

School of Aeronautics (Neemrana)

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

B.Tech. Semester -5

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
04	Propulsion	Manoj Pal (812)	<p>Combustion chambers (Burners)</p> <ul style="list-style-type: none"> * Types * Components * Airflow distribution and cooling * Combustion efficiency * Main burner design parameters <p>After Burner</p> <ul style="list-style-type: none"> * Purpose * Process of after burning * Components - Diffusing - Fuel injection, atomization and vaporization - Ignition - Flame stabilization <p>Factions affecting stage processor ratio</p> <ul style="list-style-type: none"> * Top speed * Axial velocity * High fluid deflection in the rotor blades 	29/10/16
05	Propulsion			
06	Propulsion			

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
07	Propulsion		<p>Compressibility effects in axial flow compressors</p> <ul style="list-style-type: none"> * Effects of Mach number * Variation of entry Mach numbers * Shock loss * Cascade testing 	
08	Propulsion		<p>Limiting factors in Turbine design</p> <ul style="list-style-type: none"> * Centrifugal stresses * Gas bending stresses * Optimizing the design * Velocity triangles 	
09	Propulsion		<p>Liquid propellant rockets</p> <ul style="list-style-type: none"> * Selection of liquid propellant * Thrust control * Advantages of liquid propellant over solid propellant * Thrust equation 	

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
10	Propulsion		Advanced rocket propulsion Techniques <ul style="list-style-type: none">* Electric Rocket propulsion* Nuclear Rocket Propulsion	
11	Propulsion		Solid Propellant used in Rocket <ul style="list-style-type: none">* Types of Propellant* Processing method of propellant* Combustion process* Advantages of using solid propeller nets	
12	Propulsion		Explain types of turbojet compressors	
13	Propulsion		Explain all types of combustion chambers	
14	Propulsion		Explain about turbine nozzle diaphragm and turbine	
15	Propulsion		Explain the function and operation of exhaust system of a jet engine	
16	Propulsion		Explain about the purpose constructionist function of thrust reversion.	

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Mr. Srikant Tripathi

S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Aircraft Structure	Amit Choudhary (767) Shashikant Bhardwaj (779) Yash Kumar (805)	Slope and Deflection * Slope of cantilever beam with point load * Deflection of cantilever beam with point load * Slope of cantilever beam with U.D.L * Deflection of cantilever beam with point load * Slope of simply supported beam with point load at centre.	27/8/2016 24/9/16 29/10/2016
02	Aircraft Structure	Narman Gupta (771) Anuj Kumar (773) Deepak Gautam (806)	Double integration method * Derivation of slope and deflection * Calculation of slope and deflection for cantilever with U.D.L. * Calculation of slope and deflection for simply supported beam with U.D.L. and point load.	27/8/2016 24/9/16 29/10/2016
03	Aircraft Structure	Manish Singh (794) Niket (779) Alka Adhena Vankates -wara Reddy (808)	Maculaae's method * Slope of cantilever beam with point load * Deflection of cantilever beam with point load * Slope of cantilever beam with U.D.L * Deflection of cantilever beam with point load * Slope of simply supported beam with point load at centre.	27/8/2016 24/9/16 29/10/2016

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
04	Aircraft Structure	Saurav Kumar (796) Atul Tripathi (778)	Area moment Theorem * Derivation of slope and deflection * Calculation of slope and deflection for cantilever with U.D.L. * Calculation of slope and deflection for simply supported beam with U.D.L. and point load.	27/8/2016 24/9/16
05	Aircraft Structure	Mohd. Hamdan (980) Harsh Anand (804) Shubham Ajeet Singh (783) Singh (779)	Statically determinate structures * Analysis of plane truss * Types of frame * Indeterminate structures * Determinate structures	27/8/2016 24/9/16
06	Aircraft Structure	Yash Kumar (805) Akshya Bajwaa (781)	Method of joints * Supports concept * Calculation of reaction support * Calculation of force in the member * Sign notification * Tension and compression force calculation	10/9/2016 24/9/16 15/10/16

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07	Aircraft Structure	Deepak Gautam (806) Shubham Nair (783)	Method of section * Supports concept * Calculation of reaction support * Calculation of force in the member * Sign notification * Tension and compressions force calculation	10/9/2016 15/10/16
08	Aircraft Structure	Abhala Dana Venkateswara Reddy (808) I Iswarya Lekshmi	Graphical method * Space diagram * Bow notation * Scaling of frame * Measurement of force magnitude.	10/9/2016 15/10/16
09	Aircraft Structure	Mohd. Humdan (938) Syed AhRaz Hussain (786)	Statically indeterminate structure * Fixed beam concept * Calculation of restoring couple * Calculation of central deflection * Calculation of deflection with offset loading * Resolution fixed and reaction force	10/9/2016 15/10/16

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
10	Aircraft Structure	Raja Kumar Yadav (787)	<p>Energy methods</p> <ul style="list-style-type: none"> * Strain energy due to axial loading * Strain energy due to bending locking * Strain energy due to torsion locking * Strain energy due to shear locking * Strain energy due to compressive locking 	15/10/16
11	Aircraft Structure	Ananthu Venugopal (788)	<p>Castigating's theorem</p> <ul style="list-style-type: none"> * Derivation * Calculation of deflection for lamp post * Calculation of deflection for semi circular with loading. * Calculation of deflection for 3/4th are with loading 	22/10/16
12	Aircraft Structure	Dharamendra Kumar Yadav (789)	<p>Principle of virtual work</p> <ul style="list-style-type: none"> * Derivation * Calculation of partial deflection * Partial deflection of indeterminate beam * Calculation of reaction force 	22/10/16

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13	Aircraft Structure	Himani Pandya (790)	<p>Maxwell's Reciprocal theorem</p> <ul style="list-style-type: none"> * Derivation * Calculation of partial deflection * Partial deflection of indeterminate beam * Calculation of reaction force <p>Influence line diagram</p> <ul style="list-style-type: none"> * Calculation for unit load deflection * Calculation of deflection with U.D.L. * Variation of load with beam length * Variation of reaction force effect with length of beam. * Application 	22/10/16
14	Aircraft Structure	Vikash Kumar (793)	<p>Muller bursulae principle</p> <ul style="list-style-type: none"> * Unit load variation * Derivation of brashly formula * Calculation of indeterminate frame strength. * Calculation of indeterminate frame rigidly. 	22/10/16
15	Aircraft Structure	Abhisarjan Kumar Mawrya		22/10/16

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Fatigue and Fracture		<p>Elements of solid Machines</p> <ul style="list-style-type: none"> * Stress * Strain * Elasticity * Plasticity * Young's modulus <p>Common causes of failure</p> <ul style="list-style-type: none"> * Yielding * Buckling * Creep * Resonance * Wear * Deflection <p>Modes of Fracture</p> <ul style="list-style-type: none"> * Opening mode * Sliding mode * Tearing mode <p>Griffith's Analysis for energy method</p> <ul style="list-style-type: none"> * Surface energy * Energy released * Griffith's dilemma * Griffith's analysis 	
02	Fatigue and Fracture			
03	Fatigue and Fracture			
04	Fatigue and Fracture			

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
05	Fatigue and Fracture		Crack Resistance and R-curve * Crack Resistance * R-curve for Brittle materials * R-curve for Ductile materials	
06	Fatigue and Fracture		Stable and unstable crack growth * Description * G & R curve	
07	Fatigue and Fracture		Linear Elastic Fracture mechanics * Irwin's Assumption * Small scale yielding * Structure Analysis * Materials of LEFM	
08	Fatigue and Fracture		Elasto plastic Fracture mechanics * Plastic deformation * Materials of EPFM * Fracture Toughness * Classification based on plastic zone	

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
09	Fatigue and Fracture		<p>Stress Intensity Factor</p> <ul style="list-style-type: none"> * Axes wet to crack in a plate * Stress and displacement field * Derivation for stress intensity factor 	
10	Fatigue and Fracture		<p>Field equations</p> <ul style="list-style-type: none"> * Equilibrium eg. relating to stress components * Strain displacement relating * Stress strain relation 	
11	Fatigue and Fracture		<p>Airy's Function</p> <ul style="list-style-type: none"> * Biharmonic differential eg. derivation * Determination of Airy's function 	
12	Fatigue and Fracture		<p>Irwin's and Dugdale's approximation for plastic zone size</p> <ul style="list-style-type: none"> * Plastic zone size * Effect crack length * Irwin approach to find plastic zone size & effective crack length * Dugdale's approach to find plastic zone size & effective crack length 	

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
13	Fatigue and Fracture		<p>Relation b/w J-integral & CTOD</p> <ul style="list-style-type: none"> * J integral * Crack tip opening displacement 	
14	Fatigue and Fracture		<p>Factors Affecting fatigue crack propagation</p> <ul style="list-style-type: none"> * Alloy chemistry * Salt concentration * Heat treatment * Temperature * Humidity * Work hardening 	
15	Fatigue and Fracture		<p>NDT methods for detection of crack</p> <ul style="list-style-type: none"> * Non destructive testing * Other crack detecting methods * Derivation for NDT 	

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
01	Aircraft Rules and Regulation		<p>Constitution of India</p> <ul style="list-style-type: none"> * Introduction to constitution of India * Definitions * Importance of constitution of India * Parliament and its powers to make laws * Procedure to amend the constitution <p>Aircraft Act 1934</p> <ul style="list-style-type: none"> * Short title and extent * Power of central government to make rules * Power of central government to implement the convention of 1944 * Safety over site functions * Power of central Govt. to make rules for investigation of accidents and incidents * Power to detain aircraft * Public health * Emergency powers * Wreck and Salvage 	
02	Aircraft Rules and Regulation		<p>Aircraft Rules 1937</p> <ul style="list-style-type: none"> * Short title and extent * Definition of Interpretations * Delegation of powers * Power to hear appeals * General conditions of flying 	
03	Aircraft Rules and Regulation			

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
04	Aircraft Rules and Regulation		<ul style="list-style-type: none"> * General safety conditions * Registration and marking of aircraft * Airworthiness * Validation of types certificates <p>Privileges of AME Licence</p> <ul style="list-style-type: none"> * Responsibility and Privileges of AME license in categories A, C, E * Responsibility and Privileges of AME license in categories I, R, V * Responsibility and Privileges of AME license in categories B, D, X * Certification of the construction of components * Certification of the construction of Parts 	
05	Aircraft Rules and Regulation		<p>Issue of Authorization</p> <ul style="list-style-type: none"> * Introduction * Definition of Authorization * Powers of control Government * Certificate of Maintenance * Certificate of Flight * Issue of Approvals 	
06	Aircraft Rules and Regulation		<p>Civil Airworthiness Requirements (CAR)</p> <ul style="list-style-type: none"> * Introduction * Sec 1- General 	

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
07	Aircraft Rules and Regulation		<ul style="list-style-type: none"> * Sec 2- Airworthiness * Sec 3- Air transport * Sec 4- Aerodrome standard & Licensing * Sec 5- Air safety * Sec 6- Design standards & type certification * Sec 7- Flight Area standards, training & Licensing * Sec 8- Aircraft operations * Sec 9- Airspace & Air traffic Management * Sec 10- Aviation Environment Protection * Sec 11- Safe transport of dangerous good by Air <p>DGCA Circular</p> <ul style="list-style-type: none"> * Introduction to DGCA * Understanding the purpose, and implication and meaning of circular issued by DGCA * Aeronautical Information circular * Advisory circular * AME notices used by DGCA 	
08	Aircraft Rules and Regulation		<p>Knowledge of various mandatory documents</p> <ul style="list-style-type: none"> * Introduction * Definitions * Certificate of Registration * Certificate of Airworthiness * Flight manual * Export certificate of Airworthiness 	

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
09	Aircraft Rules and Regulation		<p>Approval Material</p> <ul style="list-style-type: none"> * Meaning and definition of Approval Material * Identification of Approval Material * Various documents issued for approval material * Various certificate issued for approval material * Airworthiness of Aircraft parts <p>Log hooks to be maintained for the aircraft</p> <ul style="list-style-type: none"> * Understanding the meaning and use of log books * Methods of maintaining the log books * Procedure for making entries in log books * Journey logbook * Use of schedules certificates and personation <p>Aeronautical stores</p> <ul style="list-style-type: none"> * Introduction * Definition of Aeronautical stores * Bonded stores * Quarantine stores * Storage of Aeronautical products * Storage of rubber goods * Storage of various fluids 	
10	Aircraft Rules and Regulation			
11	Aircraft Rules and Regulation			

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S.No	Subject	Name of Student	Seminar Topic	Date of Seminar
12	Aircraft Rules and Regulation		Understanding certification and certificates <ul style="list-style-type: none">* Necessity of certification* Importance of certification* Certificate of Flight release* Approval certificate	
13	Aircraft Rules and Regulation		Test flight <ul style="list-style-type: none">* Reasons and conditions under which test flight to be undertaken* Purpose of test flight* Importance of test flight* Certificate to be issued by AME* Circumstance under which C of A is suspended* Ferry Flight* MEL* CDL	