C–1126

Sub. Code
97213

B.Sc. DEGREE EXAMINATION, NOVEMBER 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 bilateral agreement?

2. List out the types of aviation.

3. Expand BCAS.

4. Name any three low cost carriers in India.

5. Define airport.

6. Difference between layover and stopover.

7. What are the major components of airport?

8. Write the functions of airport.

9. Name the different terminal design.

10. List out the major players of airline industry in India.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Describe about the evolution of Aviation.

Or

(b) Write a brief note on IATA.

12. (a) Describe the future of Indian Civil Aviation.

Or

(b) Explain the functions of CISF.

13. (a) Describe FAA and its functions.

Or

(b) Explain DGCA and its functions.

14. (a) Narrate the functions of Airport.

Or

(b) Write a short note on airport planning.

15. (a) Explain the market potential on Indian Airline Industry.

Or

(b) Explain the competition in Airline Industry.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Narrate the freedom of Air examples.

Or

(b) Describe ICAO and its functions.

17. (a) Explain the current challenges in Airline industry.

Or

(b) Narrate the organisational structure of an airport.

18. (a) Write a brief note on BCAS and CISF.

Or

(b) Explain the airport operations in detail.

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C–1127

Sub. Code
97214

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

First Year

Aviation

AIRPORT OPERATIONS

(2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the types of Airport?

2. Define Aviation.

3. What is Equinox?

4. List out the types of Airport.

5. What is open sky policy?

6. What are the sources of Airport Revenue?

7. Difference between Latitude and Longitude.

8. What is Runway?

9. What is RAMP?

10. List out the functions of Air Traffic Services.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the principle of Aviation.

Or

(b) Describe the impact of Aviation during World War.

12. (a) Explain the types of Airport.

Or

(b) Write a short note on:

(i) Domestic Airport

(ii) Water Airport

(iii) Heliport

13. (a) Narrate the Economic benefits of Airports business.

Or

(b) Explain the various Airport cost

14. (a) Describe the planning Itenaries by Air.

Or

(b) Explain the Travel documents for Air Travel.

15. (a) Describe about Airport Markings.

Or

(b) Explain the functions of Ramp Services.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the various Airports organisation.

Or

(b) Describe the History of Aviation.

17. (a) Explain the IATA traffic conference areas.

Or

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

18. (a) Explain the features of Air Traffic services.

Or

(b) Narrate Airport lighting with neat sketch.

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C–1128

Sub. Code
97215

B.Sc. DEGREE EXAMINATION, NOVEMBER 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 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 $(5 \times 5 = 25)$

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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C–1129

Sub. Code
97216

B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

First Year

Aviation

AIR REGULATIONS

(2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **All** questions.

1. What is Situation Awareness?

2. What are the advantages and disadvantages of shift work?

3. Define:

   (a) Commander

   (b) Crew

   (c) Health Officer

   (d) Infections disease

4. Define:

   (a) Air traffic Service

   (b) Flight Information service

5. Explain the objective of Aircraft accidents and incidents?

6. What are objectives of Air Traffic Services?

7. What is controlled & uncontrolled air space?

8. What are functions of DGCA?

9. What is purpose of VOR?

10. What are the primary control surfaces of an aircraft and its functions?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What are functions determine work load? Explain in detail.

Or

(b) Write short notes on

(i) Distant Measuring Equipment (DME)

(ii) Instrument Landing System (ILS)

(iii) Marker Beacon

12. (a) Write down the types of errors in maintenance tasks on Aircrafts.

Or

(b) What are the types of violation in Aircraft Maintenance and explain them?

13. (a) What are the powers of aircraft Accident Investigators?

Or

(b) Explain Aircraft Radio equipment as per article 30 of convention of Chicago.

14. (a) What is Standard Clearances for departing aircrafts and write down the contents or items available in standard clearance?

Or

(b) Under What Circumstances an aircraft will be regarded as plague and steps or actions to be taken if the persons are affected with plague disease on board?

15. (a) Write short notes on

(i) Overload

(ii) Under load

(iii) Work load Management

Or

(b) Write short notes on Attention and Perception.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain:

(i) Decision Making

(ii) Memory

(iii) Motor Programme

Or

(b) Define the following terms:

(i) Cargo aircraft

(ii) Dangerous goods

(iii) Flight crew member

(iv) Operator

(v) Package

(vi) Passenger aircraft

(vii) Technical Instructions

(viii) Pilot in Command

(ix) Serious Injury

(x) UN Numbers

17. (a) Explain the Minimum Separation between departing Aircrafts with diagrams.

Or

(b) What are the powers of Commander of aircraft under the Tokyo convention?

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

Or

(b) Define:

(i) Slip

(ii) Lapse

(iii) Mistake and Explain "Swiss Cheese Error Model".

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C–1130

Sub. Code
97217

B.Sc. DEGREE EXAMINATION, NOVEMBER 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. Explain ailerons.

2. Define Turbine.

3. Explain secondary control surfaces.

4. What are three axes of movement?

5. Explain Bus bar.

6. Define pitch angle.

7. Define Thrust.

8. What is airspeed?

9. Define bending.

10. Define ELT.

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Explain the wing configuration.

Or

(b) Explain about the types of compressors.

12. (a) Explain the Engine lubrication system.

Or

(b) Explain about the aircraft control systems.

13. (a) Write Brief notes about aerodynamic forces.

Or

(b) Briefly explain the types of turbines.

14. (a) Explain Manoeuvring Envelope.

Or

(b) Explain Gust Envelope.

15. (a) Define :

(i) Centre of Gravity,

(ii) Mean chord line,

(iii) Angle of attack,

(iv) Angle of incidence.

Or

(b) Briefly explain the compressor stall.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Briefly explain the Landing gear system of aircraft.

Or

(b) Briefly explain the Fly by Wire system.

17. (a) Briefly explain the Operation of Aircraft engines.

Or

(b) Write detailed notes about Engine failure.

18. (a) Explain the operating limitations

Or

(b) Explain the subsonic, transonic and supersonic aerodynamics.

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