C–3598	Sub. Code
	97244

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

Fourth Semester

LOGISTICS AND AIR CARGO MANAGEMENT

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. Define logistics.

2. What is inbound logistics?

3. Define just in time.

4. Define green logistics.

5. Define supply chain.

6. What is EOQ?

7. What do you mean by special cargo?

8. Why is airway bill important in air cargo?

9. Write any two importance of cargo zone.

10. Write any two features of cargo carriers.

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

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

Or

(b) Explain the objectives of inventory management.

12. (a) Explain trends in material handling.

Or

(b) Differentiate between inbound logistics and outbound logistics.

13. (a) Explain the objectives of material management and JIT.

Or

(b) Discuss the importance of global supply chain.

14. (a) Explain the features of special cargo.

Or

(b) Explain the steps in handling of perishable cargo.

15. (a) Write a short note on "Aircraft handling with cargo".

Or

(b) Discuss the importance of cargo terminals in international airport.

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Part C   (3 × 10 = 30)

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

16. (a) Briefly discuss the levels and functions of packaging.

    Or

    (b) Explain various methods of purchasing materials.

17. (a) Explain the benefits of supply chain management system.

    Or

    (b) Explain various types of air-cargo in detail.

18. (a) Discuss the emerging trend in cargo and cargo carriers.

    Or

    (b) Explain environmental and marketing issues associated with logistics.

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C–3598

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Semester

AVIATION WEATHER AND METEOROLOGY

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. Define troposphere.

2. Write short note on turbulence.

3. What is icing conditions?

4. Define density.

5. What is upper air temperature?

6. Write short note on convergence.

7. Define wind sheer.

8. What is jet stream?

9. Write short notes on PIREP.

10. Write short notes on SIGMET.

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

11. (a) Explain about thermosphere and troposphere.

Or

(b) Explain temperature variation and inversions.

12. (a) Explain about isothermal layers.

Or

(b) Explain about pressure gradient.

13. (a) Explain about backing and veering.

Or

(b) Explain guest and squalls.

14. (a) Explain about significant weather charts.

Or

(b) Explain about surface weather observations.

15. (a) Explain about prognostic charts.

Or

(b) Explain about pressure charts.

Part C (3 × 10 = 30)

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

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

Or

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

2 C–3593

17. (a) Explain about the clouds base and tops.

Or

(b) Explain about sea breezes and land breezes.

18. (a) Explain about the meteorological satellite and satellite cloud imageries.

Or

(b) Explain about satellite weather image for the flight operations.

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C–3593

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Fourth Semester

AIR NAVIGATION (GENERAL)

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   Define navigation.

2.   Define (a) distance (b) magnetism.

3.   What is the deviation between true heading and magnetic heading?

4.   What is the difference in degrees between homing and bearing?

5.   What are the four components of Dead Reokening Navigation?

6.   Expand the following : (a) VOR (b) ADF (c) NDB (d) DME.

7. Describe about Tropical maps.

8. What is great circle track?

9. Define Kepler's law.

10. What is solar system?

Part B (5 × 5 = 25)

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

11. (a) What are the types of navigation system used in aircraft? Explain any one type of a major navigation system.

Or

(b) Write short notes on Emergency Locator Transmitter.

12. (a) Write short notes on Airspeed.

Or

(b) Briefly explain about Magnetic compass and Magnetic heading.

13. (a) Explain the operation of Inertial Navigation System.

Or

(b) Explain about Flight Management System (FMS).

14. (a) With suitable example, explain about conversion angle and scale of General charts used for navigation.

Or

(b) Write short notes on Map reading and their importance in Navigation.

C–3596

15. (a) How do days and years are measured in connection with Navigation?

Or

(b) Define :

(i) Local Mean time

(ii) Co-ordinated universal time

(iii) Standard time.

Part C (3 × 10 = 30)

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

16. (a) What is 1 in 60 rule? Explain about their application in navigation.

Or

(b) Write briefly about ELT and its operation.

17. (a) Write the difference and relationship between course and heading. Explain with example.

Or

(b) Briefly explain about Wind correction angle.

18. (a) What is Radio Navigation? Explain about any two radio navigation system.

Or

(b) Explain briefly about inertial sensors used for navigation.

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C–3587	Sub. Code
	97213

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

First Semester

INTRODUCTION TO AVIATION INDUSTRY

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   Define Airport.

2.   Abbreviate SSR codes : WCHR, VGML, MAAS, UMNR.

3.   What is commercial aviation?

4.   Define customer service.

5.   Identify the IATA code : KUL, DEL, FRA, YUL.

6.   What is Open Sky Policy?

7.   What is Charter Flight?

8.   What is Ramp?

9.   Define ATC.

10. What is Frisking?

<div align="center">Part B   (5 × 5 = 25)</div>

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

11. (a)   Write short notes on Airport Planning.

<div align="center">Or</div>

     (b)   Write short notes on Toyko Convention.

12. (a)   Write short notes on AAI.

<div align="center">Or</div>

     (b)   Write short notes on FAA.

13. (a)   Narrate the Evolution of Aviation.

<div align="center">Or</div>

     (b)   Explain the types of Aviation.

14. (a)   Write short notes on BCAS.

<div align="center">Or</div>

     (b)   Write short notes on DGCA.

15. (a)   Explain – Major players in Airline Industry.

<div align="center">Or</div>

     (b)   Explain – social and ethical environment.

<div align="center">2   C–3587</div>

Part C (3 × 10 = 30)

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

16. (a) Explain the ministry of civil aviation.

Or

(b) Explain the future of Indian Civil Aviation.

17. (a) Explain the Airport operations and functions.

Or

(b) Explain the Organization structure of Airport sectors.

18. (a) Explain the Current Challenges in Airline Industry.

Or

(b) Explain the Market potential on Indian Airline Industry.

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C–3587

C–3588	Sub. Code
	97214

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

First Semester

AIRPORT OPERATIONS

(2019 onwards)

Duration : 3 Hours　　　　　　　　Maximum : 75 Marks

Part A　　　　　　$(10 \times 2 = 20)$

Answer **all** questions.

1. Define aviation.

2. Define airport.

3. What are the types of airport?

4. What is floating airport?

5. What is airport signs?

6. Identify the country code : QA, TH, MU, DE.

7. Define customer service.

8. What is open sky policy?

9. What is a runway?

10. What is airport cost?

Part B (5 × 5 = 25)

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

11. (a)   Write short notes on aviation history.

Or

(b)   Briefly explain about aircraft load planning and weight is balance.

12. (a)   Explain about the aviation organization.

Or

(b)   Briefly explain airport markings with neat diagram.

13. (a)   Briefly explain about airport lightings with neat diagram.

Or

(b)   Narrate the impact of aviation in world war.

14. (a)   Explain the handling of travel documents.

Or

(b)   Write short notes on open sky policy.

15. (a)   Write short notes on air traffic services.

Or

(b)   What is ramp? Explain the ramp services.

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Part C (3 × 10 = 30)

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

16. (a) Briefly explain the economic and physical geography heat zones.

Or

(b) Explain the types of runway.

17. (a) Explain the steps in planning itineraries.

Or

(b) Explain about the ground support equipments.

18. (a) Explain about the principles of aviation.

Or

(b) Explain the types of customers.

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C–3588

C–3589	Sub. Code
	97215

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

First Semester

BASIC ELECTRICITY AND ELECTRONICS

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Define Kirchhoff's law.

2. Explain power factor.

3. Define the usage of Multimeter.

4. Define Flip-flops.

5. Explain rectifiers.

6. Define Zener Effect.

7. What is meant by single phase transformer?

8. Write the EMF equation in DC Generator.

9. Define Digital conversion.

10. What is Frequency modulation?

Part B (5 × 5 = 25)

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

11. (a) Write short notes about Steady State solution of DC circuits.

Or

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

12. (a) Explain construction of DC generators.

Or

(b) Explain single phase induction motor with neat diagrams.

13. (a) Explain Zener diode and its characteristics with diagrams.

Or

(b) Explain various configurations of transistors (CE, CB and CC).

14. (a) Explain Logic gates with its diagram.

Or

(b) Explain Registers and counters.

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15. (a) Explain frequency and Amplitude modulation.

Or

(b) Explain communication systems (Radio, TV, and Fax).

Part C (3 × 10 = 30)

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

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 binary number systems, half and full adders.

Or

(b) Briefly explain about A/D and D/A conversion with neat diagram.

18. (a) Explain about Modulation and Demodulation with its diagram.

Or

(b) Explain briefly about characteristics of PN junction diode.

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3 C–3589

C–3590		Sub. Code
		97223

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

Second Semester

AIR REGULATIONS

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. What is freedom of Air?

2. What do mean by convention?

3. Define :

   (a) Flight Information Services

   (b) Air Traffic Advisory Services.

4. What is controlled and uncontrolled air space?

5. Define airspace.

6. List few Indian aircraft act and meant for their rules.

7. Write about Cockpit Management.

8. Write about Human Error and how it is managed in aviation.

9. What are the frequency band used for communication in aviation?

10. What do you mean by Operator Certification?

Part B (5 × 5 = 25)

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

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

Or

(b) Write short notes on DGCA Organization and its structure.

12. (a) Describe the scope and provision of ATS.

Or

(b) Explain briefly about Area Control Service.

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

Or

(b) Write short notes on Indian Aircraft Act 1934.

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

Or

(b) What is Stress Management? How to maintain work – life balance to avoid stress?

15. (a) What are the communication and navigational requirement in ATC? List their purposes.

Or

(b) Explain Instrument and safety equipment requirement in detail.

2 | **C–3590**

Part C $(3 \times 10 = 30)$

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

16. (a) Explain in detail about :

    (i) Controlled Airport (Air Space)

    (ii) Uncontrolled Airport (Air Space)

    Or

    (b) What are the powers of commander of aircraft under the Tokyo conventions?

17. (a) Explain briefly about ATC clearance for aircraft flying.

    Or

    (b) Explain the Minimum Separation between departing aircraft.

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

    Or

    (b) Explain the following :

    (i) Personality and attitude

    (ii) Decision making

    (iii) Avoiding and managing errors.

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B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Semester

AIRCRAFT AND ENGINE (GENERAL)

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   Distinguish between Fighter and Bomber aircraft.

2.   What are the primary controls of an aircraft?

3.   What are the components of an airplane?

4.   What is the purpose of alimeter used in an aircraft?

5.   Define aspect ratio of wing.

6.   Draw symmetrical aerofoil structure and name their specification.

7.   Define propeller pitch.

8.   Name the components of a jet engine.

9.   What are the different types of an aircraft structures?

10.   Define Shear stress.

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

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

11.   (a)   Write short notes on evolution of flight vehicles.

Or

(b)   Write short notes on classification of aircraft with respect to wing constructions.

12.   (a)   Draw with neat diagram of an airplane and show their components.

Or

(b)   Name the six basic instruments for flying and explain their purposes.

13.   (a)   Write short notes on Aerodynamic forces acting on an aircraft.

Or

(b)   Define center of pressure, coefficient of pressure and Mach number.

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

Or

(b)   Write merits and demerits of the ramjet engine.

15.   (a)   Write short notes on Monocoque construction.

Or

(b)   Write short note on composite materials and their applications to aircraft construction.

2   **C–3591**

Part C (3 × 10 = 30)

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

16. (a) Briefly explain the operation of airspeed indictor used in an aircraft with suitable diagram.

Or

(b) Explain, briefly about the operation of power assisted control with neat diagram.

17. (a) Sketch a typical aerofoil and explain how the lifts are generated by free stream air flow.

Or

(b) What is International Standard Atmosphere? Describe the basic structure of atmosphere with a neat sketch.

18. (a) Briefly explain the construction and operation of jet engines with neat diagram.

Or

(b) Explain the principles of operation of a turbo prop engine. What are the advantages of turbo prop engine?

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3   **C–3591**

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

Third Semester

COMPUTER APPLICATIONS

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What are the basic operations of computer?

2.   Define operating system.

3.   Write the shortcut key for cut and paste operations.

4.   Mention any four web browsers.

5.   What is meant by layers in Photoshop?

6.   Write the different copy options in coreldraw.

7.   What is CPU?

8. List the types of processors.

9. What is networking?

10. Define routers.

Part B (5 × 5 = 25)

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

11. (a) Compare windows 7 and windows 10.

Or

(b) Write the merits of linux operating system.

12. (a) Write the steps for printing document.

Or

(b) Describe the basics of Email.

13. (a) Describe different types of windows in Photoshop.

Or

(b) Write the uses of PDF document.

14. (a) Write about the installation of different types of service pack.

Or

(b) How to identify internal and external connectors?

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15. (a) Give a brief on LAN and MAN.

Or

(b) What are the different networking of topologies? Explain.

Part C (3 × 10 = 30)

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

16. (a) Explain the different types of operating system.

Or

(b) What is a chart? Explain the steps for inserting a chart in excel.

17. (a) What is internet? Write its usage.

Or

(b) Explain the use of any ten tools in coreldraw tool box.

18. (a) Explain about BIOS configuration.

Or

(b) Discuss in detail on TCP/IP.

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B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Semester

FLIGHT SAFETY AND SUPPORT SYSTEMS

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. What you understand by Taxy track?

2. What are the causes of fading brakes?

3. Write the objectives of Air Traffic Control.

4. What are the functions of Landing gear of aircraft?

5. What are the functions of a portable hydraulic test stand?

6. Describe signal lights shown from control tower to a taxing aircraft.

7. How aircraft fitted with tail wheel is towed?

8. Name two rigging instruments and state their purposes.

9. Explain the purpose and precautions of a single base jack.

10. Explain the significance of Aircraft cleaning.

Part B   (5 × 5 = 25)

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

11. (a) Describe the securing procedure of light aircraft.

Or

(b) State the precautions to be followed while leveling of an aircraft.

12. (a) Write short notes on Airfield Fire fighting system.

Or

(b) Describe the following :

(i) Dispersal area

(ii) Approach and clear zone.

13. (a) Briefly explain portable hydraulic test stand.

Or

(b) Describe aircraft lifting jacks.

14. (a) Describe the following equipments with their usage.

(i) Tensiometer

(ii) Protractors.

Or

(b) Describe Angular alignment check procedure of flight control surface.

2   **C–3594**

15. (a) Describe the wheel brake inspection.

Or

(b) Describe the tire and wheel assembling procedure.

Part C (3 × 10 = 30)

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

16. (a) Explain ground marshalling of aircraft in day and night.

Or

(b) Briefly explain the aircraft fire extinguishers and name the extinguishing agents not recommended for aircraft use with reasons.

17. (a) Explain the operating procedure and maintenance of Air Start Unit.

Or

(b) Explain Taxiway markings and Runway marking with neat sketch.

18. (a) Describe Aircraft jacking procedure.

Or

(b) Describe the procedure for shock strut charging and bleeding.

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C–3594

C–3595

Sub. Code
97235

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

Third Semester

YOGA FOR HUMAN EXCELLANCE

(2019 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What is mean by yoga?

2.   What is apana?

3.   Write any five asanas name.

4.   What is mean by prana?

5.   Write any two difference between yogasanas and physical exercises.

6.   Write the benefit of padmasana.

7.   What is suryanamaskara?

8. Write the types of pranayama.

9. Define meditation.

10. Write any two uses of mediation.

<div align="center">

Part B   (5 × 5 = 25)

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

11. (a) What are the objectives of yoga?

<div align="center">Or</div>

    (b) Short notes on thirumoolar thirumanthiram.

12. (a) Write about the patanjali's yoga sutra.

<div align="center">Or</div>

    (b) Write about the bhakthi yoga.

13. (a) Short notes on karma yoga.

<div align="center">Or</div>

    (b) Write about the pranayama and its benefits.

14. (a) Describe yama and niyama.

<div align="center">Or</div>

    (b) Define dhyana and its benefits.

15. (a) Write about the bandha and their functions.

<div align="center">Or</div>

    (b) Write about the kriyas.

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Part C (3 × 10 = 30)

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

16. (a) Explain the physical education and sports.

Or

(b) Briefly explain about surya namaskar and its benefits.

17. (a) Write about the types of pranayamas.

Or

(b) Write about the types of bandhas.

18. (a) Explain the meditation and its types.

Or

(b) Explain about vipasana meditation.

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3 C–3595

C–3597	Sub. Code 97243

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

Fourth Semester

AVIATION COMMUNICATION

(2019 onwards)

Duration : 3 Hours　　　　　　　Maximum : 75 Marks

Part A　　　　(10 × 2 = 20)

Answer **all** questions.

1. What is Morse code?

2. Write about the conditional clearances.

3. Write about Area Control Services.

4. Expand :
   (a) RADAR
   (b) SELCAL
   (c) SATCOM
   (d) AVARS.

5. What is Position report?

6. What is the VHF/UHF distress frequency?

7. What is the need for communication system in civil aircraft?

8. How the airspace is classified?

9. What is Service Telephone?

10. What is meant by distress communication?

Part B (5 × 5 = 25)

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

11. (a) Explain about Radio test procedure.

Or

(b) Write short notes on ATC communication.

12. (a) Explain about the coordination between ATS (Air Traffic-Control Service).

Or

(b) Explain about Radar in approach control service.

13. (a) Explain the Frequency spectrum of radio communication and the frequency band.

Or

(b) Explain the following :

(i) Airborne intercoms

(ii) Service Telephone

(iii) Inter phone.

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14. (a) Explain in detail about Holding Procedure.

Or

(b) Explain about the communication procedure between en-route aircraft and ATC.

15. (a) Briefly explain the distress procedure when an aircraft is lost its control due to bird hit.

Or

(b) Write short notes on Radar Assistance.

Part C (3 × 10 = 30)

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

16. (a) Explain briefly the applications of Morse code communication in aviation.

Or

(b) Explain about Radio test procedure and Transfer of communication read back.

17. (a) Explain briefly about VHF transceivers with neat diagram.

Or

(b) Explain the communication system used in aircraft.

18. (a) What is meant emergency in aviation? What are the different types of emergency? Explain in detail.

Or

(b) Explain briefly on classification of Airspace and Air Routes.

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C–3597

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

First Year

INTRODUCTION TO AVIATION INDUSTRY

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   Define charter.

2.   What is an airport code?

3.   Write the contribution of civil aviation to aviation industry.

4.   Expand BCAS.

5.   What is Oscar tango mike?

6.   Define airworthiness.

7.   Mention few functions of airport.

8. Define airport.

9. What is global environment?

10. List out the major players in airline industry.

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

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

11. (a) Explain about airlines types of charters.

Or

(b) Write short notes on (i) IATA (ii) ICAO.

12. (a) Define DGCA. Explain its functions.

Or

(b) Explain any three low cost carriers in India.

13. (a) Define ICAO and its functions.

Or

(b) Explain few aviation terms with their definitions.

14. (a) Explain about the design and operation in airport terminal.

Or

(b) Write about the contribution of airport authorities.

15. (a) Describe about aviation organization.

Or

(b) Detail on the current challenges in airline industry.

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Part C (3 × 10 = 30)

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

16. (a) Elaborate on the evolution of aviation.

Or

(b) Explain in detail about the types of aviation.

17. (a) Explain about the future of Indian civil aviation.

Or

(b) What is SSR code? Explain in detail.

18. (a) Explain on the market potential of Indian aviation industry.

Or

(b) Detail on the major players in airline industry.

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B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

First Year

AIRPORT OPERATIONS

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. Define aviation.

2. What is meant by aviation industry standard?

3. What are the classification of airport?

4. Define floating airport.

5. List the types of customers in airport business.

6. What is an airport revenue?

7. Write any two Latin – American countries and its capitals.

8. What is IATA?

9. Define GPU.

10. What are the types of runway?

Part B (5 × 5 = 25)

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

11. (a) Explain about the principles of aviation.

Or

(b) Describe the function of aviation organisation.

12. (a) Explain the types of airport.

Or

(b) Write short notes on :

(i) Domestic airport

(ii) Heliport.

13. (a) Narrate the economic benefits of airport business.

Or

(b) Explain the various airport cost.

14. (a) Explain about the measures of travel documents handling.

Or

(b) Describe the planning itineraries by air.

2 C–3600

15. (a) Narrate the importance of air traffic control.

Or

(b) Write the functions of ramp services.

Part C (3 × 10 = 30)

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

16. (a) Describe the history of aviation.

Or

(b) Explain the time zone and elapsed transportation time.

17. (a) Explain the importance of airport marketing and lightings.

Or

(b) What are the measures involved in aircraft local planning?

18. (a) Write the procedures for fueling an aircraft.

Or

(b) Narrate the contribution of latitude and longitude in aviation geography.

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C–3600

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

First Year

ELECTRICAL AND ELECTRONICS (BASICS)

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   Define Ohm's law.

2.   What is a waveform?

3.   What is meant by single phase induction motor?

4.   Write the application of DC generator.

5.   What is zener effect?

6.   Define voltage regulation.

7.   What is a flip-flop?

8.   Write the purpose of register.

9.   List the types of signals.

10. Define modulation.

Part B   (5 × 5 = 25)

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

11. (a) Explain Kirchoff's law with neat sketch.

Or

(b) Write short notes on there phase balanced circuits.

12. (a) Write the applications of DC motors.

Or

(b) Explain the working of single phase transformers.

13. (a) Write the characteristics of zener diode with neat sketch.

Or

(b) Brief about the bipolar functions transistor.

14. (a) Write short notes on registers and counters.

Or

(b) Explain A/D conversion.

15. (a) Write short notes on modulation and demodulation with examples.

Or

(b) Brief the characteristics of analog and digital signals.

2   **C–3601**

Part C (3 × 10 = 30)

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

16. (a) Explain the operating principle of moving coil and moving iron instruments.

     Or

    (b) Explain in detail about the steady state solution of DC circuits.

17. (a) Describe the construction and principle of operation of DC generator.

     Or

    (b) Explain with neat sketch on CB, CE and CC configurations in detail.

18. (a) What is a flip-flop? Explain its types with diagrams.

     Or

    (b) Explain about the principles of amplitude and frequency modulations.

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C–3602	Sub. Code
	97216

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION
&
APRIL 2020 ARREAR EXAMINATION

First Year

AIR REGULATIONS

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. Define :
    (a)   Certificate of Airworthiness
    (b)   Fire Aid Kit.
    (c)   Journey log Book
    (d)   Empty Weight.

2. Define :
    (a)   Scheduled operator
    (b)   Commercial operations
    (c)   Aerodrome
    (d)   Aerial Work.

3. Define :
    (a)   Commander
    (b)   Crew
    (c)   Health Officer
    (d)   Infected Aircraft.

4. Explain :

   (a) Flight crew member

   (b) Operator

5. Explain :

   (a) Pilot in command

   (b) Serious injury.

6. Explain :

   (a) Accident related to Aircraft.

   (b) Aircraft Accident investigator.

7. Define :

   (a) Fatal injury

   (b) Investigation.

8. Explain :

   (a) Taxi way and its types

   (b) Taxing.

9. What are purposes of Air Traffic Control?

10. Write short note on ICAO.

Part B   (5 × 5 = 25)

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

11. (a) Write down the objectives of Air Traffic Services.

Or

   (b) Explain in detail about the errors due to individual practices and habits.

2   **C–3602**

12. (a) Write the marking procedure of dangerous goods to carry by Air.

Or

(b) Write short notes on :

(i) Over work load

(ii) Under work load of an individual.

13. (a) Briefly explain the meaning of Fatigue of an individual.

Or

(b) How alcohol affects the performance of an Engineer at work place?

14. (a) Write a short notes on health Officer of an Airport when he suspects an Aircraft is infected by a decease.

Or

(b) Explain the effects and side effects of the following.

(i) Alcohol

(ii) Medication

(iii) Drugs.

15. (a) Write shorts on Visual Flight Rules (VFR) and Instruments Flight Rules (IFR).

Or

(b) Draw and show that organization Chart of Director General of Civil Aviation (DGCA) in India.

3

Part C (3 × 10 = 30)

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

16. (a) Write down the procedures for packing of dangerous goods for transport.

    Or

    (b) What are the factors affecting performance of a person?

17. (a) What is separation of Aircraft in Air Traffic Services and explain each type.

    Or

    (b) What are the actions to be done on aircraft when it is intercepted by another Aircraft?

18. (a) Write down the procedure for issue of the Air Defense Clearance (ADC).

    Or

    (b) What is mandatory incident reporting system? Explain.

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C–3602

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

First Year

AIRCRAFT AND ENGINE (GENERAL)

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What are the flight controls in an aircraft?

2. What is the function of empennage?

3. What do you mean by stall?

4. What are the three axes of movement in an aircraft?

5. Define manoeuvreing.

6. What is a gust envelope?

7. Define asymmetric thrust.

8. What is bus bar?

9. Define ELT.

10. Define wind shear.

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

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

11. (a) Explain the working of lubrication system.

Or

(b) Explain the function of landing gears in an aircraft.

12. (a) Write short note son aerodynamic forces on an aircraft.

Or

(b) Explain the using configuration.

13. (a) Explain manoeuvreing envelope.

Or

(b) Brief about the engine failure.

14. (a) Define :

(i) Angle of attack

(ii) Angle of incidence

(iii) Mean chord line

(iv) Centre of gravity.

Or

(b) Brief about the asymmetric thrust.

15. (a) Explain about the power plant in general.

Or

(b) Write about the transonic area rule.

2   C–3603

Part C (3 × 10 = 30)

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

16. (a) Briefly explain the fly-by-wire system.

Or

(b) Explain in detail about engine handling and manipulation.

17. (a) Explain about subsonic, supersonic and transonic aerodynamics.

Or

(b) Define stability and explain its types in detail.

18. (a) Explain the forces acting on an airplane in detail with neat sketch.

Or

(b) Detail about the electrical systems in an aircraft.

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C–3603

C–3604	**Sub. Code**
	97223

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Year

AVIATION WEATHER AND METEOROLOGY

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What are the different stages of atmosphere?

2.   How much amount of oxygen exist in atmosphere?

3.   What is turbulence?

4.   Define wind shear.

5.   What is pressure gradient?

6.   How to measure temperature variation in atmosphere?

7.   Differentiate between Katabatic and anabatic winds.

8.   Define jet stream.

9.   What is METAR?

10.   Define prognostic charts.

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

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

11.   (a)   Explain Earths atmosphere.

Or

(b)   Write short notes on hemisphere.

12.   (a)   Brief about thunderstorms in aviation weather hazards.

Or

(b)   Explain the method of icing conditions.

13.   (a)   Explain the variations of surface pressure in detail.

Or

(b)   Explain in detail on water vapour sensing system.

14.   (a)   Brief about cloud formation.

Or

(b)   Explain band breezes.

15.   (a)   Explain information for flight planning in meteorology.

Or

(b)   Brief about weather codes in detail.

2   **C–3604**

Part C (3 × 10 = 30)

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

16. (a) Write short notes on

    (i) Coriolis effect

    (ii) Hemisphere.

    Or

    (b) Brief about various weather hazards in aviation.

17. (a) Explain the isothermal layers in detail.

    Or

    (b) Discuss in detail about variations of pressure with altitude.

18. (a) Explain the basics of wind and the convergence divergence concept.

    Or

    (b) Brief about flight planning in meteorology.

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3   **C–3604**

C–3605		Sub. Code
		97224

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Year

PERSONALITY DEVELOPMENT

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. What is observation?

2. Define Communication.

3. What is emotional intelligence?

4. Define Listening.

5. What is interview?

6. Define Training.

7. What is Time Management?

8. Name three skills required for a Manager.

9. What is Mock interview?

10. What is grooming?

Part B (5 × 5 = 25)

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

11. (a) What are the barriers to listening? Explain briefly.

Or

(b) Explain ways to improve observation skills in personality development.

12. (a) What are the ways of measuring emotional competency in an organization?

Or

(b) Explain how a person can achieve his goals.

13. (a) Explain three quantities of a leader.

Or

(b) Explain the importance of time management.

14. (a) Explain the seven steps for effective preparation for an interview in airline industry.

Or

(b) What are the skills needed for a cabin crew in airline industry?

15. (a) Explain various types of training in airline industry.

Or

(b) Explain the importance of grooming while preparing for an interview.

2 C–3605

Part C (3 × 10 = 30)

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

16. (a) Define Communication. Discuss the process involved in communication with a neat diagram.

Or

(b) Explain the various methods in which a person can improve his creativity.

17. (a) Discuss the strategies of a group discussion.

Or

(b) What is motivation? Explain the seven rules of motivation.

18. (a) What are the most common time wasters in our daily life? Explain.

Or

(b) What is soft skills? Explain various soft skills that you need in order to succeed in your career.

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C–3605

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Year

AIR NAVIGATION (GENERAL)

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What are the nine planets in solar system?

2. Write short note on planet mercury.

3. Give a brief idea about the earth.

4. Define :
   (a) Magnet
   (b) Magnetic field.

5. What is permanent magnet and Electromagnet?

6. What frequency range does LORAN-C use?

7. Explain :
   (a) Latitude
   (b) Longitude
   (c) Great circle.

8. Why it is necessary to perform calculation on the performance of aircraft?

9. Define :

    (a) Heading of an aircraft

    (b) Deviation.

10. What do you known about rate of climb and rate of decent?

Part B (5 × 5 = 25)

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

11. (a) What is Traffic advisory and resolution advisory in TCAS?

Or

    (b) Explain what aircraft navigation is and define the terms:

        (i)   position

        (ii) direction

        (iii) distance.

12. (a) Differentiate between usable fuel and unusable fuel.

Or

    (b) Explain :

        (i)   GPS navigation

        (ii) Inertial Navigation System (INS).

13. (a) What are the uses of the navigational computer?

Or

    (b) How does a magnetic compass work?

C–3606

14. (a) What are the principles of weight and balance computer?

   Or

   (b) Write briefly about the tare weight and Ramp weight.

15. (a) How the pilot maintains the centre of gravity of the aircraft?

   Or

   (b) What are the difference between datum and datum point?

   Part C $(3 \times 10 = 30)$

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

16. (a) Write the operation method of Airborne Collision Avoidance System (ACAS).

   Or

   (b) Explain the neat diagrams :

   (i)   True north

   (ii) Magnetic north

   (iii) Compass north.

17. (a) Explain the elements of performance of the aircraft.

   Or

   (b) Discuss in detail about stability of an airplane in relation to weight and balance.

   3   C–3606

18. (a) Explain in detail about Global Positioning System (GPS).

Or

(b) What are the different types of communication and navigation systems available in aircrafts? Explain any three of them.

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4 **C–3606**

C–3607	Sub. Code
	97227

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Year

LOGISTICS AND AIR CARGO MANAGEMENT

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What is logistics?

2.   Expand M.R.P., D.R.P. and J.I.T.

3.   Define warehouse.

4.   Define price.

5.   What is supply chain?

6.   What is T.Q.M?

7.   What is air cargo?

8.   What is airway bill?

9.   What is cargo terminal area?

10.   What is cargo carrier? Name two air cargo carriers.

Part B (5 × 5 = 25)

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

11. (a) Briefly explain the advantages of logistics.

Or

(b) What is the purpose and objectives of inventory management?

12. (a) Explain the roles of a warehouse.

Or

(b) Explain the various kinds of packaging.

13. (a) What are the ways of improving logistics performance?

Or

(b) Explain the benefits of global supply chain.

14. (a) Write notes on handling of perishable and valuable cargo.

Or

(b) Explain briefly about air cargo tariff, rates and charges.

15. (a) What are the emerging trends in cargo carrier?

Or

(b) Write notes of aircraft handling cargo.

Part C (3 × 10 = 30)

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

16. (a) Explain the model of inventory management in logistics.

Or

(b) Explain the various trends in material handling.

2 C–3607

17. (a) What are the international documents that are used in logistics? Explain.

Or

(b) What is airway bill? Explain its purpose and functions.

18. (a) Explain briefly about the facilities that are used to handle cargo at the airport.

Or

(b) What are the various kinds of pricing? Explain.

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3 **C–3607**

C–3608		Sub. Code
		97228

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Year

PUBLIC RELATIONSHIP IN THE AVIATION INDUSTRY

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What is service marketing?

2.   What is mission?

3.   What is crisis management at Airports?

4.   Define Media.

5.   What is a differentiation strategy?

6.   What is electronic media?

7.   Define leisure services.

8.   What is marketing mix decision?

9.   Define price.

10.   What is Promotion?

Part B   (5 × 5 = 25)

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

11.   (a)   What are the four steps to Public Relation process?

               Or

      (b)   What are the strategies for successful PR personnel in Aviation industry?

12.   (a)   Explain various kinds of pricing used in airlines.

               Or

      (b)   Explain various alternatives and choices in communication at Airport.

13.   (a)   Explain the electronic media in aviation industry.

               Or

      (b)   Explain positioning and differentiation strategies.

14.   (a)   Explain the importance of service marketing to aviation industry.

               Or

      (b)   Write short notes on Crisis Management.

C–3608

15. (a) Explain the types and role of media handling.

Or

(b) Write short notes on Marketing of Hospitality.

Part C (3 × 10 = 30)

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

16. (a) Explain the Do's and Don't's in media handling.

Or

(b) Explain marketing mix decisions.

17. (a) Explain Service marketing – Type and nature of services.

Or

(b) Explain some of the challenges faced by PR officer working in airport.

18. (a) Briefly explain the role of PR during Crisis.

Or

(b) Explain the Integrity of information and Neutrality Handling the media.

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3 | **C–3608**

C–3609		Sub. Code
		97229

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Second Year

FLIGHT SAFETY AND SUPPORT SYSTEMS

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. What should be the position of signal man for taxing?

2. What is the significance of aircraft mooring?

3. What you understand by Taxy track?

4. What are the causes of dragging brakes?

5. What is the significance of landing gear retraction test?

6. Explain the purpose and precautions of a single base Jack.

7. What are the functions of a portable hydraulic test stand?

8. Describe signal lights shown from control tower to a taxing aircraft.

9. How aircraft fitted with tail wheel is towed?

10. Name two rigging instruments and state their purposes.

Part B (5 × 5 = 25)

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

11. (a) Describe the securing of multiengine aircraft.

Or

(b) State the precautions to be followed while hoisting of an aircraft.

12. (a) Write short notes on Airfield Lighting system.

Or

(b) Explain the principles of airport layout with neat sketch.

13. (a) Describe ground support air start unit.

Or

(b) Describe air conditioning and heating unit.

14. (a) State the inspection procedure for typical control system.

Or

(b) State the rigging procedure of flight control surface.

C–3609

15. (a) Describe the wheel brake inspection.

Or

(b) Describe the tire and wheel dismantling procedure.

Part C (3 × 10 = 30)

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

16. (a) Explain aircraft cleaning in detail.

Or

(b) Explain runway markings and Taxiway marking with neat sketch.

17. (a) Explain the operating procedure and maintenance of Ground Electrical power unit.

Or

(b) Briefly explain the aircraft fire extinguishers and name the extinguishing agents not recommended for aircraft use with reasons.

18. (a) Describe aircraft leveling procedure.

Or

(b) Describe the inspections to be carried on landing gear.

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3

C–3610		Sub. Code
		97231

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Year

COMPUTER APPLICATION

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What are the basic operations of computer?

2.   Differentiate between DOS and windows.

3.   What is "Internet"?

4.   What is the purpose of PowerPoint Presentation?

5.   What is meant by filter in Photoshop?

6.   List out the Adobe products.

7.   When we use the secondary memory?

8. What is EEPROM?

9. State the advantages and disadvantages of computer networks.

10. Define Subnet.

Part B (5 × 5 = 25)

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

11. (a) Describe the generation of computers briefly.

Or

(b) Write short notes on Unix Operating system.

12. (a) Discuss various usage of the Internet.

Or

(b) Explain the spell checking features on MS-Word.

13. (a) Explain different filters in Photoshop.

Or

(b) Write the uses of any five tools in Corel Draw.

14. (a) Explain Central Processing Unit with neat diagram.

Or

(b) Describe various types of data cables.

15. (a) Explain optical-fiber transmission media.

Or

(b) How to create a crossover cable using standard color-coding? Explain.

C–3610

Part C (3 × 10 = 30)

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

16. (a) Explain the components of digital computers with neat diagram.

Or

(b) Discuss the basics of electronic mail.

17. (a) Explain any ten tools in Photoshop.

Or

(b) Describe various types of memories.

18. (a) Elaborate on different types of Network.

Or

(b) Explain in detail about TCP/IP.

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3 **C–3610**

C–3611	Sub. Code
	97232

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Year

FLIGHT OPERATION

(2017 onwards)

Duration : 3 Hours　　　　　　Maximum : 75 Marks

Part A　　　　　(10 × 2 = 20)

Answer **all** questions.

1. What is the role of flight dispatches in flight operations?

2. What is competency check?

3. Define crew.

4. What is meant by split duty?

5. Define ATR.

6. What is cabin data?

7. What is meant by navigation log?

8. What are the object of flight planning?

9. What are the roles of ATC?

10. What is meant by break?

Part B (5 × 5 = 25)

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

11. (a) Brief about the training program in flight operation.

Or

(b) Explain aircraft operational procedure in Indian Civil Aviation.

12. (a) Explain in detail about consecutive night flying.

Or

(b) Brief about the crew salary structure.

13. (a) Explain the operation limitations of an aircraft.

Or

(b) Write short notes on performance characteristics of an aircraft.

14. (a) Discuss about coded ICAO flight plan.

Or

(b) Explain computerised flight plan in detail.

15. (a) Write short notes on :

(i) Overfly permission.

(ii) Landing permission.

Or

(b) Discuss about navigation flight planning.

2 <u>**C–3611**</u>

Part C (3 × 10 = 30)

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

16. (a) Explain the flight crew standards in flight operations.

Or

(b) Explain in detail about flight duty time limitations.

17. (a) Discuss about Cessna aircraft various specifications.

Or

(b) Brief about :

(i) Performance data

(ii) Cabin data.

18. (a) Explain revenue and yield management in flight operations.

Or

(b) Explain advanced flight operation knowledge.

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C–3611

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Year

AVIATION SECURITY AND SAFETY

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   Expand FAA.

2.   What do you mean by Aviation Security.

3.   What is the limit on hold baggage?

4.   Define inflight threat.

5.   What are the sterile areas in aviation?

6.   What is fencing?

7.   Define aircraft hijacking.

8.   Mention about International Law issues in aviation.

9.   What is prisoner handling?

10.   Brief about baggage screening.

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

11. (a) Explain the role of CISF in Indian aviation.

Or

(b) Describe the contribution of ministry of Civil Aviation.

12. (a) Explain about BDDS.

Or

(b) Explain about the handling of passengers.

13. (a) What are the security measures for air cargo?

Or

(b) Detail on the airport enforcement authority.

14. (a) How will you deal with hijacking?

Or

(b) Explain about the prisoner handling in detail.

15. (a) Detail on the security equipment in aviation.

Or

(b) Explain about the cargo screening.

Part C (3 × 10 = 30)

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

16. (a) Elaborate on the organization structure in aviation security.

Or

(b) Explain in detail about the bomb threat analysis.

2   **C–3612**

17. (a) Detail about improvised biological device and improvised explosive device.

Or

(b) Explain about the hostage negotiation.

18. (a) What are the security measures followed while boarding?

Or

(b) Explain in detail about prisoner and weapon handling.

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3   **C–3612**

C–3613	Sub. Code
	97234

B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Year

AIRCRAFT SYSTEMS AND INSTRUMENTS

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What is a hydraulic system?

2.   Define shock absorber.

3.   What is a power assisted flight control system?

4.   What is the function of push pull rod system?

5.   Write the components of piston engine.

6.   What is meant by lubrication system?

7.   Write the importance of air-conditioning system.

8.   Define de-icing.

9.   Mention few flight instruments.

10.   What is a tachometer?

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

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

11. (a) Explain the working of brake system.

                    Or

    (b) Classify the landing gear system.

12. (a) Explain the working of engine control system.

                    Or

    (b) Explain the fully powered flight control system.

13. (a) Briefly explain the components of jet engines.

                    Or

    (b) Write short notes on multi engine fuel system.

14. (a) Explain about the vapour cycle systems.

                    Or

    (b) Brief about the evaporation air cycle system.

15. (a) Write about notes on gyroscopic instruments.

                    Or

    (b) Explain the operation of pressure gauge.

Part C $(3 \times 10 = 30)$

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

16. (a) Explain the working of a hydraulic system with neat sketch.

                    Or

    (b) Explain the functioning of a typical pneumatic system.

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17. (a) With neat sketch, explain the working of a digital fly by wire system.

Or

(b) Describe the operation of a piston engine with diagram.

18. (a) Write short notes on :

(i) Accelerometer

(ii) Altimeter.

Or

(b) Explain the operation principle of oxygen system.

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B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

Third Year

RADIO AIDS AND INSTRUMENTS

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. What is a radio wave?

2. Define modulation.

3. What is meant by attenuation?

4. What is critical angle?

5. Define refraction.

6. Expand VOR.

7. What is the purpose of a localizer?

8. Write the function of DME.

9. Define altimeter.

10. List the types of radar.

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

11. (a) Explain the general properties of radio waves.

Or

(b) Relate the wavelength and frequency.

12. (a) Write short notes on :

(i) Amplitude

(ii) Modulation.

Or

(b) Brief about the different band of radio waves.

13. (a) Explain about the sky waves.

Or

(b) Write a short note on VOR.

14. (a) Explain the function of MLS.

Or

(b) Brief about the importance of glide slope.

15. (a) Explain the functioning of secondary surveillance radar.

Or

(b) Write short note on precision approach radar.

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Part C (3 × 10 = 30)

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

16. (a) Elaborate on the impact of radio waves in the environment.

Or

(b) Detail on the concept of propagation of radio waves.

17. (a) Explain the working and function of DME.

Or

(b) Describe the contribution of radio acids in aviation.

18. (a) Explain in detail about airport surveillance radar.

Or

(b) Describe the principle and operations of radar.

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B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Year

AVIATION COMMUNICATION

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   Define Morse code.

2.   What is aviation phraseology?

3.   Write the technologies in aeronautical telecommunication.

4.   What is phonetic alphabet?

5.   Define meteorology.

6.   Brief about communication during emergency.

7.   What is decompression?

8.   What is aircraft call sign?

9.   What is meant by aviation communication?

10. Expand UNICOM.

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

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

11. (a) Explain about the air to ground communication.

Or

(b) Write short notes on ATC frequency change procedure.

12. (a) Write short note on aircraft movement message and call signs.

Or

(b) Explain about communication imperatives for operations on airports and runways.

13. (a) How to encounter communication in an aviation company?

Or

(b) Explain the communication procedure due to animal hazard.

14. (a) Write the communication procedure when an aircraft is lost.

Or

(b) Explain SELCAL.

15. (a) Explain about aircraft call signs.

Or

(b) Explain aeronautical fixed telecommunication network.

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Part C (3 × 10 = 30)

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

16. (a) Explain in detail about ground to air communication.

Or

(b) Elaborate on evolution and development of technologies in aeronautical telecommunication.

17. (a) Explain the communication procedure during meteorological conditions.

Or

(b) Explain the communication procedures due to fire hazard.

18. (a) Explain in detail about aeronautical fixed telecommunication network.

Or

(b) Describe about aeronautical message handling system.

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B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

&

APRIL 2020 ARREAR EXAMINATION

Third Year

PRINCIPLES OF ROTORCRAFT

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. Define rotorcraft.

2. What are the various types of rotor?

3. What is meant by hovering?

4. What is blade stall?

5. What is the purpose of swash plate?

6. Define fly-by-wire.

7. What is meant by autorotation?

8. Define rate of climb.

9. What is meant by lagging motion?

10. What are the different types of stability in helicopter?

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

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

11. (a) Explain in detail about powerplant of helicopter.

Or

(b) Briefly explain the rotor controls.

12. (a) Explain the aerofoil characteristics of helicopter in forward flight.

Or

(b) Write short notes on maximum lift of helicopter.

13. (a) Explain the functions of rotor blades.

Or

(b) Define :

(i) Balancing

(ii) Rigging

(iii) Weighing.

14. (a) Explain about stability augmentation system.

Or

(b) How to calculate the gross weight of a jet helicopter?

15. (a) Discuss about the phenomenon of vibrations.

Or

(b) Explain static and dynamic balancing of motors.

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Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Discuss in detail about basic features and generation of lift in helicopter.

Or

(b) Define :

(i) Blade area required

(ii) No of blades

(iii) Blade form

(iv) Power losses

(v) Rotor efficiency.

17. (a) Explain :

(i) Power settling

(ii) Over pitching.

Or

(b) Explain the system operation of helicopter controls.

18. (a) Explain the construction and working of piston engines.

Or

(b) Explain :

(i) Aerofoil selection procedure

(ii) Blade construction

(iii) Factors affecting weight and cost.

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B.Sc. DEGREE EXAMINATION

AVIATION

APRIL 2021 EXAMINATION

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APRIL 2020 ARREAR EXAMINATION

Third Year

YOGA FOR HUMAN EXCELLENCE

(2017 onwards)

Duration : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1.   What is yoga?

2.   Write short note on patanjali.

3.   What is karma yoga?

4.   Define pranayama.

5.   Define physical education.

6.   Define Surya Namaskar.

7.   What is meditation?

8.   Define Dharana.

9.   What is vibasana meditation?

10.   Write any two asanas for better living.

Part B (5 × 5 = 25)

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

11. (a) Describe the origin of yoga.

Or

(b) Explain the objectives of yoga.

12. (a) Write a note on raja yoga.

Or

(b) Explain the parts of yoga.

13. (a) Mention the application of yoga in physical education.

Or

(b) Write a note on prepatory moments.

14. (a) Mention the classification of asanas.

Or

(b) Describe the benefits of pranayama.

15. (a) Write a note on Basti.

Or

(b) Explain Suryamudra.

Part C (3 × 10 = 30)

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

16. (a) Describe the yoga messages from Thirumoolar Thirumanthiram.

Or

(b) Explain Pathanjali's eight limits of yoga.

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17. (a) Explain the methods of teaching yogic techniques.

Or

(b) Explain the differences between yogasanas and physical exercises.

18. (a) Explain transcendental meditation.

Or

(b) Explain the technique bhastrika pranayama.

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