

FE (GENERAL) PREPARATION CLASS SCHEDULE

MAR- JUNE' 21

ORGANIZED BY: AABEA NY CHAPTER

CL /N	SUBJECT	Q #	INSTR.	DT
G1	ENGINEERING ECONOMICS	6-9	TAREQ	Mar, 14
	A. Time value of money (e.g., present worth, annual worth, future worth, rate of return)			10 AM -2 PM
	B. Cost analysis (e.g., incremental, average, sunk, estimating)			
	C. Economic analyses (e.g., break-even, benefit-cost, optimal economic life)			
	D. Uncertainty (e.g., expected value and risk)			
	E. Project selection (e.g., comparison of projects with unequal lives, lease/buy/make, depreciation, discounted cash flow, decision trees)			
G2	MATHEMATICS	8-12	TAREQ	Mar, 21
	A. Analytic geometry and trigonometry			10 AM -2 PM
	B. Differential equations			
	C. Numerical methods (e.g., algebraic equations, roots of equations, approximations, precision limits, convergence)			
	D. Linear algebra (e.g., matrix operations)			
	E. Single-variable calculus			
G3	PROBABILITY AND STATISTICS	6-9	ENGR. SHAHINUL HOQUE, PE	Mar, 28
	A. Estimation (e.g., point, confidence intervals)			10 AM -2 PM
	B. Expected value and expected error in decision making			
	C. Sample distributions and sizes (e.g., significance, hypothesis testing, non-normal distributions)			
	D. Goodness of fit (e.g., correlation coefficient, standard errors, R2)			
G4	CHEMISTRY	5-8	ENGR. SHAHINUL HOQUE, PE	Apr, 4
	A. Oxidation and reduction (e.g., reactions, corrosion control)			10 AM- 2 PM
	B. Acids and bases (e.g., pH, buffers)			
	C. Chemical reactions (e.g., stoichiometry, equilibrium, bioconversion)			
G5	ELECTRICITY, POWER AND MAGNETISM	7-11	TBI	Apr, 11
	A. Electrical fundamentals (e.g., charge, current, voltage, resistance, power, energy)			10 AM -2 PM
	B. Current and voltage laws (Kirchhoff, Ohm)			
	C. DC circuits			
	D. Equivalent circuits (series, parallel, Norton's theorem, Thevenin's theorem)			
	E. Capacitance and inductance			
	F. AC circuits (e.g., real and imaginary components, complex numbers, power factor, reactance and impedance)			
	G. Measuring devices (e.g., voltmeter, ammeter, wattmeter)			
G6 + G7	STATICS	9-14	TBI	Apr, 18 + Apr, 25
	A. Vector analysis			10 AM -2 PM
	B. Force systems (e.g., resultants, concurrent, distributed)			
	C. Force couple systems			
	D. Equilibrium of rigid bodies (e.g., support reactions)			
	E. Internal forces in rigid bodies (e.g., trusses, frames, machines)			
	F. Area properties (e.g., centroids, moments of inertia, radius of gyration, parallel axis theorem)			
	G. Static friction			
	H. Free-body diagrams			
	I. Weight and mass computations (e.g., slug, lbm, lbf, kg, N, ton, dyne, g, gc)			

G8 + G9	DYNAMICS		9-14	TBI	May, 2 + May, 9
	A. Particle and rigid-body kinematics				
	B. Linear motion (e.g., force, mass, acceleration)				
	C. Angular motion (e.g., torque, inertia, acceleration)				
	D. Mass moment of inertia				
	E. Impulse and momentum (e.g., linear, angular)				
	F. Work, energy, and power				
	G. Dynamic friction				
	H. Vibrations (e.g., natural frequency)				
G10	STRENGTH OF MATERIALS		9-14	ENGR. MD. SHOFIQUIL ALAM, PE	May, 16
	A. Stress types (e.g., normal, shear)				
	B. Combined loading—principle of superposition				
	C. Stress and strain caused by axial loads, bending loads, torsion, or transverse shear forces				
	D. Shear and moment diagrams				
	E. Analysis of beams, trusses, frames, and columns				
	F. Loads and deformations (e.g., axial-extension, torque-angle of twist, moment-rotation)				
	G. Stress transformation and principal stresses, including stress-based yielding and fracture criteria (e.g., Mohr's circle, maximum normal stress, Tresca, von Mises)				
	H. Material failure (e.g., Euler buckling, creep, fatigue, brittle fracture, stress concentration factors, factor of safety, and allowable stress)				
G11 + G12	FLUID MECHANICS		12-18	ENGR. SHAHINUR RHYME, PE	May, 23 + May, 30
	A. Fluid properties (e.g., Newtonian, non-Newtonian, liquids and gases)				
	B. Dimensionless numbers (e.g., Reynolds number, Froude number, Mach number)				
	C. Laminar and turbulent flow				
	D. Fluid statics (e.g., hydrostatic head)				
	E. Energy, impulse, and momentum equations (e.g., Bernoulli equation)				
	F. Pipe and duct flow and friction losses (e.g., pipes, valves, fittings, laminar, transitional and turbulent flow)				
	G. Open-channel flow (e.g., Manning's equation, drag)				
	H. Fluid transport systems (e.g., series and parallel operations)				
	I. Flow measurement (e.g., pitot tube, venturi meter, weir)				
	J. Turbomachinery (e.g., pumps, turbines, fans, compressors)				
	K. Ideal gas law (e.g., mixtures of nonreactive gases)				
	L. Real gas law (e.g., z factor)				
G13	THERMODYNAMICS AND HEAT TRANSFER		9-14	TAREQ	Jun, 6
	A. Thermodynamic laws (e.g., first law, second law)				
	B. Thermodynamic equilibrium				
	C. Thermodynamic properties (e.g., entropy, enthalpy, heat capacity)				
	D. Thermodynamic processes (e.g., isothermal, adiabatic, reversible, irreversible)				
	E. Heat transfer (e.g., conduction, convection, radiation)				
	F. Mass and energy balances				
	G. Property and phase diagrams (e.g., T-s, P-h, P-v)				
	H. Combustion and combustion products (e.g., CO, CO ₂ , NO _x , ash, particulates)				
I. Psychrometrics (e.g., relative humidity, wet bulb)					
M 1	MOCK TEST- MORNING SESSION			TBI	Jun, 20
M 2	MOCK TEST- AFTERNOON SESSION			TBI	Jun, 27

NOTE:

AABEA- NY CHAPTER RESERVES THE RIGHT TO CHANGE / MODIFY THE TRAINING SCHEDULE AT ANY TIME WITHOUT PRIOR INFORMATION.