

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Introduction to Aeronautics	Mehul (707)	Various efforts in pre-weight brother's eve to fly <ul style="list-style-type: none">* Ornithopter* Montgolfier hot air balloons* Hydrogen filled balloon by J.A.C Charles.* Sir George Cayley's design.* Cayley's model glider.* William Samuel Hansom's aerial steam carriage* Stringfellow's model* Du Temple's airplane* Mozhaiski's aircraft* Otto Lilienthal's glider* Picher's glider	—
02	Introduction to Aeronautics	Rahul Raj (710)	Classification of airplanes by configuration <ul style="list-style-type: none">* Position of wings in respect to axis of fuselage* Number of wings* Shape of wings* Position of wings	—
03	Introduction to Aeronautics	Feroz Khan (711)	Classification of airplanes by power plants <ul style="list-style-type: none">* Power plant types* Number of engine* Location of engine	—
04	Introduction to Aeronautics	Rajat (712)	Lift argumentation devices <ul style="list-style-type: none">* Devices to control camber* Devices to control the flow at leading edge* Devices to control boundary layer* Assisted lift during take off.	—

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
05	Introduction to Aeronautics	Nagvi (715)	Thrust arguments in engines * Thrust argumentation in piston engine * Thrust argumentation in jet engine	—
06	Introduction to Aeronautics	Salil (717)	Various means of producing power in airplane * What is power plant * Classification of power plant - Indirect reaction power plants principles of operations - Direct reaction power plants principle of operations - Pure reaction power plants principle of operations	—
07	Introduction to Aeronautics	Navejot (719)	Classification and functioning of direct reaction power plants * Turbo jet * Turbo prop * Turbo fan * Turbo shaft * Ram jet * Pulse jet * Scram jet	—
08	Introduction to Aeronautics	Taqvi (720)	Progress in Airoscope applications * Progress in speed and altitude * Progress in space vetriclès * Progress in satellites * Progress in space craft * Space shuttle	—

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
09	Introduction to Aeronautics	Vivek (721)	Stability of an Airplane <ul style="list-style-type: none">* What is stability of airplane* Static and dynamic stability* Dynamic instability during flight- Spin- Spiral- Phugoid- Dutch roll	—
10	Introduction to Aeronautics	Vaishali (722)	V-N Diagram of airplane why do we need such diagram? <ul style="list-style-type: none">* What is Load factor* What is V-N diagrams* What is requirements of V-N dagram	—
11	Introduction to Aeronautics	Himalay (723)	VTOL Aircraft <ul style="list-style-type: none">* What is VTOL* Configuration/features of such aircraft* Principle of operation of VTOL aircraft* What is a no tail rotor aircraft? How it function?	—
12	Introduction to Aeronautics	Nilesh (724)	Function of a Turbo for engine? <ul style="list-style-type: none">* Schematic diagram* Identification of components* Principle operation* Thrust calculation	—

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
13	Introduction to Aeronautics	Rohit (725)	<p>Different types of drag acting on airplane during flight</p> <ul style="list-style-type: none"> * Drag due to wing * Drag due to trailing vortices * Drag due to parasite surfaces * Drag due to inter borence * Drag due to shock wave/ compressibility. 	✓
14	Introduction to Aeronautics	Jay Prakash (729)	<p>Mechanical properties required by materials to be used in Airplane construction</p> <ul style="list-style-type: none"> * Hardness * Elasticity * Ductility * Malleability * Strength to weight ratio * Conductivity 	✓
15	Introduction to Aeronautics	Rohit Kz. (730)	<p>Advanced composite structure used in modern airplane</p> <ul style="list-style-type: none"> * Advantage of use * What is advanced composite structure. * Basic component of an advanced composite structure. <ul style="list-style-type: none"> - Reintorcing materials <ul style="list-style-type: none"> Type of reintorcing materials Purpose of wing each type of materials <ul style="list-style-type: none"> - Matrix materials <ul style="list-style-type: none"> Type of matrix materials Purpose of using each type of materials - Core materials <ul style="list-style-type: none"> Type of core materials Purpose of using each type of material 	✓

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	A/C Materials	Joel (731)	Explain about carbon steels and their usages. <ul style="list-style-type: none">* Dead mild steel* Mild steel* Medium carbon steel* High carbon steel	—
02	A/C Materials	Jennifer (732)	Apprise about various alloying elements with their properties. <ul style="list-style-type: none">* Aluminium- Deoxidizer, light, corrosion resistant* Magnesium- Casting* Chromium- Wear resistance* Cobalt- Magnetic properties* Tungsten and molybdenum- Red hardness* Vanadium- Shock resistance	—
03	A/C Materials	Prashant (733)	Explain the classification of steel <ul style="list-style-type: none">* As per components* As per specified properties* As per alloying elements* As per application	—
04	A/C Materials	Saleem (734)	Explain about resurfacing fibers used in composite construction with their specify properties <ul style="list-style-type: none">* Fiber glass- 'S' and 'E' classes.* Aramid- Tensile strength.* Carbon/Graphite- Compressive strength.* Boron- Very hard, dangerous* Ceramic- Heat insulater	2/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
05	A/C Materials	Aliza (739)	Explain about matrices and advantages of pre-prag fibers. * Thermo plastic * Thermo setting * Correct proportion of fiber and matrix	2/4
06	A/C Materials	Radhika (741)	Explain how aluminium alloy are heat treated * Solution heat treatments. * Precipitation hardening * Natural aging * Artificial aging	2/4
07	A/C Materials	Sunil (742)	Explain the purpose and various method of case hardening * Surface hardening * Cementation process * Box processes * Solid carburizing * Liquid carburizing * Gaseous carburizing	2/4
08	A/C Materials	Ajeet (745)	What are the various methods of metal identification * Ring tones * Magnetic properties * Chipping * Sparked while grinding * Effects of caustic soda. * Effects of copper sulphate	2/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
09	A/C Materials	Atharv (747)	Explain about the advantage of composites and types of composite structures. <ul style="list-style-type: none">* Light, cheap* Non corrosive* Strength to weight ratio* Economical* Laminations, sandwich constructions	2/4
10	A/C Materials	Gaurav (749)	What are the core materials and their purpose <ul style="list-style-type: none">* Foams types* Honey combs* High strength with less weight	2/4
11	A/C Materials	Suraj Raghav (752)	Briefly explain about the tensile test performed on the steel specimen <ul style="list-style-type: none">* Preparation of specimens* Marking of gauge length* Application of load Plotting of: <ul style="list-style-type: none">- Proportional limit- Elastic limit- Yield point- Ultimate tensile strength.	2/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester -4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
12	A/C Materials	Ragini (753)	Briefly explain the types of corrosion and their causes * Surface corrosion * Galvanic corrosion * Intercrystalline corrosion * Dissimilar metals * Atmospheric condition * Incorrect heat treatment	2/4
13	A/C Materials	Vishal (754)	Briefly explain about the various types of foams used as the core material. * Styro foam * Urethane * Strux * Poly vinyl chloride(pvc)	2/4
14	A/C Materials	Giteesh (756)	How to detect the surface cracks on metals by dye-panetrant method? * Panetrant * Panetrant removers * Developer * Interpretation of cracks.	2/4
15	A/C Materials	Gopal (764)	Explain in detail the Ultra sound method of cracks detection. * Pizo electric material * Creation of sound waves * Wave length * Cathode rays tube	16/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Machine design	Chashikant (770)	Factor of safety in machine design * Definition * Selection of factor of safety * Significance of factor of safety * Function of factor of safety * Factor of safety value for different materials	16/4
02	Machine design	Amy (773)	Power Screws * Types of screw threads used for power screw * Multiple threads * Self locking and over hauling screws * Differential and compound screws	16/4
03	Machine design	Niket (774)	Regenerative Breaking System * Expected points: * Meaning of Regenerative breaking system * Working Principle * Advantages * Efficiency with regenerative breaking system	16/4
04	Machine design	Atul (778)	Flat Belt Drives * Expected points: * Selection of belt drives * Material used for belts * Belt Speed * Belt joints * Power transmitted by belts	16/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
05	Machine design	Shubham (779)	V- belt and rope drives * Expected points: * Types of V- belts and pulleys * Advantages and disadvantages * Rope drives concept and advantages * Wire rope fasteners	16/4
06	Machine design	Ashay (781)	Various types of clutches in Machine design * Expected points: * Types of clutches * Positive clutches * Friction clutches * Disc plate clutches	16/4
07	Machine design	Shubham (783)	Design of spring * Expected points * Types of spring * Material for helical spring * Buckling of compression spring * Construction of leaf spring * Standard sizes of automobile suspension springs	16/4
08	Machine design	Ishwarya (785)	Designing view on spur gears * Expected points: * Involute and cycloidal teeth * Interference phenomenon * Design consideration of spur gear * Dynamic tooth load	16/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
09	Machine design	Syed (786)	Loading conditions on welded joints * Expected points: * Lap and butt joints * Strength of transverse fillet welded joints * Strength of parallel fillet welded joints * Eccentrically loaded welded joints	16/4
10	Machine design	Raja Yadav (787)	Design considerations on riveted joints * Expected points: * Method of rivets * Types of riveted joints * Failure and design of riveted joints * Applications	16/4
11	Machine design	Ananthu (788)	Manufacturing considerations in machine design * Expected points: * Manufacturing processes * Interchangeability * Basis of limit system * Roughness and measurement	23/4
12	Machine design	Dharmendra (789)	Design of chain drives * Expected points: * Terms used in chain drive * Velocity ratio of chain drives * Characteristics of roller chain drive * Maximum speed for chains * Design procedure of chain drives	23/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
13	Machine design	Mimani (790)	Concept of worm gears * Expected points: * Terms used in worm gearing * Types of worm gears * Wear tooth load on worm gear * Applications * Design of worm gears	23/4
14	Machine design	Vikasli (793)	Designing of internal combustion engine parts * Expected points: * Principal parts of an I.C. engine * Design of cylinder and piston * Design of piston pin * Design procedures of crankshaft * Efficiency of I. C. Engine	23/4
15	Machine design	Abhiramjan (799)	Concept of cylindrical shells * Expected points: * Classification of pressure vessels * Stresses in thin cylindrical shell due to internal pressure * Cylindrical heads and cover plates * Stresses in compound cylindrical shells. * Thin spherical shells and their design.	23/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester -4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Instruments & Control Engineering	Priyank (800)	Open loop and closed loop system * Brief Introduction of both * Examples of both * Advantage & Disadvantage of both * Elements of both the systems * Comparison of both the systems.	23/4
02	Instruments & Control Engineering	Aakash (801)	CRT * Brief introduction * Construction, principle & working. * Screen for CRTs * Basic CRO circuits * Measurement of phase & frequency.	23/4
03	Instruments & Control Engineering	Rahul K. (809)	Thermocouple * Brief Introduction * Construction of thermocouple * Principle & Working * Advantage & Disadvantages * Application	23/4
04	Instruments & Control Engineering	Manoj (812)	LVDT * Brief Introduction * Construction of thermocouple * Advantage & Disadvantages * Applications	23/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
05	Instruments & Control Engineering	Aman Deep (708)	Wave Analyses * Brief Introductions * Types of wave Analyzers * Principle & Working * Applications of wave Analyzers	23/4
06	Instruments & Control Engineering	Naveen (709)	Strain gauge * Brief Introduction * Theory of strain gauge * Types of strain gauge * Advantage & Disadvantages.	23/4
07	Instruments & Control Engineering	Hardeep (718)	Thermistors * Brief Introduction * Construction of thermistors * Resistance-tempt. Characteristics of Thermistor. * Voltage-current & current time char of thermistor. * Salient features * Applications.	16/4
08	Instruments & Control Engineering	Ashutosh (727)	Piezo-Electric Transducer * Brief Introduction * Modes of operation * Properties of Piezo-electric crystals * Salient features * Applications.	16/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester -4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
09	Instruments & Control Engineering	Mubhtar (728)	Ultrasonic Flow Transducer * Brief Introduction * Principle & operation * Properties * Applications.	16/4
10	Instruments & Control Engineering	Raghav (735)	Study of Errors in Instruments measurements * Limiting Error * Relative limiting Error * Combination of Errors * Types of Errors	16/4
11	Instruments & Control Engineering	Piyush (737)	Digital Voltmeter * Introduction * Types and their working * Applications	16/4
12	Instruments & Control Engineering	Vishal Pandey (738)	Burden tubes * Brief introduction * C-type * Spiral * Twisted * Helical * Applications	16/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester -4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
13	Instruments & Control Engineering	Vivek (743)	Tachometer Generators * D.C Tachometer Generators * Advantage & Disadvantages * A.C Tachometer Generators * Applications	16/4
14	Instruments & Control Engineering	Deepak Sain (746)	Transducers * Introduction * Classification of transducers * Input characteristics * Transfer characteristics * Transducer response * Output characteristics * Applications	16/4
15	Instruments & Control Engineering	Seijan (751)	RTD * Brief Introduction * Construction of RTD * Theory of RTD * Characteristics of RTD materials * Applications of RTD	16/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Fluid Mechanics	Manya (757)	Surface tension and capillarity * Introduction * Cohesion and adhesion * Surface tension * Pressure inside a water droplet/bubble * Capillary rise and capillary depression * Meniscus effect (concave and convex meniscus)	16/4
02	Fluid Mechanics	Gajananand Jat (763)	Hydrostatic forces on submerged surfaces * Introduction * Force on a horizontal submerged plane surface * Force on a vertical plane submerged surface * Force on an inclined submerged plane surface	16/4
03	Fluid Mechanics	Rahul Saini (765)	Dimensionless numbers and their significance * Ronald's number (Re) * Fraud number (Fr) * Mach number (M) * Weber number (W) * Yeller number (E) * Significance of these dimensionless numbers	2/4
04	Fluid Mechanics	Himanshu (766)	Laminar viscous flow * Introduction to laminar flow * Naiver – Stokes equations of motion * Laminar flow between stationary parallel plates * Laminar flow in circular pipes (Haven Poiseuille equation)	2/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
05	Fluid Mechanics	Amit (767)	Turbulence and turbulent flow through pipes <ul style="list-style-type: none">* Growth of instability and transition from laminar to turbulent flow* Effects of turbulence* Turbulence intensity* Scale of turbulence* Isotropic and homogenous turbulence* Kinetic energy of turbulence	2/4
06	Fluid Mechanics	Naman (771)	Laminar and turbulent boundary layers <ul style="list-style-type: none">* Description of boundary layer* Boundary layer parameters* Boundary layer thickness* Displacement thickness* Momentum thickness* Energy thickness* Velocity profiles within a boundary layer* Boundary layer control	2/4
07	Fluid Mechanics	Manish (794)	Flow in open channel <ul style="list-style-type: none">* Introduction* Terms related to open channel flows* Classification of open channel flows* Flow analysis : the Chezy equation* Economical section for maximum discharge	2/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
08	Fluid Mechanics	Saurav (796)	Compressible flows in fluid mechanics * Introduction to compressible flows * Basic thermodynamic relations * Basic thermodynamic processes * Isocaloric (constant volume process) * Isobaric (constant pressure process) * Isothermal (constant temperature process) * Adiabatic process * Isentropic flow relations	2/4
09	Fluid Mechanics	Harsh (804)	Flow through orifices * Hydraulic coefficients * Discharge through a sharp edged large orifice * Discharge through a submerged or drowned orifice * Discharge through a partially submerged orifice	2/4
10	Fluid Mechanics	Yash (805)	Flow through mouthpieces * Introduction * Flow through an external cylindrical mouthpiece * Flow through an internal cylindrical mouthpiece	2/4
11	Fluid Mechanics	Deepak (806)	Flow through notches and weirs * Discharge over a rectangular weir * Discharge over a submerged rectangular weir * Discharge over a broad crested weir * Discharge over a triangular or V-notch * Discharge over a trapezoidal weir	2/4

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
12	Fluid Mechanics	Vubatekumar (808)	Hydraulic turbines <ul style="list-style-type: none">* Impulse and reaction turbines* Pluton turbine* Work done and efficiency of a pluton wheel* Design aspects of pluton wheel* Radial flow impulse turbine	2/4
13	Fluid Mechanics	Hamdan (930)	Hydraulic pumps <ul style="list-style-type: none">* Introduction* Pump classification and selection criteria* Pump applications* Centrifugal pumps and its classification* Pressure changes in a pump* Pump losses and efficiencies	2/4
14	Fluid Mechanics		Hydraulic systems <ul style="list-style-type: none">* Hydraulic accumulator* Hydraulic intensifier* Hydraulic crane* Hydraulic lift* Hydraulic press	
15	Fluid Mechanics		Flow losses in pipes <ul style="list-style-type: none">* Introduction* Types of losses* Minor and major losses* Tracy equation for head loss due to friction* Minor head losses* Sudden enlargement* Sudden contraction* Losses at bends, elbows, tees and other fittings	

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester -4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	THEORY OF MACHINES		Introduction to machines. * Kinematics of machines * Dynamics of machines * Kinematic links & pair * Degree of freedom	
02	THEORY OF MACHINES		Study of different mechanism. * Four bar chain * Pantograph * Scott russel mechanism * Modified scott russel mechanism * Techbeicheff straight line mechanism	
03	THEORY OF MACHINES		Friction * Static friction * Dynamic friction * Laws of friction * Coefficient of friction	
04	THEORY OF MACHINES		Brakes * Band brake * Block brake * Braking action	
05	THEORY OF MACHINES		Gears * Gear types * Gear nomenclature * Gear terminology * Law of gearing	

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester -4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
06	THEORY OF MACHINES		Study of different gears * Spur gear * Helical gear * Bevel gear * Rack and pinion gear	
07	THEORY OF MACHINES		Gear trains * Simple gear train * Compound gear train * Reverted gear train * Epicyclic gear train	
08	THEORY OF MACHINES		Gyroscope * Principle of gyroscopic couple * Effect of gyroscopic couple * Centrifugal force on airplane taking turn.	
09	THEORY OF MACHINES		Balancing of masses * Balancing of rotating masses * Balancing of reciprocating masses.	
10	THEORY OF MACHINES		Balancing of engines. * Balancing of v-engines. * Balancing of inline engines.	

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

B.Tech. Semester -4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
11	THEORY OF MACHINES		Theory of machines kinematics and dynamics of machines * Klein's construction * Coriolis component * Synthesis of mechanism	
12	THEORY OF MACHINES		Study of different mechanism * Four bar chain * Pantograph * Scott russel's mechanism * Modified scott russel mechanism	
13	THEORY OF MACHINES		Straight line motion mechanism * Techbiecheff straight line * Watt's indicator diagram	
14	THEORY OF MACHINES		Balancing of masses * Balancing of single mass rotating * Balancing of multi masses acting simultaneously	
15	THEORY OF MACHINES		Study of dynamometers * Absorption type * Transmission type * Prony type dynamometer * Rope type dynamometer * Hydraulic dynamometer	

