



EXCEL ENGINEERING COLLEGE
(Autonomous)

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NBA, NAAC with "A + " and Recognised by UGC (2f & 12B)
KOMARAPALAYAM – 637303

Department of Aeronautical Engineering

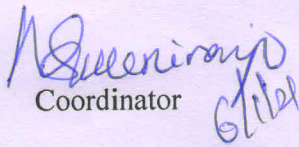
Academic Year 2020-21

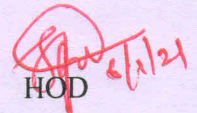
Ref: EEC/AERO/GATE/2020-21/01

Date: 06.01.2021

CIRCULAR

Department of Aeronautical Engineering is planned to conduct "GATE Coaching Class" from 18.01.2021 at 5.00 pm to 6:30 pm. GATE 2021 applied students and other interested students are directed to enroll their name to the respective Coordinator.


Coordinator


HOD

HOD / AERONAUTICAL ENGINEERING
EXCEL ENGINEERING COLLEGE,
KOMARAPALAYAM - 637 303.

To:

Notice Board

Copy to:

1. Chairman / Vice Chairman
2. Principal
3. HOD File
4. Teaching Coordinator





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Department of Aeronautical Engineering

Academic Year 2020-21

GATE Coaching Class Schedule

Day	Name of the Subject	Subject In charge
Day-1	Aerodynamics	N.Sreenivasaraja
		G.Velmurugan
		M.G.Rajagopal
Day-2	Engineering Mathematics	O.R.Lalitha
Day-3	Flight Mechanics	A.Karthikeyan
		S.R.Arun
Day-4	Space Dynamics	S.R.Arun
		Mrs.T.Muthumari
Day-5	Propulsion	Mr.M.G.Rajagopal
		M.Sanjay
Day-6	Structures	D.Vadivel
		S.Balasundaram
		S.Karthik

N. Sreenivasaraja
Coordinator 6/1/21

[Signature]
HOD 6/1/2021

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ACADEMIC YEAR 2020-21

GATE COACHING CLASS (5:00 pm to 6:30 pm)

S.NO.	NAME OF THE SUBJECT	SYLLABUS	NAME OF THE FACULTY
1.	Engineering Mathematics	Core Topics: Linear Algebra: Vector algebra, Matrix algebra, systems of linear equations, rank of a matrix, Eigen values and eigenvectors. Calculus: Functions of single variable, limits, continuity and differentiability, mean value theorem, chain rule, partial derivatives, maxima and minima, gradient, divergence and curl, directional derivatives. Integration, Line, surface and volume integrals. Theorems of Stokes, Gauss and Green. Differential Equations: First order linear and nonlinear differential equations, higher order linear ODEs with constant coefficients. Partial differential equations and separation of variables methods. Special Topics: Fourier Series, Laplace Transforms, Numerical methods for linear and nonlinear algebraic equations, Numerical integration and differentiation.	O.R.Laitha

2.	Flight Mechanics	Core Topics: Basics: Atmosphere: Properties, standard atmosphere. Classification of aircraft. Airplane (fixed wing aircraft) configuration and various parts; Airplane performance: Pressure altitude; equivalent, calibrated, indicated air speeds; Primary flight instruments: Altimeter, ASI, VSI, Turn-bank indicator. Drag polar; takeoff and landing; steady climb & descent, absolute and service ceiling; cruise, cruise climb, endurance or loiter; load factor, turning flight, V-n diagram; Winds: head, tail & cross winds; Static stability: Angle of attack, sideslip; roll, pitch & yaw controls; longitudinal stick fixed & free stability, horizontal tail position and size; directional stability, vertical tail position and size; dihedral stability. Wing dihedral, sweep & position; hinge moments, stick forces; Special Topics: Dynamic stability: Euler angles; Equations of motion; aerodynamic forces and moments, stability & control derivatives; decoupling of longitudinal and lateral-directional dynamics; longitudinal modes; lateral-directional modes.	A.Karthikeyan
3.	Space Dynamics	Core Topics: Central force motion, determination of trajectory and orbital period in simple cases. Special Topics: Orbit transfer, in-plane and out-of-plane.	S.R.Arun Mrs. T.Muthumari
4.	Aerodynamics	Core Topics: Basic Fluid Mechanics: Conservation laws: Mass, momentum (Integral and differential form); Potential flow theory: sources, sinks, doublets, line vortex and their superposition; Viscosity, Reynolds number. Airfoils and wings: Airfoil nomenclature; Aerodynamic coefficients: lift, drag and moment; Kutta-Joukowski theorem; Thin airfoil theory, Kutta condition, starting vortex; Finite wing theory: Induced drag, Prandtl lifting line theory; Critical and drag divergence Mach number. Compressible Flows: Basic concepts of	N.Sreenivasaraja G.Velmurugan

		compressibility, Conservation equations; One dimensional compressible flows, Fanno flow, Rayleigh flow; Isentropic flows, normal and oblique shocks, Prandtl-Meyer flow; Flow through nozzles and diffusers. Special Topics: Elementary ideas of viscous flows including boundary layers; Wind Tunnel Testing: Measurement and visualization techniques.	M.G.Rajagopal
5.	Structures	Core Topics: Strength of Materials: States of stress and strain. Stress and strain transformation. Mohr's Circle. Principal stresses. Three-dimensional Hooke's law. Plane stress and strain; Failure theories: Maximum stress, Tresca and von Mises; Strain energy. Castigliano's principles. Analysis of statically determinate and indeterminate trusses and beams. Elastic flexural buckling of columns. Flight vehicle structures: Characteristics of aircraft structures and materials. Torsion, bending and flexural shear of thin-walled sections. Loads on aircraft. Structural Dynamics: Free and forced vibrations of undamped and damped SDOF systems. Free vibrations of undamped 2-DOF systems. Special Topics: Vibration of beams. Theory of elasticity: Equilibrium and compatibility equations, Airy's stress function.	D.Vadivel S.Balasundaram S.Karthik
6.	Propulsion	Core Topics: Basics: Thermodynamics, boundary layers and heat transfer and combustion thermochemistry. Thermodynamics of aircraft engines: Thrust, efficiency and engine performance of turbojet, turboprop, turbo shaft, turbofan and ramjet engines, thrust augmentation of turbojets and turbofan engines. Aerothermodynamics of non-rotating	M.G.Rajagopal

	propulsion components such as intakes, combustor and nozzle. Axial compressors: Angular momentum, work and compression, characteristic performance of a single axial compressor stage, efficiency of the compressor and degree of reaction. Axial turbines: Axial turbine stage efficiency Centrifugal compressor: Centrifugal compressor stage dynamics, inducer, impeller and diffuser. Rocket propulsion: Thrust equation and specific impulse, vehicle acceleration, drag, gravity losses, multi-staging of rockets. Classification of chemical rockets, performance of solid and liquid propellant rockets.	M.Sanjay
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M. Sanjay
Coordinator

M. Sanjay
HOD

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GATE Coaching Attendance

S.No	REGISTER NO	NAME OF THE STUDENT	18-01-21	19-01-21	20-01-21	21-01-21	22-01-21	23-01-21
1	730917101012	AMMASI V	/	/	/	/	/	/
2	730917101016	ARAVINDHA KRISHNA T N	/	/	/	/	/	/
3	730917101019	ARUL RANJANI A	/	/	/	/	/	/
4	730917101023	ASHWIN KUMAR R P	/	/	/	/	/	/
5	730917101030	DEEPSIKHA ADITYDEV SAH	/	/	/	/	/	/
6	730917101045	JAGANIVAS C K	/	/	/	/	/	/
7	730917101055	KEERTHANA R	/	/	/	/	/	/
8	730917101073	NAYANIKA BEPARI	/	/	/	/	/	/
9	730917101076	PAVITHRA M	/	/	/	/	/	/
10	730917101077	PAWAN DUBEY	/	/	/	/	/	/
11	730917101087	RAGHAVENDRA P SINGH	/	/	/	/	/	/
12	730917101089	RAJIVA SULTHANA A	/	/	/	/	/	/
13	730917101095	RAYEEZ AKTHAR H	/	/	/	/	/	/
14	730917101100	SARATH P V	/	/	/	/	/	/
15	730917101106	SHIBIN M	/	/	/	/	/	/
16	730917101110	SINDHU M	/	/	/	/	/	/
17	730917101114	SOUNDARYA M	/	/	/	/	/	/
18	730917101136	VINAYAKASELVI S	/	/	/	/	/	/
19	730917101137	VIVEKANAND	/	/	/	/	/	/

18/01/21

18/01/21

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3 ☒ 2 ☐ 1 ☐

6. Does this activity /training useful to apply for any modern research programs?

3 ☒ 2 ☐ 1 ☐

7. Have you got any ideas to improve our environmental & social needs?

3 ☐ 2 ☒ 1 ☐

8. Have you ever felt that your communication skill & leadership skill has been improved through this activity?

3 ☐ 2 ☒ 1 ☐

9. Does this Activity / training useful to improve learning attitude with zeal?

3 ☐ 2 ☐ 1 ☒

10. Does this Activity /training useful for you to work in multi-disciplinary team?

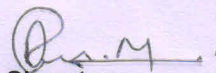
3 ☒ 2 ☐ 1 ☐

11. Does this Activity /training improve your mind to face any changes in your life?

3 ☒ 2 ☐ 1 ☐

Any other Comments:

LEARNED ADVANCED THINGS ABOUT GATE EXAM.
HAD SOLVED MORE PROBLEM. IT WILL HELP ME TO
CLEAR GATE EXAM.


Signature





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DEPARTMENT OF Aeronautical

ACADEMIC YEAR: 20 - 20

Indirect Assessment of Program Outcomes & Program Specific Outcomes through Curricular and Extracurricular Activities

Student Name : Vivekanand

Date: 23/01/2021

Batch : 2017 - 2021

Year/Semester: IV / VII

Type of Activity: Value added course / Industrial Visit / Implant Training / Guest Lecturer/ Seminar /

Conference / Workshop / Design Contest/ Project Contest / Sports / Games / Social Activities /

Certificate Program / Diploma Course /hackathon/ Ideathon / or any other state coaching

Organizing Institute: Excel Engineering College

Place:

Provide your level of attainment for the following questions by ✓ in the given ☐

[3 / 2 / 1 Indicates Level of Attainment; 3 – Very Much, 2 – Moderate, 1 – Some Extent]

1. Does this Activity/ Course improve your Technical Skill?

3 ☒ 2 ☐ 1 ☐

2. Does this Activity /Course improve your Problem Solving Skill?

3 ☐ 2 ☒ 1 ☐

3. Does this training / Course improve your practical Exposure?

3 ☐ 2 ☒ 1 ☐

4. Have you learnt any modern tools through this activity/ training?

Yes ☐ No ☒ if yes name of tool —

5. Does this activity /training useful to improve your professional ethics?

3 ☒ 2 ☐ 1 ☐

6. Does this activity /training useful to apply for any modern research programs?

3 ☐

2 ☒

1 ☐

7. Have you got any ideas to improve our environmental & social needs?

3 ☐

2 ☐

1 ☒

8. Have you ever felt that your communication skill & leadership skill has been improved through this activity?

3 ☒

2 ☐

1 ☐

9. Does this Activity / training useful to improve learning attitude with zeal?

3 ☐

2 ☒

1 ☐

10. Does this Activity /training useful for you to work in multi-disciplinary team?

3 ☐

2 ☒

1 ☐

11. Does this Activity /training improve your mind to face any changes in your life?

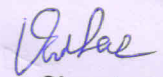
3 ☒

2 ☐

1 ☐

Any other Comments:

GATE coaching class really use full as staff
have cleared more doubts about problems


Signature

