C–4976	Sub. Code
	97213

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

First Semester

Aviation

INTRODUCTION TO AVIATION INDUSTRY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Bilateral Agreement?

2. What do you mean by Low Cost Carrier?

3. Expand BCAS and DGCA.

4. Define Aerodrome.

5. What is ADIZ in Aviation Terminology?

6. What do you understand by Special Service Requirement Code?

7. Define Airport.

8. Difference between Layover and Stopover.

9. Write any two challenges faced by Airline Industry during Covid 19.

10. Define Airline.

Part B (5 × 5 = 25)

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

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

Or

(b) Write a brief notes on ICAO.

12. (a) Explain the functions of BCAS.

Or

(b) Explain the importance of CISF at Airports.

13. (a) Write a short notes on "Special service requirement codes".

Or

(b) Explain Commercial Aviation Terminology.

14. (a) Explain the functions of Domestics Airport.

Or

(b) Explain the structure of Airports.

15. (a) Explain the competition in Airline Industry.

Or

(b) Write short notes on Open Sky Policy.

Part C (3 × 10 = 30)

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

16. (a) Briefly explain-Airport Markings with neat diagram.

Or

(b) Explain about Freedom of Air.

17. (a) Explain about the Global and Indian scenario of Airport Management.

Or

(b) What are the role and responsibilities of Station Manager?

18. (a) Briefly explain the discuss briefly about Airport Regulatory Policies.

Or

(b) Explain various challenges faced by Airline Industry due to outbreak of Covid-19 Pandemic.

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C–4977

Sub. Code
97214

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

First Semester

Aviation

AIRPORT OPERATIONS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Aviation.

2. Where is the headquarters of ICAO and when it is established?

3. What is Floating Airport?

4. How Airports are classified?

5. Name the sources of Airport Revenues.

6. List out the different types of Customers.

7. What is Equinox?

8. Differences between Latitude and Longitude.

9. What are the Objectives of Air Traffic Services?

10. What is Airport Signs?

Part B (5 × 5 = 25)

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

11. (a) Explain briefly about the history of Aviation and Airport.

Or

(b) Why the Aviation Industry need for Standardization? Explain in detail.

12. (a) Explain in detail about Heliport and Water Airport.

Or

(b) Write a short note on

(i) International Airport.

(ii) Regional Airport.

(iii) Domestic Airport.

13. (a) Explain briefly how the customers are important for Airport Business.

Or

(b) Write short notes on Airport Cost and their impact on Airport Business.

14. (a) Describe the IATA Traffic Conference Areas.

Or

(b) Explain briefly about Handling of Travel Documents.

15. (a) Explain about the types of Runways.

Or

(b) Explain in detail about Ramp Services.

Part C (3 × 10 = 30)

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

16. (a) Describe briefly about the convention on ICAO.

Or

(b) Explain briefly about Airport Structures.

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

Or

(b) Explain briefly about the Economic and Physical Geography Heat Zone.

18. (a) Explain in detail about Airport Lighting with neat sketch.

Or

(b) Briefly explain about Aircraft Load Planning and Trimming.

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C–4978	Sub. Code
	97215

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

First Semester

Aviation

BASIC ELECTRICITY AND ELECTRONICS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Ohm's law.

2. Define Kirchhoff's current law.

3. What is the difference between Motor and Generator?

4. List out two applications of Shunt wound Generators.

5. Explain Rectifier.

6. Explain Zener diode.

7. What is Flip-flop?

8. Convert 348_{10} to Octal.

9. What is Demodulation?

10. List out two applications of communication system.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write five differences between single phase and three phase balanced circuits.

Or

(b) Write a short note on Dynamometer type Watt meter.

12. (a) Explain Single Phase Transformer.

Or

(b) Explain the construction of DC Machine.

13. (a) Write short notes on Bipolar Junction Transistor.

Or

(b) Write a short notes on PN Junction diode.

14. (a) Draw logic circuit and truth table for AND, OR, NOT, NOR and NAND gates.

Or

(b) Explain Full Adder with necessary truth table, expressions, and logic diagram.

15. (a) Explain frequency and Amplitude Modulation with diagram.

Or

(b) Write five differences between Analog and Digital Signal.

Part C

(3 × 10 = 30)

Answer **all** questions.

16. (a) Explain briefly about Single phase Induction Motors.

Or

(b) Explain Half wave and Full Wave Rectifiers.

17. (a) Explain briefly Digital to Analogue Converter.

Or

(b) Explain briefly Analogue to Digital Converter.

18. (a) Explain in detail SR Flip - Flop.

Or

(b) Explain in detail JK and D Flip - Flop.

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C–2081

Sub. Code
97223

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Second Semester

Aviation

AIR REGULATIONS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define:
   (a) Certificate of Airworthiness
   (b) Aerial Work
2. Define:
   (a) Commercial Operations
   (b) Scheduled operator
3. Define:
   (a) Health Officer
   (b) Infected Aircraft
4. Explain:
   (a) Flight Crew Member
   (b) Operator
5. Explain Serious injury
6. Explain Aircraft Accident Investigator.
7. Define Controlled Airspace.

8. Explain Taxi way and its Types.

9. What are purposes of Air Traffic Control?

10. Write short note on Fatigue and stress.

Part B (5 × 5= 25)

Answer **all** questions

11. (a) Write down the objectives of open sky policy.

Or

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

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

Or

(b) Write short notes on control areas and control zones.

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

(i) Decision making.

(ii) Avoiding and managing the errors.

Or

(b) Explain the effects human over load.

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

Or

(b) Describe about the all weather operation requirements.

Part C (3 × 10 = 30)

Answer **all** questions.

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

Or

(b) What is separation of Aircraft in Air Traffic Services and explain each type?

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

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) Explain procedure for grant of Approval to organization.

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C–2082	Sub. Code
	97224

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Second Semester

Aviation

AIRCRAFT AND ENGINE (GENERAL)

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define centre of Gravity.

2. List down the metallic materials used for aircraft construction.

3. Define drag force.

4. What you understand by monocoque construction.

5. Define Newton's laws of motion.

6. Explain about temperature, pressure and altitude relationship.

7. Define Composite materials.

8. Define Thrust.

9. What is jet propulsion?

10. Define Hooke's law?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Classify the types of aircraft with their applications?

Or

(b) Briefly explain about airfoils.

12. (a) Write short notes on empennage.

Or

(b) Explain primary flying controls.

13. (a) Briefly explain the three axes of motion of aircraft.

Or

(b) Explain about evolution of Lift and Drag forces.

14. (a) Write short notes four strokes of piston engine.

Or

(b) Briefly explain the main sections of a turbojet engine.

15. (a) Describe the fuselage construction.

Or

(b) Describe the stress – Strain relation with diagram?

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain the primary flying control conventional control system of aircraft.

Or

(b) Explain about the aircraft stability in three axes.

17. (a) Write brief notes on Gust envelope, Manoeuvring envelope.

Or

(b) Explain notes various types of flaps in aircraft control.

18. (a) Explain in detail about the Turbo jet engine operation.

Or

(b) Briefly explain about four types of gas turbine engines.

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C–4979

Sub. Code
97232

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Aviation

COMPUTER APPLICATIONS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Write down the characteristics of Computers.

2. What is the function of OS?

3. Write down the command to save a file in MS-WORD.

4. Name any 4 web browsers.

5. What is called pixel?

6. How will you paint a picture in coreldraw?

7. Differentiate between RAM and ROM.

8. Name any four output devices.

9. Mention the merits of ring topology.

10. What is the function of switches in computer network?

Part B (5 × 5 = 25)

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

11. (a) List and explain any 5 UNIX commands.

Or

(b) Explain the features of Windows 10 OS.

12. (a) How will you insert header and footer in MS-WORD? Explain the steps.

Or

(b) Explain the steps for slide transition in PowerPoint presentation.

13. (a) Describe the components of Multimedia.

Or

(b) Explain the various effects that can be produced in coreldraw.

14. (a) Explain the steps in Motherboard configuration.

Or

(b) Write about Booting process and Boot menu.

15. (a) Write short notes on LAN topology.

Or

(b) Explain the function of WiFi routers.

Part C (3 × 10 = 30)

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

16. (a) Explain the functions of CPU.

Or

(b) Describe the Edit menu in MS-WORD.

17. (a) Explain any ten functions in MS-EXCEL.

Or

(b) Compare features of Intel Pentium IV, Dual Core, Core 2 Duo and Quad processor.

18. (a) Explain the various transmission media and methods of communication.

Or

(b) Discuss on various Networking topologies.

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C–4980

Sub. Code
97233

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Aviation

AVIATION WEATHER AND METEROLOGY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Atmosphere?

2. What is Latitude?

3. What is Low Visibility?

4. What is Wake Turbulence?

5. What is Diurnal Variation?

6. What is Inversion?

7. What is Cloud Top?

8. What is Veering?

9. What are Synoptic Charts?

10. What is PIREP?

Part B (5 × 5 = 25)

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

11. (a) Explain about the Mesosphere.

Or

(b) Explain about the Thermosphere.

12. (a) What is Clear Ice? Explain its formation Of Clear Ice on the Aircraft.

Or

(b) Explain about Wind Shear and its effects on Aircrafts.

13. (a) Explain the variation of Pressure with Altitude with the help of a diagram.

Or

(b) Explain about Bi-Metallic thermometer.

14. (a) What is Convergence and Divergence?

Or

(b) Explain about Gusts and Squalls.

15. (a) What are Surface Weather Observations?

Or

(b) What are Prognostic and Pressure Charts?

Part C (3 × 10 = 30)

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

16. (a) Explain in detail about Troposphere and Stratosphere.

Or

(b) What is Coriolis Effect? Explain about the weather phenomenon affected by it.

17. (a) What is turbulence? Explain about the severity of turbulence.

Or

(b) Explain about the various types of mid-level and low level clouds.

18. (a) Explain in detail about Katabatic and Anabatic winds.

Or

(b) What is METAR? List the contents of a METAR Report.

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C–4981	Sub. Code
	97234

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Aviation

FLIGHT SAFETY AND SUPPORT SYSTEM

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Levelling?
2. Explain about Aircraft Cleaning.
3. Describe about Taxi Tracks.
4. What is a Control Tower?
5. What are Ground Service Equipment?
6. What are Hoisting Cranes used for?
7. Why are protractors used in Rigging?
8. What is Duplicate Inspection?
9. What is bleeding in Landing Gears?
10. Explain about the inspection of tyres of Aircrafts.

Part B (5 × 5 = 25)

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

11. (a) Explain about Levelling of an Aircraft.

Or

(b) Explain about Ground Signaling.

12. (a) Explain about Clear Zone Layout and Approach Zones in detail.

Or

(b) Explain about Airfield Lighting Systems.

13. (a) Explain about Air-Conditioning and Heating units in Aircrafts.

Or

(b) What are the equipment used in Maintenance of Aircrafts?

14. (a) Explain the Rigging of Control Surfaces.

Or

(b) Explain about Rigging Checks. What are the alignment and symmetrical checks involved?

15. (a) Explain the maintenance of Landing Gear Brakes in detail.

Or

(b) Explain the phenomenon of Shock Strut Charging.

Part C (3 × 10 = 30)

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

16. (a) Explain about Mooring of Aircrafts in detail.

Or

(b) Explain how Aircrafts are cleaned. How are they maintained?

17. (a) Explain about Runway Layouts and its Markings in detail.

Or

(b) Explain about Aircraft Rescue and Fire Fighting in detail.

18. (a) Explain in detail about maintenance of Wheel, Tyres and Tubes of an Aircraft.

Or

(b) Describe about brake system inspection of Aircrafts in detail.

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C–4982	Sub. Code
	97235

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Third Semester

Aviation

YOGA FOR HUMAN EXCELLENCE

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Short answer questions with no choice.

1. Describe yoga with Kuran.
2. Who is the founder of Yoga?
3. Write any five benefits of Asanas.
4. Define Jnana Yoga.
5. What is Niyama?
6. Define Prana.
7. Write any two names of prone Asanas.
8. What is rechaka?
9. Define vallalar meditation.
10. Write any two name of meditative Asanas.

Part B (5 × 5 = 25)

Brief answer with either or type.

11. (a) Describe the origin's and meaning of yoga.

Or

(b) Describe yoga with Thirconoolar Thirumoolar.

12. (a) Explain Raja Yoga.

Or

(b) Explain the importance and benefits of Yoga.

13. (a) Describe the principles of yogic practices.

Or

(b) Explain the physiological benefits of Yoga.

14. (a) Write note on preparatory movements.

Or

(b) Explain the physiological benefits of Tadasana and Vajrasana.

15. (a) Describe schools of meditation.

Or

(b) Explain Sri Aurobindo meditation.

Part C (3 × 10 = 30)

Essay type questions of either or type.

16. (a) Describe Yoga with Bhagavat Gita in brief.

Or

(b) Describe Eight limbs of yoga in brief.

17. (a) What is Suryanamaskar? Explain the physiological and psychological benefits.

Or

(b) What is Prana? Explain Ujjayi Pranayama with physiological benefits.

18. (a) Explain the technique of Suryanamaskar with breathing pattern.

Or

(b) Explain :

(i) Brahma Kumari's meditation

(ii) Vallalar meditation.

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C–4983	Sub. Code
	97242

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fourth Semester

Aviation

AIR NAVIGATION (GENERAL)

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Navigation?

2. What is Time Conversion?

3. List out the different types of Airspeed.

4. What is the difference between Course and Track?

5. Expand the following:
   (a) DME
   (b) GNSS
   (c) ADF
   (d) ACAS.

6. What are different types of Navigation?

7. Write about General Chart properties.

8. What is Conversion Angle?

9. What is Local Mean Time?

10. State Kepler's Law.

Part B (5 × 5 = 25)

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

11. (a) What is 1 in 60 rule? Explain about their application in Navigation.

Or

(b) Write a short notes on check and maintenance of Emergency Locator Transmitter.

12. (a) Briefly explain about Wind Correction Angle.

Or

(b) Briefly explain about Magnetic Compass and Magnetic Heading.

13. (a) Explain about Very High Omni Range (VOR).

Or

(b) Explain about Distance Measuring Equipment (DME).

14. (a) Explain in detail about Map reading with suitable examples.

Or

(b) With suitable example, explain about Conversion angle and scale of General charts used for Navigation.

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

Or

(b) Write short notes on Zone time and Local Time.

Part C (3 × 10 = 30)

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

16. (a) Explain briefly about the uses of Navigational Computers in Flight Navigation.

Or

(b) (i) What are different types of air speed?

(ii) Explain in detail about each one of them and their relationship.

17. (a) Write the difference and relationship between Course and Heading. Explain with example.

Or

(b) Explain about General Chart properties with suitable examples in Aircraft Navigation.

18. (a) Explain Briefly about Inertial Sensors used for Navigation.

Or

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

(ii) Write short notes on Automatic Direction Finder (ADF).

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C–4984	Sub. Code 97243

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021.

Fourth Semester

Aviation

AVIATION COMMUNICATION

(2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Call Sign, the used in Aviation Communication?

2. What are the applications of Morse code in Aviation Communication?

3. Write short notes on Position Report.

4. Write about Surveillance Radar Equipment (SRE).

5. What is the frequency band of Very High Frequency?

6. What are major components of HF Transceiver?

7. What is the major classification of Airspace?

8. Write short notes on En-route.

9. How radio communication is useful during emergency?

10. Why distress communication is required in Aviation?

Part B (5 × 5 = 25)

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

11. (a) Write short notes on CALL Sign.

Or

(b) Write short notes on Conditional Clearances.

12. (a) Explain in detail about Position Report.

Or

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

13. (a) Explain about Fixed Telecommunication Network.

Or

(b) Explain in detail about Altimeter Regions.

14. (a) Write short notes on Landing Procedure of ATC.

Or

(b) Explain about Flight Plans.

15. (a) Explain the Distress Communication Procedure during Emergency.

Or

(b) List out the reason for Communication Failure caused in Aviation and explain in detail.

Part C (3 × 10 = 30)

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

16. (a) Explain briefly about Radar Procedures carried out in ATC / GCA.

Or

(b) Give the meaning of following phrases of Aviation Communication:

(i) BREAK BREAK

(ii) AFFIRM

(iii) CROSS

(iv) DEPART

(v) COMPLY

(vi) CONTACT

(vii) CORRECT

(viii) CORRECTION.

17. (a) Explain in detail about the following :

(i) Area Control Service

(ii) Approach Control Service.

Or

(b) Write short notes on the following:

(i) Airborne Radio Relay

(ii) Inter Phone

(iii) ACARS

(iv) Service Telephone

18. (a) Explain in detail about Landing Procedure of ATC Communication.

Or

(b) Explain briefly about Communication failure in ATC with Aircraft.

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C–4985	Sub. Code 97244

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fourth Semester

Aviation

LOGISTICS AND AIR CARGO MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Inventory Buffers?

2. What are 4 P of Marketing?

3. What is Transportation Packaging?

4. Define skimming Strategy.

5. What do you mean by PDCA Cycle?

6. Define Global Supply Chain.

7. What is Valuation Charges?

8. Define Special Cargo.

9. What is Bill of Entry?

10. What is bill of Ladding?

Part B (5 × 5 = 25)

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

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 need of International Documentation.

Or

(b) Describe the various steps improving Logistics Performance.

14. (a) Explain the importance of Air Cargo during this pandemic situation.

Or

(b) Write a short notes on Perishable Cargo and Valuable Cargo.

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, choosing either (a) or (b).

16. (a) Explain the objectives and types of Inventory Management.

Or

(b) Explain various types of Warehouse with suitable examples.

17. (a) Explain eleven Steps in a Standard Procurement Cycle.

Or

(b) Explain the benefits of Supply Chain Management System.

18. (a) Explain the process and procedure of handling valuable Cargos.

Or

(b) Explain Cargo Terminals and facilities.

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C–4986	Sub. Code
	97251

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Aviation

PUBLIC RELATIONSHIP IN THE AVIATION INDUSTRY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Market Segmentation?

2. What is Mission?

3. Define Leisure Services.

4. What do you mean by the term “Positioning”?

5. Define E-Media.

6. Write any two issues in Public Relationship.

7. What do you mean by crisis at an Airport?

8. Define Public Relationship.

9. What is Persuasion?

10. Define Human Relations.

Part B (5 × 5 = 25)

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

11. (a) Explain meaning and nature of Services.

Or

(b) Explain the Marketing Plan in detail.

12. (a) Discuss the scope of Tourism Industry.

Or

(b) Explain five stars of Service Quality.

13. (a) Discuss the benefits of public relation in terms of Aviation.

Or

(b) Explain the issues in Public Relations.

14. (a) Discuss the various aspects of Crisis Management.

Or

(b) What are the various types of Crisis?

15. (a) Describe the components of Communication.

Or

(b) What are the various types of Public Relations Model?

Part C (3 × 10 = 30)

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

16. (a) Discuss the objectives of Public Relations.

Or

(b) Explain VALS approach of Market Segmentation.

17. (a) What are the characteristics of a tourist? Discuss various forms and categories of travel.

Or

(b) Discuss the Do's and Don'ts in media handling.

18. (a) Discuss the procedure of Managing Crisis.

Or

(b) What do you mean by PR Planning? Explain the elements of Public Relations.

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C–4987	Sub. Code
	97252

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Aviation

AIRCRAFT SYSTEMS AND INSTRUMENTS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are the components of Landing Gear Systems?

2. Classify Shock Absorbers.

3. Differentiate between Fly By Wire and Conventional System.

4. What do you mean by Active Control Technology?

5. Classify Fuel Systems.

6. What are the Lubricating Systems used for Jet Engine?

7. What are Air-Conditioning Systems?

8. Write a note on basic Air Cycle System.

9. What are the various types of Engine Instruments?

10. List out few Flight Instruments.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Why Pressurized Reservoirs are used in Aircraft? Explain with neat sketch in brief.

Or

(b) Explain in brief the working function any two Hydraulic Components given below:

(i) Double Acting Piston Pump.

(ii) Gear Pump.

(iii) Heat Exchanger.

(iv) Accumulator.

12. (a) Explain in detail about Fully Powered Flight Controls.

Or

(b) Explain about Autopilot Mechanism with neat sketch.

13. (a) What are the different types of Fuel Tanks?

Or

(b) What are the essential properties of Lubricating Fuels?

14. (a) Briefly explain about De-Icing and Anti-Icing System.

Or

(b) Illustrate with neat sketches about basic Vapour Cycle Machines.

15. (a) Explain in detail about the principle and operation of Altimeters.

Or

(b) Briefly explain about Accelerometers.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain with neat sketches the working of the typical Hydraulic System used for the Boeing 727 Aircraft (Right System).

Or

(b) Explain in detail about Fly By Wire Systems with neat sketches.

17. (a) Explain with neat sketches the principle and working of High Tension Magneto Ignition system used in the aircraft power plants?

Or

(b) Explain with neat sketches the Evaporative Vapor Cycle Cooling Systems and discuss its merits and demerits.

18. (a) What is Gyroscope? What are the properties of Gyroscope? With the help of neat sketch explain different parts of a Gyroscope?

Or

(b) What are the various types of an Engine Instruments? Briefly explain any three of them.

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C–4988	Sub. Code
	97253

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Aviation

AVIATION SECURITY AND SAFETY

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is Aviation Security?

2. Expand FAA and CISF.

3. What is Passenger Screening?

4. What is a Sterile Area?

5. What is Fencing?

6. Expand IED and IBD.

7. What are the different Security Handling methods?

8. What is Baggage Screening?

9. What are the contingency plans for Bomb Threats?

10. What is the action taken for a specific Bomb Threat?

Part B (5 × 5 = 25)

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

11. (a) What is the organizational structure of the Indian Aviation Security?

Or

(b) What is the role of CISF in Indian Aviation? Explain.

12. (a) Explain pre-hold Screening of Passengers.

Or

(b) What is process involved in managing Bomb Threats?

13. (a) Explain about the Hostage Negotiation Process.

Or

(b) What are Isolated Aircrafts and how are they parked?

14. (a) Explain about Escorting People and Consignments.

Or

(b) What is Weapon Handling? Explain in detail.

15. (a) Write short notes on

(i) Response time for Bomb Threats.

(ii) Evaluation of call for Bomb Threats.

Or

(b) Explain about Airport Emergencies and its types.

Part C (3 × 10 = 30)

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

16. (a) What is the role of BCAS in Indian Aviation?

Or

(b) Explain about the difference of security measures followed by FAA and Ministry of Civil Aviation in detail.

17. (a) Explain about bomb threat analysis in detail and the nature of Bomb Threats.

Or

(b) Explain about hijacking and how Hijacking is handled by security protocols put in place.

18. (a) Explain about various Security Handling Methods.

Or

(b) Explain about Searching Techniques involved for bomb threats in detail.

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C–4989	Sub. Code
	97254

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Aviation

RADIO AIDS AND INSTRUMENTS

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are Radio Waves?

2. Define Amplitude.

3. What is Critical Angle?

4. What is Attenuation?

5. Expand LF and UHF.

6. Expand VHF and VLF.

7. What is Cone of Confusion?

8. Define Bearing.

9. Expand RADAR.

10. What is SSR?

Part B (5 × 5 = 25)

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

11. (a) Explain about Modulation and different types of Modulation.

Or

(b) Define Wavelength and Frequency. Explain the relationship between Wavelength and Frequency.

12. (a) Explain about Sky Waves and Ground Waves.

Or

(b) What is Fading? Explain briefly about it.

13. (a) Explain about HF Radio Waves.

Or

(b) Explain about UHF Radio Waves.

14. (a) Explain the working of NDB/ADF System.

Or

(b) Explain the working of VOR system.

15. (a) What is Precision Approach Radar? Explain briefly.

Or

(b) Explain about Secondary Radar.

Part C (3 × 10 = 30)

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

16. (a) Explain in detail about Phase Modulation.

Or

(b) Explain about

(i) General properties of Radio Waves.

(ii) Polarization.

17. (a) Explain in detail about Multi-Hop Refraction.

Or

(b) Describe the factors affecting Range of Communication?

18. (a) Explain in detail the working of ILS System.

Or

(b) What is Secondary Surveillance RADAR? Explain in detail about it.

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C–4990	Sub. Code
	97255

B.Sc. DEGREE EXAMINATION, NOVEMBER 2021

Fifth Semester

Aviation

Elective Course — TOTAL QUALITY MANAGEMENT

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Total Quality Management.

2. What are the major benefits of TQM?

3. What is the use of Performance Appraisal?

4. Name any two popular awards for Quality.

5. Explain the stages of FMEA.

6. What are the reasons for Bench Marking?

7. What is Quality Circle and its structure?

8. What is the essential feature of Total Productive Maintenance?

9. What are the general requirements of Quality Management System?

10. What is Third Party Audit?

Part B (5 × 5 = 25)

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

11. (a) Explain the basic concepts of TQM in detail.

Or

(b) What is Service Quality? Explain its various elements towards Customer Satisfaction.

12. (a) Explain the different types of Teams, and explain the various steps involved in developing a Team.

Or

(b) Explain in detail about Performance Appraisal. What are its benefits?

13. (a) Explain seven traditional tools for quality of TQM.

Or

(b) Explain bench marking and its steps with an example.

14. (a) Explain about Taguchi's Quality Loss Function.

Or

(b) Explain about TQM Philosophy.

15. (a) Explain the elements and implementation of ISO 9000 (ISO 9000:2000) Standards.

Or

(b) Explain in detail about Environment Management Systems and the benefits of EMS.

Part C (3 × 10 = 30)

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

16. (a) Explain the contributions of Deming and Crosby to TQM.

Or

(b) Define Deming Philosophy and fourteen points for improvement of Quality Management.

17. (a) Explain Six Sigma concepts with an example.

Or

(b) Explain the failure mode and effect analysis (FMEA) and its types with an example.

18. (a) Explain the pillars of TPM and its benefits and how they are implemented.

Or

(b) Discuss the implementation requirements of ISO standards to IT Industries/Service Sectors and Airline Industry.

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