5. Define :
 - (a) Aircraft accident investigation
 - (b) Investigation
6. What are Air Traffic Control aids available for the pilot during his flight from one airport to another?
7. Explain :
 - (a) Tactical Air Navigation (TACAN)
 - (b) Distance Measuring Equipment (DME)
8. What are the landings aids available for the aircrafts while landing?
9. What are the groups of errors? Explain
10. Write short note on :
 - (a) Fatigue
 - (b) Drug abuse
 - (c) Alcohol
 - (d) Medication.

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

11. (a) Write down the classification of Airspace.

Or

- (b) What are the objectives of Air – Traffic service?

12. (a) What is the meaning of separation between flights? And write down different types of separation and explain any three.

Or

- (b) What do you mean by scheduled and non-scheduled Air Transport Services?

13. (a) Why Air Traffic control is needed? What are the functions of ATC?

Or

- (b) What are the important elements of team working?

14. (a) What factors determining workload?

Or

- (b) Write a short note on stress management.

15. (a) Write briefly about workload management.

Or

- (b) Write short note on (i) Working at night
(ii) Shift work.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) What is the role of International Civil Aviation Organization (ICAO)?

Or

- (b) What are the duties, responsibilities and functions of DGCA?

17. (a) Briefly explain aircraft Accident investigation Bureau (function).

Or

- (b) Explain Mandatory incident reporting system.

18. (a) List out the functions of DGCA.

Or

- (b) Define the following terms

- (i) Operator
- (ii) Convention
- (iii) Flight Crew
- (iv) Flight Information Region
- (v) Aircraft Components
- (vi) Air Traffic Control
- (vii) Dangerous Goods
- (viii) Military Aircraft
- (ix) On the Job Training
- (x) Traffic.

CP-9551

Sub. Code

97217

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

First Year

Aviation

AIRCRAFT AND ENGINE (GENERAL)

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Explain Venturi effect.
2. Write down the forces acting on aircraft during climbing.
3. What is camber of an airfoil?
4. State Bernoulli's principle.
5. What is flap? Name its types.
6. What is the purpose of Torque link in Landing Gear.
7. List down the types of Landing Gear Layouts.
8. Write the basic concept of boundary layer.
9. Name any four services operated by aircraft Hydraulic system.
10. What you understand by propeller feathering?

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

11. (a) Briefly explain the Wing Construction.

Or

- (b) Briefly explain the landing Gear Retraction.

12. (a) Explain Lateral stability and control of an aircraft.

Or

- (b) Describe Swept Wing.

13. (a) Explain in detail about spin of an aircraft

Or

- (b) List out and explain the factors effecting climb performance.

14. (a) Write the types of supersonic airfoils and its character.

Or

- (b) Explain classifications of Aircraft.

15. (a) How do you check engine performance?

Or

- (b) Briefly explain Subsonic Flow.

Part C $(3 \times 10 = 30)$ Answer **all** questions.

16. (a) Explain in detail about the airflow over a wing and how aircraft get the Lift.

Or

- (b) Explain in detail the forces acting on an aircraft while flying.

17. (a) Explain the Ignition System of a Gas Turbine Engine.

Or

- (b) Explain in detail about the limitations of propeller aircraft.

18. (a) Name four categories of Gas Turbine Engines and Explain them.

Or

- (b) Explain the Ignition System of a Gas Turbine Engine.
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CP-9552

Sub. Code

97223

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

Second Year

Aviation

AVIATION WEATHER METEOROLOGY

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define weather.
2. What is the amount of oxygen in atmosphere?
3. What is turbulence?
4. What is weather hazards?
5. Define density.
6. Define pressure.
7. What is land breezes?
8. Define katabatic winds.
9. Define prognostic charts.
10. What is SPECI?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain an meteorology and weather concepts.

Or

- (b) Write a short notes on hemisphere.

12. (a) Explain the method of icing conditions.

Or

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

13. (a) Explain a detail note on water vapour sensing systems.

Or

- (b) Write a short notes on altimetry.

14. (a) Explain the operation of with Satellite system with neat sketch.

Or

- (b) Explain about downslope winds.

15. (a) Explain about the jet stream location and intensity.

Or

- (b) Short notes on symbols and sings in meteorology.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the detail notes on isothermal layers along with function.

Or

- (b) Briefly Explain about the earth atmosphere in aviation weather.

17. (a) Discuss on the icing conditions in weather hazards.

Or

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

18. (a) Short notes on :

(i) SIGMET

(ii) PIREP.

Or

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

CP-9553

Sub. Code

97224

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

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 do you mean by the term “listening”?
3. What is emotional intelligence?
4. Define empathy.
5. What is management’?
6. Define training.
7. What is time management?
8. What is job interview?
9. What do you understand by the term “Soft skills”?
10. Define motivation.

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

11. (a) What are the four mental process involved in observational learning?

Or

- (b) Explain barriers of listening.

12. (a) What are the benefits of emotional intelligence?

Or

- (b) What are the basic methods involved in improving creativity?

13. (a) Explain the various skills required by an airport manager.

Or

- (b) Explain various leadership styles.

14. (a) Briefly explain the 5 steps to be followed while preparing for an interview.

Or

- (b) What are the advantages of Thank you letter after the interview?

15. (a) Explain various methods of training.

Or

- (b) Explain some of the illegal questions that are not required to be asked in an interview.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) What are the stages of listening process in communication?

Or

- (b) Explain the barriers of communication.

17. (a) What are the seven steps to success at an interview?

Or

- (b) Explain the various leadership qualities required in a manager.

18. (a) Explain the importance of time management.

Or

- (b) Explain the seven rules of motivation.
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CP-9554

Sub. Code

97226

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

Second Year

Aviation

AIR NAVIGATION (GENERAL)

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Write down the Newton's law of Universal.
2. Write down the definition of Airspace.
3. Define:
 - (a) Distance
 - (b) Magnetism.
4. What are Traffic Advisory (TA) and Resolution Advisory (RA) in TCAS?
5. What are the limitations of TCAS?
6. What is GNSS (Global Navigation Satellite System)?
7. What do you know about rate of climb and rate of decent?
8. What is the relation between the speed of the aircraft and the climb of an aircraft?

9. What is the relationship between speed of an aircraft and the lift generated at the steady and level flight phase?
10. Why it is necessary to perform calculations on the performance of aircraft?

Part B (5 × 5 = 25)

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

11. (a) How TCAS works? Explain in detail.
Or
(b) How do Inertial Navigations Systems Works?
12. (a) What are the types of navigation systems?
Or
(b) Explain
(i) GPS Navigation
(ii) Inertial Navigation Systems (INS).
13. (a) Write short notes on take-off distance and landing distance.
Or
(b) Explain in brief about the importance of performance calculation of aircraft.
14. (a) Write short notes in detail about the planet earth.
Or
(b) Differentiate between usable fuel and unusable fuel.
15. (a) Briefly explain how the pilot maintains the centre of gravity of his aircraft.
Or
(b) Differentiate between Tare Weight and Ramp Weight.

Part C $(3 \times 10 = 30)$ Answer **all** questions.

16. (a) Explain in detail about
- (i) Rate of Climb
 - (ii) Rate of descent.

Or

- (b) Explain the procedure followed to find out the point of C.G at its extreme positions.
17. (a) Write the difference and relationship between course and heading.

Or

- (b) Discuss in detail about stability of an airplane in relation to weight and balance.
18. (a) Explain the elements of performance of the aircraft.

Or

- (b) What are the different type's air speed and explain in detail about each of them?
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CP-9555

Sub. Code

97227

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

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. Define customer service.
2. Define marketing.
3. What are marketing channels?
4. Define S.L.I.
5. Explain global strategy.
6. Define inventory.
7. Explain J.I.T.
8. What is reverse logistics?
9. Define M.R.P.
10. What is inbound logistics?

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

11. (a) Explain the scope and an objectives of logistics management.

Or

- (b) Explain the role of channel members in logistics.

12. (a) Explain the role of purchasing in logistics.

Or

- (b) Explain various warehouse storage methods.

13. (a) Explain various inventory costs.

Or

- (b) Explain various functions of airway bill.

14. (a) State the trends in material handling.

Or

- (b) Explain the various roles of warehousing operations.

15. (a) State the concepts of air cargo.

Or

- (b) Explain strategy formulation and implementation.

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

16. (a) What are the different types of air cargo?

Or

- (b) Explain the role of intermediaries in air cargo.

17. (a) Explain the emerging trends in air cargo.

Or

(b) Explain a typical air cargo organization.

18. (a) Explain various inventory models.

Or

(b) Explain how logistics performance is improved.

CP-9556

Sub. Code

97228

**B.Sc. (Aviation) DEGREE EXAMINATION,
NOVEMBER 2018**

Second Year

Aviation

PUBLIC RELATIONSHIP IN AVIATION INDUSTRY

(2017 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define relationship marketing.
2. What is product promotion? Give two examples of products in aviation.
3. Define hospitality marketing.
4. What do you understand by the term “Differentiation”?
5. What is Public relationship management?
6. What is skimming and penetrating pricing?
7. Briefly explain about human relations.
8. What is electronic media? Give two examples of electronic media.
9. What is persuasion?
10. What do you understand by the term leisure services?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Explain various methods of pricing adopted in aviation industry.

Or

- (b) Explain various marketing mix in aviation industry.

12. (a) Explain various differentiation strategies.

Or

- (b) What is customer support service? Do you think that customer support is needed? Elucidate.

13. (a) Identify security requisites for a successful Public Relation airport manager.

Or

- (b) Briefly explain some of the challenges that are faced by public relation professionals at airport.

14. (a) What is crisis? Crisis is inevitable but it can be managed. Explain.

Or

- (b) Give a detailed note on the stages in the Public relation process.

15. (a) What are the various objectives of public relations?

Or

- (b) Explain the various alternatives and choices of communication in aviation industry.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the importance of relationship marketing in airlines.

Or

- (b) Explain the bases of segmentation for Indian Railway system.

17. (a) Explain the various elements of public relations in airport organization.

Or

- (b) What are the various types and roles of media handling?

18. (a) Explain the various types of promotion mix in airlines.

Or

- (b) Explain the various strategies for successful public relation personnel in an organization.

CP-9557

Sub. Code

97229

B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

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. How the GPU is parked near the aircraft?
2. Name two rigging instrument with its purpose.
3. What you understand by flying control rigging?
4. What inspections are to be done on Oleo-Pneumatic Shock Absorber?
5. How the Tires to be stored?
6. Describe Dihedral angle.
7. Describe standard taxi light signals?
8. What is duplicate inspection?
9. What is fading Brake? State the causes of Fading Brake.
10. How aircraft fitted with tail wheel is towed?

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Describe Tying down operation of the Aircraft.

Or

- (b) What you understand by leveling the aircraft?
Describe the various methods.

12. (a) Describe Taxi Track with various markings/signs.

Or

- (b) Describe 'Approach and Clear zone layout'.

13. (a) Describe Air-conditioning and Heating unit.

Or

- (b) Describe Air Start Unit.

14. (a) Describe angular alignment checks.

Or

- (b) Describe 'Tripod Jack'.

15. (a) Describe Shock strut Inspections.

Or

- (b) Describe the Inspections involved in wheel assembly.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Describe in detail about Ground Signaling of aircraft in day and Night time.

Or

- (b) Describe Aircraft jacking procedure.

17. (a) Write short notes on :

- (i) Describe the Aircraft Fire Fighting system.
(ii) Control Tower.

Or

- (b) Describe Air Start Unit with operating procedure.

18. (a) Describe flying controls rigging procedure.

Or

- (b) Describe the Brake system Inspection.
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