School of Aeronautics (Neemrana)

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

BATCH- 10

B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Fluid Mechanics	1018 – BRAHM DEO 1058 – PAVITRA DOSHI	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)	17-02-18 17-03-18
02	Fluid Mechanics	1019 – GAURAV 1059 – SHIVAM KRISHNA PANDEY	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	17-02-18 17-03-18
03	Fluid Mechanics	1021 – PAWAN KUMAR	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	17-02-18
04	Fluid Mechanics	1024 – ARSHDEEP	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)	17-02-18

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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	1033 – RAMANJOT SINGH	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	03 – 03 – 18
09	Fluid Mechanics	1034 – SOURABH MISHRA	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	10 – 03 – 18
10	Fluid Mechanics	1035 – MATTUKOYYA CHIMHAM	Flow through mouthpieces * Introduction * Flow through an external cylindrical mouthpiece * Flow through an internal cylindrical mouthpiece	10 – 03 – 18
11	Fluid Mechanics	1036 – PRANAV KUMAR VERMA	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	10 – 03 – 18

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B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Machine design	1060- DEEPAK SINGH SISODIYA	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	31-03-2018
02	Machine design	1061 – MANDADI ANIL REDDY	Power Screws * Types of screw threads used for power screw * Multiple threads * Self locking and over hauling screws * Differential and compound screws	31-03-2018
03	Machine design	1062 – ISHANT BHARDWAJ	Regenerative Breaking System * Expected points: * Meaning of Regenerative breaking system * Working Principle * Advantages * Efficiency with regenerative breaking system	31-03-2018
04	Machine design	1065 - HEMU JOSHI	Flat Belt Drives * Expected points: * Selection of belt drives * Material used for belts * Belt Speed * Belt joints * Power transmitted by belts	31-03-2018

School of Aeronautics (Neemrana)

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B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
09	Machine design	1072 - MEHAR SATSANGI	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	07-04-18
10	Machine design	1073 - MANVENDRA SINGH	Design considerations on riveted joints * Expected points: * Method of rivets * Types of riveted joints * Failure and design of riveted joints * Applications	07-04-18
11	Machine design		Manufacturing considerations in machine design * Expected points: * Manufacturing processes * Interchangeability * Basis of limit system * Roughness and measurement	
12	Machine design		Design of chain derives * Expected points: * Terms used in chain derive * Velocity ratio of chain derives * Characteristics of roller chain derive * Maximum speed for chains * Design procedure of chain derives	

School of Aeronautics (Neemrana)

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B.Tech. Semester - 4

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Introduction to Aeronautics	1000 - PRIYA	Various efforts in pre-weight brother's eve to fly * 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 * Due temple's airplane * Mozhaiskils aircraft * Octo lilienthal's glider * Pitcher's glider	13-01-2018
02	Introduction to Aeronautics	1002- ABHITENDRA LAKHERA	Classification of airplanes by configuration * Position of wings in respect to axis of fuselage * Number of wings * Shape of wings * Position of wings	13-01-2018
03	Introduction to Aeronautics	1003- ABHISHEK BHALLA	Classification of airplanes by power plants * Power plant types * Number of engine * Location of engine	20-01-2018
04	Introduction to Aeronautics	1004- ABHISHEK MAURYA	Lift argumentation devices * Devices to control camber * Devices to control the flow at leading edge * Devices to control boundary layer * Assisted lift during take off.	20-01-2018

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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	1009 – AKASH S	Stability of an Airplane * What is stability of airplane * Static and dynamic stability * Dynamic unstability during flight - Spin - Spiral - Phugoid - Dutch roll	27 – 01 – 18
10	Introduction to Aeronautics	1011 – SURKHAB SINGH	V-N Diagram of airplane why do we need such diagram? * What is Load factor * What is V-N diagrams * What is requirements of V-N dlagram	27 – 01 – 18
11	Introduction to Aeronautics	1013 – HITESH SURYAPRAKASH SHARMA	VTOL Aircraft * What is VTOL * Configuration/features of such aircraft * Principle of operation of VTOL aircraft * What is a no tail rotor aircraft? How it function?	10 – 02 – 18
12	Introduction to Aeronautics	1014 – VAIBHAV PANDEY	Function of a Turbo for engine? * Schematic diagram * Identification of components * Principle operation * Thrust calculation	10 – 02 – 18

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	1016 – VIJENDRA SINGH	Different types of drag acting on airplane during flight * Drag due to wing * Drag due to trailing vortices * Drag due to parasite surfaces * Drag due to iter borence * Drag due to shock wave/ compressibility.	10-02-18
14	Introduction to Aeronautics	1017 – ABHINAV PANDEY	Mechanical properties required by materials to be used in Airplane construction * Hardness * Elasticity * Ductility * Malleability * Strength to weight ratio * Conductivity	10-02-18
15	Introduction to Aeronautics		Advanced composite structure used in modern airplane * Advantage of use * What is advanced composite structure. * Basic component of an advanced composite structure. - Reintorcing materials Type of reintorcing materials Purpose of wing each type of materials - Matrix materials Type of matrix materials Purpose of using each type of materials - Core materials 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
05	Introduction to Aeronautics	1005 - PULKTT SIROHI	Thrust arguments in engines * Thrust argumentation in piston engine * Thrust argumentation in jet engine	20-01-18
06	Introduction to Aeronautics	1006 - AMAN AGARWAL	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	20-01-18
07	Introduction to Aeronautics	1007 - JASMEET KAUR	Classification and functioning of direct reaction power plants * Turbo jet * Turbo prop * Turbo fan * Turbo shaft * Ram jet * Pulse jet * Scram jet	27-01-18
08	Introduction to Aeronautics	1008 - ADITYA KUMAR	Progress in Airoscope applications * Progress in speed and altitude * Progress in space vetricles * Progress in satellites * Progress in space craft * Space shuttle	27-01-18

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
13	Machine design		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	
14	Machine design		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	
15	Machine design		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.	

School of Aeronautics (Neemrana)

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

B.Tech. Semester - 4

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05	Machine design	1066 - SHIVANSH VAIDYA	V- belt and rope drives * Expected points: * Types of V- belts and pulleys * Advantages and disadvantages * Rope drives concept and advantages * Wire rope fasteners	31-03-18
06	Machine design	1068 - SAURABH BAHUGUNA	Various types of clutches in Machine design * Expected points: * Types of clutches * Positive clutches * Friction clutches * Disc plate clutches	07-04-18
07	Machine design	1069 - VISHNU SAGAR	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	07-04-18
08	Machine design	1070 - BHANDERI AKSHAR GHANASHYAM	Designing view on spur gears * Expected points: * Involute and cycloidal teeth * Interference phenomenon * Design consideration of spur gear * Dynamic tooth load	07-04-18

School of Aeronautics (Neemrana)

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

B.Tech. Semester - 4

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12	Fluid Mechanics	1037 – PATEL SACHIN MUKESH	Hydraulic turbines * Impulse and reaction turbines * Pluton turbine * Work done and efficiency of a pluton wheel * Design aspects of pluton wheel * Radial flow impulse turbine	10-03-2018
13	Fluid Mechanics	1041 – SAURAV ROY	Hydraulic pumps * Introduction * Pump classification and selection criteria * Pump applications * Centrifugal pumps and its classification * Pressure changes in a pump * Pump losses and efficiencies	17-03-2018
14	Fluid Mechanics	1042 - RAHUL MONDAL	Hydraulic systems * Hydraulic accumulator * Hydraulic intensifier * Hydraulic crane * Hydraulic lift * Hydraulic press	17-03-2018
15	Fluid Mechanics	1053 - SHIVANSH KUMAR SHARMA	Flow losses in pipes * 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	17-03-2018

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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	1025 – SANDEEP KUMAR MOHANTY	Turbulence and turbulent flow through pipes * 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	03-03-18
06	Fluid Mechanics	1026 – SONALI CHOUDHURY	Laminar and turbulent boundary layers * 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	03-03-18
07	Fluid Mechanics	1032 – THATIKONDA JYOTHISWAROOP	Flow in open channel * Introduction * Terms related to open channel flows * Classification of open channel flows * Flow analysis : the Chezy equation * Economical section for maximum discharge	03-03-18