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TRAINING CENTRE

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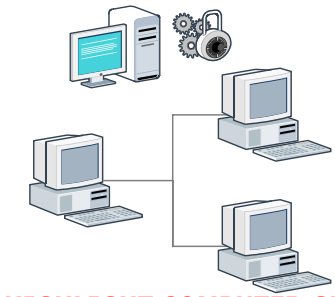

HIGHLIGHT COMPUTER GROUP

Technical College

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

&

DIPLOMA / ADVANCED DIPLOMA IN MECHANICAL ENGINEERING

STUDY GUIDE

Study Option (1) Self Study

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Pre-requisite

Advanced Diploma in Electrical Engineering

ASSESSMENT

The learning and assessment system involves two parts

(1) **Part (1)**

Completion of the course works- submission of the assignments Theory/ Practical/ Calculations) for the over all knowledge of the subject
(Grading—Complete or Incomplete)

(2) Completion of the course works- submission of the assignments (Theory/ Practical/ Calculations) for the competency units of the subject
(Grading—Complete or Incomplete)

(3) **Part (2)**

Sitting the final test for the subject by either online or paper based test- -Grading—In accordance with St Clements University Higher Education School-Niue Students Handbook.

BACHELOR OF APPLIED ENGINEERING (ELECTRICAL)

Subjects	Points	Competency Units	Page
BAE 401 Advanced Engineering Mathematics	9	Maths 301 Introduction to Complex Variables (1 pt) Maths 302 Elementary Linear Algebra (1 pt) Maths 401 Continuous Distributions (1 pt) Maths 402 Discrete Distributions (1 pt) Maths 403 Engineering Mathematics (1 pt) Maths 501 Introduction to Probability(1 pt) Maths 501 Linear Algebra & Matrices (1 pt) Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt) Maths 601 Random Variables (1 pt)	
BAE 402 Calculus	3	Maths 304 Integration and Differential Equations (1 pt) Maths 403 Second Order Differential Equations (1 pt) Maths 303 Engineering Mathematics (1 pt)	
BAE 403 Engineering Mechanics	1	ME 301 Applied Mathematics (1 pt)	
BAE 404 Engineering Materials & Thermodynamics	3	ME 334 Engineering Thermodynamics (1 pt) ME 434 Wind Turbines (1 pt) ME 634 Pneumatics (1 pt)	
BAE 405 Advanced Circuit Analysis	3	EE 301 Electrical Circuits (1 pt) EE 303 Engineering Circuit Analysis (1 pt) EE 404 Electrical Measurement (1 pt)	
BAE 406 Electro-mechanics	2	EE 502 Electrical Machines (1 pt) ME 301 Machine Principle (1 pt)	

Subjects	Points	Competency Units	Page
BAE 407 Advanced Electro-magnetics Field & Materials	1	EE 407 Electromagnetism (1 pt)	
BAE 408 Analogue & Digital Electronics	5	EE 403 Introduction to Electronic Engineering (1 pt) EE 524 Power Electronics & Applied Electronics (1 pt) EE 405 Digital System (1 pt) EE 526 Digital Signal Processing (1 pt) EE 527 Digital Image Processing 1/ 2 (1 pt)	
BAE 501 Advanced Power Systems & Power Transmission Networks	3	EE 512 Power System (1 pt) EE 302 Power System Technology (Optional) EE 402 Electrical Power (1 pt) EE 513 Power Transmission and Distribution Lines (1 pt)	
BAE 502 Linear System	1	EE 304 Computer Mathematics (1 pt)	
BAE 503 Control System	4	EE 601 Non Linear Control Applications (1 pt) EE 601 Control Engineering , Feedback and Control System , PID_Control (1 pt) EE 624 Process Control (1 pt) ME 534 Numerical Control Part 1 / 2 (1 pt)	
BAE 504 Power System Analysis	1	EE 614 Power System Analysis (1pt)	
BAE 505 Power System Optimization	1	EE 613 Power System Optimization (1pt)	
BAE 506 Power System Stability & Protection	**2**	EE 615 Power System Stability & Power Quality (1 pt) EE 616 Power System Protection (1 pt)	
BAE 507 Electro-mechanical Energy Conversion	2	EE 602 Motor Control Electronics (1 pt) ME 434 Mechtronics & Robotics (1 pt)	

Subjects	Points	Competency Units	Page
BAE 508 Industrial Engineering & Industrial Management	1	Mgt 501 Basic Management & Communication Skills (1 pt)	
BAE 601 Computer Programming	3	IT 401 Object Oriented Programming (1 pt) IT 402 Structured Programming (1 pt) IT 403 Visual Basic Programming (1 pt	
BAE 602 Computer Network	1	ICT 202 Information Systems Principles and Networking (1 pt)	
BAE 603 Software Engineering	3	ICT 106 Software Engineering (1 pt) ICT 203 Information Systems, Analysis and Design (1 pt) EE 626 Nano Technology (1 pt)	
BAE 604 Telecommunication Engineering	2	EE 525 Data Communication (1 pt) EE 603 Electronics Telecommunication (1 pt)	
BAE 605 Engineering Management	5	Mgt 502 Operation Management (1 pt) Mgt 503 Production & Operation Management (1 pt) Mgt 504 Project Management (1 pt) Mgt 505 Quality Management and Manufacturing Engineering (1 pt) Mgt 506 Strategic Financial Management (1 pt)	
BAE 606 Building Service Electrical & Mechanical Engineering	2	EE 617 Building Electrical and Mechanical System (1 pt) ME 334 Airconditioning and Refrigeration (1 pt) CE 301 Building Construction (Optional) CE 301 Conceise Hydroulics (Optional)	
BAE 607 Radio Wave Propagation & Microwave Techniques	2	EE 625 Radio Wave Propagation (1 Pt) EE 626 Microwave Technique (1pt)	
Total Credit points	60		

BAE 401 Advanced Engineering Mathematics (9 pt)

Dip/Adv Dip Mechanical Engineering

Maths 101 Engineering Mathematics

Engineering Mathematics

Part (1) Overview Knowledge of the subject

Folder				BAE 401 Advanced Engineering Mathematics
File				An Introduction to theory of complex variables
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
1	12	to	16	Complex numbers
2	20	to	26	Functions
3	29	to	38	Differentiability
4	42	to	46	Integration in the complex plane
5	53	to	66	Integral theorems
6	71	to	73	Power series
	156	to	159	Introduction of rational functions of trigonometric functions.
Exercise	Q 1	to	Q8	of Assignment Number (1)

Folder				BAE 401 Advanced Engineering Mathematics
File				Continuous distribution
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	7	&	20	Exponential distribution
3	9	&	31	Normal distribution
6	13	&	83	Gamma distribution
8	122			Convergence in distribution
10	127			F distribution
Exercise	Q 9	to	Q13	of Assignment Number (1)

Folder				BAE 401 Advanced Engineering Mathematics
File				Discrete distribution
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	6	&	12	Binomial distribution
3	8	&	26	Poisson distribution
Exercise	Q 14	to	Q16	of Assignment Number (1)

Folder				BAE 401 Advanced Engineering Mathematics
File				Elementary linear algebra
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27			Algebra in F^n Example problems
	30			Geometric meaning of vectors
	31			Geometric meaning of vector addition
	33			Distance between points in Rn Length of vector
	37			Geometric meaning of scalar multiplication
	47			Dot product
	54			Cross product
	73			System of equation geometry
	76			System of equation – Algebric operation
	97			Matrice arithmetic
	125			Determinants –Basic technique & properties
Exercise	Q 17	to	Q34	of Assignment Number (1)

Folder				BAE 401 Advanced Engineering Mathematics
File				Integration and differential equations
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	10			List of integrals
	12	to	14	Introduction to background
	19	to	24	Theorem of integration
	32			Improper integrals
	33	to	37	Improper integral problems
	38	to	40	Integration of rational functions
	63	to	65	Differential equations
	67	to	68	First order ordinary differential equations
	69	to	72	Homogenous equations
	73	to	77	The general linear equations
Exercise	Q 35	to	Q47	of Assignment Number (1)

Folder				BAE 401 Advanced Engineering Mathematics
File				Random variables
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	20			Simple introduction examples
	21			Problems
	22			Frequency and distribution functions in 1 dimension
Exercise	Q 48	to	Q51	of Assignment Number (1)

Folder				BAE 401 Advanced Engineering Mathematics
File				Mathematical modelling preliminary
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	7			Introduction
	9	to	11	Discrete time model
	12	to	13	Example problems
Exercise	Q 52	to	Q53	of Assignment Number (1)

Folder				BAE 401 Advanced Engineering Mathematics
File				Elementary linear algebra
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27			Algebra in F^n Example problems
	30			Geometric meaning of vectors
	31			Geometric meaning of vector addition
	33			Distance between points in Rn Length of vector
	37			Geometric meaning of scalar multiplication
	47			Dot product
	54			Cross product
	73			System of equation geometry
	76			System of equation – Algebric operation
	97			Matrice arithmetic
	125			Determinants –Basic technique & properties
Exercise	Q 17	to	Q34	of Assignment Number (1)

Part (2) Competency Units

Maths 301 Introduction to Complex Variables (1 pt)

Maths 302 Elementary Linear Algebra (1 pt)

Maths 401 Continuous Distributions (1 pt)

Maths 402 Discrete Distributions (1 pt)

Maths 403 Engineering Mathematics (1 pt)

Maths 501 Introduction to Probability(1 pt)

Maths 501 Linear Algebra & Matrices (1 pt)

Maths 502 Finite Difference Methods for Partial Differential Equations & Mathematical Modelling (1 pt)

Maths 601 Random Variables (1 pt)

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Maths 301 Introductory Finite Difference Methods-for-partial differential equations

Introductory Finite Difference Methods-for-partial differential equations

Folder				Maths 301 Introduction to Complex Variables (1 pt)
File				Maths 301 Introduction to Complex Variables
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
	80			The residue Theorem
	83			Example 32
	84	to	86	Example 33
	87			Example 34
	93			Fourier Transform
	95			Example 36
	96			Example 37
	96			Example 38
	107	to	108	Integral theorem of complex analysis with applications to the evaluation of real integral
	110			Introduction
	111			Example 1
	113			Integral theorems – The green Theorem
	114			Cauchy's integral theorem
	114	to	115	Example 2
	116	to	119	Example 3, 4, 5
	120	to	123	Cauchy's residue theorem
Exercise	Q 52	to	Q58	of Assignment Number (2)

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Maths 302 Elementary-Linear-Algebra

Elementary-Linear-Algebra

Folder				Maths 302 Elementary Linear Algebra (1 pt)
File				Maths 302 Elementary Linear Algebra
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	134			A formula for the inverse
	138			Cramer's rule
	135	to	141	Example 6.2.3 , 6.2.4 , 6.2.6, 6.2.7
	165	to	169	Rank of a matrix
	177	to	182	Example 8.2.9 , 8.2.10, 8.3.3 , 8.3.5, 8.3.6, 8.3.7, 8.3.8
	182	to	186	Linear independence and bases Example 8.4.6, 8.4.7,
	193	to	194	Example 8.4.21, 8.4.22, 8.4.24
	211	to	212	Linear transformation
	214			Constructing the matrix of a linear transformation
	215	to	216	Example 9.2.3 , 9.2.4
	223			Example 9.2.14
	249	to	250	Linear programming
	253			Example 11.2.2
	255			Example 11.2.3
Exercise	Q 59	to	Q65	of Assignment Number (3)

Folder				Maths 401 Continuous Distribution (1 pt)
File				Maths 401 Continuous Distribution
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	126			X^2 Distribution
	127			F Distribution
	130			F Distribution & " t " Distribution
	126			Example 9.1
	127			Example 10.2
	130			Example 11.1
	121			Estimation of parameters
	131			Example 12.1
	133	to	134	Example 12.2
Exercise	Q 66	to	Q68	of Assignment Number (4)

Folder				Maths 402 Discrete Distribution (1 pt)
File				Maths 402 Discrete Distribution
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	33			Geometric distribution
	33	to	39	Example 4.1, 4.2, 4.3, 4.4, 4.5, 4.6
	51			Pascal distribution
	51			Example 5.1
	54			Negative binomial distribution
	54			Example 6.1
	56			Hyper geometric distribution
	56			Example 7.1
Exercise	Q 69	to	Q72	of Assignment Number (5)

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Maths 403 Engineering-Mathematics

Engineering-Mathematics

Unit				Maths 403 Engineering mathematics (1 pt)
Folder	File			Maths 303 Essential Engineering Mathematics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	23			Vectors and matrices
	30	&	35	Example problems
	39	to	48	Functions and limits , Example problems
	51	to	69	Calculation of one variable (Part 1) Differentiation, Example problems
	79	to	105	Calculation of one variable (Part 1) Integration, Example problems
	111	to	121	Calculus of many variables, Example problems
	123	to	126	Ordinary differential equations, Example problems
	134	to	142	Complex function theory , Example problems
Exercise	Q 73	to	Q90	of Assignment Number (6)

Folder				Maths 501 Introduction to probability (1 pt)
File				Maths 501 Introduction to probability
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	6	to	8	Theoretical background
	9			Example 2.1, 2.2
	12	To7.1	18	Example 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
	19			Playing card
	20	to	23	Example 4.2. 4.3, 4.4, 4.5
	35			Binomial distribution
	35	to	37	Example 6.1, 6.2, 6.3
	38			Lotto Example
	42			Conditional probabilities –Baye's formula
	42	to	43	Example 10.1, 10.2, 10.3
Exercise	Q 91	to	Q94	of Assignment Number (7)

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Maths 501 Linear Algebra

Linear Algebra

Folder				Maths 501 Linear algebra and matrices (1 pt)
File				Maths 501 Linear algebra and matrices
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	47			Linear transformation matrices
	48	to	49	Definition 2.1.1 to 2.1.3
	50			Example 2.1.4
	51			Example 2.1.6
	52	to	53	i j Entry of product Definition 2.1.8
	54			Example 2.1.9
	55			Example 2.1.11
	58			Example 2.1.14
	62			Example 2.1.24 , 2.1.26
	64			Example 2.1.27
	65			Example 2.1.28
	122			Rank of matrices
	137	to	139	Row operations
	145			Example 4.2.5
	146			Example 4.2.6
Exercise	Q 95	to	Q98	of Assignment Number (8)

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Maths 303 Introductory Finite Volume Methods-for- partial differential equations

Introductory Finite Volume Methods-for- partial differential equations

Folder				Maths 502 Introductory Finite Difference Method for PDE (1pt)
File				Maths 502 Introductory Finite Difference Method for PDE
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	10	to	15	Partial differential equations. Example problems
	17	to	30	Taylor theorem
	42			Iterative solution methods
	43			Jacobi Iteration
	45			Gauss Seidel Iteration
	47			Successive Relaxation method
Exercise	Q 99	to	Q108	of Assignment Number (9)

Folder				Maths 601 Random Variables (1 pt)
File				Maths 601 Random Variables
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	6	to	14	Theoretical results
	20	to	34	Frequencies and distribution (1 dimension)
	75	to	82	Function of random variables
Exercise	Q109	to	Q115	of Assignment Number (10)

BAE 402 Calculus (3 pt)

Part (1) Overview Knowledge of the subject

Folder				BAE 402 Calculus
File				Calculus 1 a .pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	50	to	57	Differentiation, Example problems
	58	to	76	Integration, Example problems
	79	to	96	Simple differential equations, Example problems
Exercise	Q116	to	Q122	of Assignment Number (11)

Folder				BAE 402 Calculus
File				Calculus 2 a .pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	8			Integration of trigonometric polynomials
	11			Complex decomposition of a fraction between two polynomials
	17			Chain rule
	19			Calculation of the directional derivatives
	29			An overview of integration in the plane and in the space
	44			Line integrals
	46			Surface integral
	70			Green's theorem in the plane
Exercise	Q123	to	Q127	of Assignment Number (11)

Folder				BAE 402 Calculus
File				Calculus 2b 1.pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	7			The range of functions in several variables
	37			Line integral
	51			Space integral
	66			Line integral
Exercise	Q128	to	Q138	of Assignment Number (11)

Additional Study

Calculus 2 C (2) , Calculus 2 C (3) , Calculus 2 C (4), Calculus 2 C (5) , Calculus 2 C (6) , Calculus 2 C (7)

Calculus 2 C (8) , Calculus 2 C (9), Calculus 2 C (10)

Folder				BAE 402 Calculus
File				Calculus 3b. pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	66	to	88	Power series method in solution of problems, Example problems
Exercise	Q139	to	Q142	of Assignment Number (11)

Folder				BAE 402 Calculus
File				Calculus 3C 1. pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	6			Sequence in general Example 1.1 to 1.14
Exercise	Q143	to	Q150	of Assignment Number (11)

Folder				BAE 402 Calculus
File				Calculus 4C 1. pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	6			Sum function of Fourier series
	62			Fourier series and uniform convergence Example 2.1 to 2.10
Exercise	Q151	to	Q155	of Assignment Number (11)

Additional Study

Calculus 3 C (1) , Calculus 3 C (2) , Calculus 3 C (3), Calculus 3 C (4) , Calculus 4 b , Calculus 4 C (1)

Calculus 4 C (2) , Calculus 4 C (3)

Part (2) Competency Units

Maths 304 Integration and Differential Equations. (1 pt)

Maths 403 Second Order Ordinary Differential Equations (1 pt)

Maths 303 Engineering Mathematics (1 pt)

Folder				Maths 303 Engineering Mathematics (1 pt)
File				Maths 303 Engineering Mathematics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	12	to	35	Introduction and background
	38	to	48	Integration of rational functions
	49	to	56	Integration of trigonometric functions
	62	to	73	Differential equations
Exercise	Q156	to	Q178	of Assignment Number (12)

Folder				Maths 403 Second Order Differential Equations (1 pt)
File				Maths 403 Second Order Differential Equations
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	13	to	16	Power series solutions
	39	to	46	Bessel equations and Bessel functions
	49	to	51	Legendre polynomials
	62	to	73	Differential equations
Exercise	Q179	to	Q185	of Assignment Number (13)

BAE 403 Engineering Mechanics (1 pt)

Part (1) Overview Knowledge of the subject

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ME 103 Engineering Mechanics

Engineering Mechanics

Folder		BAE 403 Engineering Mechanics
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Chap 1. pdf			All		Stress Example 1.1, 1.2, 1.3
Chap 1 slide.pdf			All		Stress lectures
Chap 2.pdf			All		Strain All examples
Chap 2 slide.pdf			All		Strain lessons
Chap 3.pdf			All		Mechanical properties of materials
Chap 3 slide.pdf			All		Mechanical properties of materials
Chap 4.pdf			All		Axial members
Chap 4 slide.pdf			All		Axial members
Chap 5.pdf			All		Torsion of shaft
Chap 5 slide.pdf			All		Torsion of shaft
Chap 6.pdf			All		Symmetric bending of beams
Chap 6 slide.pdf			All		Symmetric bending of beams
Chap 7.pdf			All		Deflection of symmetric beams

Chap 7 slide.pdf			All		Deflection of symmetric beams
Chap 8.pdf			All		Stress transformation
Chap 8 slide.pdf			All		Stress transformation
Chap 9.pdf			All		Strain transformation
Chap 9 slide.pdf			All		Strain transformation
Chap 10.pdf			All		Design and failure
Chap 10 slide.pdf			All		Design and failure
Chap 11.pdf			All		Stability of columns
Chap 11 slide.pdf			All		Stability of columns
Exercise	Q186	to	251		of Assignment (14)

ADDITIONAL READINGS

File Name	Topics
Lectures.pdf	Page 1 to 3 Newton motion Page 3 One dimensional motion Page 11/12/15 Simple harmonic motion Page 17 Damped oscillation Page 20--- $X(t) = Ar\, e^{-rt/l} \cos(wt - \delta_r)$ Page 40 Rotating reference frame equations
PHY 1004W Buffer –M & IMM1.pdf	Modern Mechanics Part 1
PHY 1004W Buffer –M & IMM2.pdf	Modern Mechanics Part 2
PHY 1004W Buffer –M & IMM3.pdf	Modern Mechanics Part 3
PHY 1004W Buffer –M & IMM4.pdf	Modern Mechanics Part 4
PHY 1023H Buffer Mechanics Part A	Modern Mechanics Part A
PHY 1023H Buffer Mechanics Part B	Modern Mechanics Part B
PHY 1023H Buffer Mechanics Part C	Modern Mechanics Part C

Part (2) Competency Units

Dip/ Adv Dip in Mechanical Engineering

ME 101 Applied Mathematics

Applied Mathematics

Folder				ME 301 Applied Mathematics (1 pt)
File				ME 301 Applied Mathematics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	16			Kinematics
	26			Projectiles
	36			Forces
	45			Resistance forces
	55			Resolving forces
	63			Rigid bodies
	73			Centre of gravity
	80			Momentum
	92			Energy
	100			Circular motion
	112			Gravitation and planetary motion
	122			The language of vectors
Exercise	Q252	to	Q264	of Assignment Number (15)

BAE 404 Engineering Materials & Thermodynamics (3 pt)

Part (1) Overview Knowledge of the subject

Dip/Adv Dip in Mechanical Engineering

ME 107 Heat Transfer

Heat Transfer

Folder				BAE 403 Engineering Mechanics –Mechanical Engineering
File				Heat Transfer. pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	6			(1) Heat transfer mode Example problems
	25			(2) Conduction Example problems
	58			(3) Convection Example problems
	107			(4) Radiation Example problems
	127			(5) Heat Exchanger Example problems
Exercise	Q261	to	Q276	of Assignment Number (16)

Dip/ Adv Dip in Mechanical Engineering

ME 306 Theory-of-waves-in-materials

Theory-of-waves-in-materials

Folder				BAE 403 Engineering Mechanics –Mechanical Engineering
File				Theory of waves in materials.pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	16	to	23	Materials-Preliminary
	26	to	35	Materials- Basic mechanical properties
	38	to	39	Basic wave phenomena
	50	to	51	Harmonic waves
	60			Elastic volume and shear waves
	85			Rayleigh Elastic waves
Exercise	Q277	to	Q295	of Assignment Number (17)

Part (2) Competency Units

ME 334 Engineering Thermodynamics (1 pt)

ME 434 Wind Turbines (1 pt)

ME 634 Pneumatics (1 pt)

Dip/ Adv Dip in Mechanical Engineering

ME 102 Engineering Thermodynamics

Engineering Thermodynamics

Folder				ME334 Engineering Thermodynamics (1 pt)
File				ME334 Engineering Thermodynamics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	6			General definition
	11			Thermodynamics-Working fluids
	38	to	55	Laws of Thermodynamics
	56	to	88	Worked Example 3.1 to 3.25
Exercise	Q296	to	Q307	of Assignment Number (18)

Dip/Adv Dip in Mechanical Engineering

ME 234 Wind Turbines

Wind Turbines

Folder				ME434 Wind Turbines(1 pt)
File				ME434 Wind Turbines
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27			Wind Energy
	38			Theory of wind energy
	46			Wind turbine types and components
	61	to	66	Wind energy measurement, Wheel encoder Worked Example 6.1 to 6.3
Exercise	Q308	to	Q316	of Assignment Number (19)

Dip / Adv Dip in Mechanical Engineering

ME 634 Pneumatics

Pneumatics

Folder				ME634 Pnuematics(1 pt)
File				ME634 Pnuematics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	6	to	23	Principle of pneumatics
	24	to	35	Linear actuators
	36	to	44	Flow control
	45	to	50	Pnuematics sensors
	50	to	52	Pnuematics symbols
Exercise	Q317	to	Q325	of Assignment Number (20)

BAE 405 Advanced Circuit Analysis (3 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 405 Advanced Circuit Analysis
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
DC Analysis Examples.mht			All		DC Circuit Analysis
Design Analysis & Circuit Theory.mht			All		Circuit Theory
Diode charge pump AM-FM Demodulators.mht			All		Modulators
CIRCUIT ANALYSIS LECTURES					
Lec 1-4pg.pdf			All		Analog, digital signals , electric current, power summary
Lec 2-4pg.pdf			All		Circuit analysis, electric potential, electric power, sign convection, electric source, Kirchoffs' law
Lec 3-4pg.pdf			All		Circult elements, characteristics KCL, KVL
Lec 4-4pg.pdf			All		Resistor (Series, parallel, wheatstone bridge, Nodal analysis
Lec 5-4pg.pdf			All		Nodal analysis, mesh analysis
Lec 6-4pg.pdf			All		Superposition theorem, Thevenin's theorem, Norton theorem, Maximum power transfer theorem,

Lec 7-4pg.pdf			All		Operational amplifier
Lec 8-4pg.pdf			All		Inverting amplifier circuit, Summing amplifier, Differential amplifier
Lec 9-4pg.pdf			All		Capacitor, Op-amp integrator, stored energy
Lec 10-4pg.pdf			All		Mutual inductance, time constant, transient
Lec 11-4pg.pdf			All		Transient response of 1 st order circuit, RL transient analysis, sequential switching
Lec 12-4pg.pdf			All		RC/RL Circuit , Propogation, Delay, DRAM
Lec 13-4pg.pdf			All		Semi conductor
Lec 14-4pg.pdf			All		PN Junction diode
Lec 15-4pg.pdf			All		Light emitting diode
Lec 16-4pg.pdf			All		MOSFET
Lec 18-4pg.pdf			All		Digital signal
Lec 19-4pg.pdf			All		CMOS Digital circuit
Lec 20-4pg.pdf			All		Combinational logic circuits
Lec 21-4pg.pdf			All		Flip flops
Lec 22-4pg.pdf			All		Propagation delay in timing diagram
Lec 24-4pg.pdf			All		Integrated circuit fabrication
Lec 25-4pg.pdf			All		Device isolation methods
Lec 26-4pg.pdf			All		Interconnected resistance and capacitance
Lec 27-4pg.pdf			All		Transistor scaling
REFERENCES					
Ch 1. ppt			All		Integrated circuit design for application in communications
Ch 2. ppt			All		Small signal amplifiers

Ch 3. ppt			All		Network noise intermodulation distortion
Ch 4. ppt			All		CAD for noise analysis
Ch 5. ppt			All		Snsors & Detectors
Ch 6. ppt			All		Low noise design methodology
Ch 7. ppt			All		Oscillators
Ch 8. ppt			All		Modulators and demodulators
Exercise	Q368 Q326	to to	Q371 Q 329		of Assignment (21)

Folder				EE301 Electrical Circuit 1 (1 pt)
File				EE301 Concepts in Electrical Circuit
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27	to	52	Circuit theorem
	54	to	71	Sinusoids & phasors
	73	to	81	Frequency response
Exercise	Q330	to	Q337	of Assignment Number (22)

Part (2) Competency Units

EE 301 Electrical Circuits (1 pt)

EE 303 Engineering Circuit Analysis (1 pt)

EE 404 Electrical Measurement (1 pt)

Dip/Adv Dip in Mechanical Engineering

ME 105 Electrical Principle

Electrical Principle

ME 106 Electrical Circuits

Electrical Circuits

Folder				EE301 Electrical Circuit 1 (1 pt)
File				EE301 Concepts in Electrical Circuit
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	27	to	52	Circuit theorem
	54	to	71	Sinusoids & phasors
	73	to	81	Frequency response
Exercise	Q330	to	Q337	of Assignment Number (22)

Folder				EE303 Engineering Circuit Analysis (1 pt)
File				EE303 Engineering Circuit Analysis
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2/ 3				Basic circuits Examples 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12
4				Basic Nodal and Mesh analysis Example 4.1, 4,2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12
5				Linear and Superposition/ Source Transformation Example 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10, 5.11
8				RL/ RC Circuits Example 8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11
9				RLC Circuits Example 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9
10				Sinusoidal steady state analysis Example 10.1, 10.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8
11				AC Power Circuit Analysis Example 11.1, 11.2, 11.3, 11.4, 11.5
12				Polyphase Circuits Example 12.1, 12.2, 12.3, 12.4, 12.5, 12.6
13				Magnetically coupled circuits Example 13.1, 13.2, 13.3, 13.4, 13.5, 13.6, 13.7, 13.8

14				Complex Frequency / Laplace Transform Example 14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7, 14.8, 14.11
				Laplace Transform Table 14.1, 14.2
15				Circuit analysis in " S " domain Example 15.1, 15.2, 15.3, 15.4, 15.5, 15.6, 15.7 Pole/ Zero constellation Example 15.12, 15.13
16				Frequency Response Example 16.1, 16.2
17				Two ports network Example 17.1, 17.2, 17.3, 17.4, 17.5
18				Fourier Circuit Analysis Example 18.1 Use of symmetry theory Table 18.1 Example 18.2, 18.3
Exercise	Q328	to	Q367	of Assignment Number (23)

Folder				EE404 Electrical Measurement (1 pt)
File				EE404 Electrical Measurement
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
6	197			Measurement of inductance and capacitance
7	270			Measurement of resistance
9	352			Magnetic measurement
11	437			High voltage measurement and tesating
12	480			Location of cable fault
20	730			Measurement of power
21	771			Measurement of energy
Exercise	Q368	to	Q371	of Assignment Number (24)

BAE 406 Electro-mechanics (2 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 401 Advanced Engineering Mathematics			
File		Elementary linear algebra			
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Theory					
chap01_emd.pdf			All		Electro-mechanic -1.0.1 Scope of application 1.1 Electro-magnetic theory 1.1.1a Magnetic field system, Table 1.1 1.1.1.b Electric field system Table 1.2
chap02_emd.pdf			All		Lumped electro-mechanical elements
chap03_sec_emd.pdf			All		Lumped parameter-electro-mechanic
chap04_sec_emd.pdf			All		Rotating machines
chap05_sec_emd.pdf			All		Lumped parameter-electro mechanical dynamics
Problems					
chap02_prb_emd.pdf			All		Example problems
chap03_prb_emd.pdf			All		Example problems
chap04_prb_emd.pdf			All		Example problems
chap05_prb_emd.pdf			All		Example problems
emdsoln_01.pdf			All		Solutions for all example problems
Exercise	Q378	to	Q400		of Assignment (25)

Part (2) Competency Units

EE 502 Electrical Machines (1 pt)

ME 301 Machine Principle (1 pt)

Folder				EE 502 Electrical Machines (1 pt)
File				EE 502 Electrical Machines
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	45			DC Generator, Example problems
	58			DC Motors, Example problems
	121			Efficiency & heating of electrical machines, Example problems
	131			Three phase transformer, Example problems
	142			Three phase induction motors, Example problems
	177			Synchronous generators, Example problems
	194			Synchronous motors, Example problems
	229			Basic of industrial motor control, Example problems
Exercise	Q401	to	Q430	of Assignment Number (26)

Dip/Adv Dip in Mechanical Engineering

ME 104 Machine Principle

Machine Principle

Folder				ME 301 Machine Principle (1 pt)
File				ME 301 Machine Principle
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	114			Rotating machines
3	116			Machinery mounting
4	118			Balancing
6	124			Bearing
7	139			Power transmission
Exercise	Q431	to	Q435	of Assignment Number (27)

BAE 407 Advanced Electro-magnetics Field & Materials (1 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 407 Advanced Electro-magnetic Field & Materials
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Pre-readings					
em01.pdf	1		All		Electric field
em02.pdf	2		All		Electrostatic potential
em03.pdf	3		All		Dipole and quadrature pole movements
em04.pdf	4		All		Batteries, resistors, ohm laws
em05.pdf	5		All		Capacitors
em06.pdf	6		All		Magnetic effect of an electric current
em07.pdf	7		All		Force on current in a magnetic field
em08.pdf	8		All		Electro-dynamics of moving bodies
em09.pdf	9		All		Magnetic potential
em10.pdf	10		All		Electro-magnetic Induction
em11.pdf	11		All		Dimensions
em12.pdf	12		All		Properties of magnetic materials
em13.pdf	13		All		Alternating current
em14.pdf	14		All		Laplace transform
em15.pdf	15		All		Maxwell Equation
em16.pdf	16		All		CGS Electricity & Magnetism
em17.pdf	17		All		Magnetic dipole movement

Highlight Points					
Lecture1.pdf			All		Outlines
Lecture 2.pdf			All		Electric field
Lecture 3.pdf			All		Electrostatic Energy
Lecture 4.pdf			All		Laplace's equation (1)
Lecture 5.pdf			All		Laplace's equation (2)
Lecture 6.pdf			All		Remarks on units
Lecture 7.pdf			All		Green's functions
Lecture 8.pdf			All		Multipole expansion
Lecture 9.pdf			All		Electro-static in matter
Lecture 10.pdf			All		Boundary condition
Lecture 11.pdf			All		Magneto statics (1)
Lecture 12.pdf			All		Magneto statics (2)
Lecture 13.pdf			All		Macroscopic magneto statics
Lecture 14.pdf			All		Maxwell's equation
Lecture 15.pdf			All		DISC movement
Lecture 16.pdf			All		Electro-magnetic plane waves
Lecture 17.pdf			All		Reflection & refraction
Lecture 18.pdf			All		Casual relation between D & E
Lecture 19.pdf			All		Wave guides and load cavities
Lecture 20.pdf			All		Electromagnetic radiation and scattering (1)
Lecture 21.pdf			All		Electromagnetic radiation and scattering (2)
Lecture 22.pdf			All		Scattering by small di-electric sphere
Lecture 27.pdf			All		Electro-magnetism
Lecture 28.pdf			All		Electro magnetic fields and moving charges

Formulas					
CW950212_1.pdf			All		Multipole expansion
CW950320_1.pdf			All		Magnetic constants and materials
CW950329_1.pdf			All		Ampere law
CW950128_3.pdf			All		Brief history of electro magnetism
CW950219_2.pdf			All		Gauss's law
CW950313_2.pdf			All		Numerical solutions to Laplace's equation
CW960430_2.pdf			All		Small current loop
CW970129_3.pdf			All		Curvilinear co-ordinate system
CW970210_1.pdf			All		Problems
CW970303_1.pdf			All		Dielectric tensors and constants
CW970317_2.pdf			All		Analytic solution to Laplace equation
CW970606_1.pdf			All		Magnetostatic boundary condition
CW970606_1.pdf			All		Electrostatic boundary condition
Symbols					
CW970606_3.pdf			All		Electromagnetic field
CW980205_2.pdf			All		The gradient vector
Di-electric.pdf			All		Maxwell's equation
Propagation.pdf			All		Electro-magnetic wave propagation
Exercise	Q436	to	477		of Assignment (28)

Additional Study & References

Folder		BAE 407 Advanced Electro-magnetic Field & Materials
File		Electro dynamics
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Chap 1	1		All		Introduction to electro statics
Chap 2	2		All		Boundary value problems in electro statics (1)
Chap 3	3		All		Boundary value problems in electro statics (2)
Chap 4	4		All		Multi-poles Macroscopic media – Dielectrics
Chap 5	5		All		Static and stationary magnetic fields
Chap 6	6		All		Maxwell's equations
Chap 7	7		All		Plane wave and wave propogation
Chap 8	8		All		Wave guides and cavities
Chap 9	9		All		Radiation
Chap 11	11		All		The special theory of relativity
Chap 12	12		All		Particles and field dynamics
Chap 13	13		All		Charged particle collisions-Energy loss, Scattering
Chap 14	14		All		Radiation by moving charges
Textbook					
Folder					BAE 407 Advanced Electro-magnetic Field & Materials
File					Electro dynamics
Electrodynamics (1).pdf					Classical electrodynamics

Textbook					
Folder					BAE 407 Advanced Electro-magnetic Field & Materials
File					EMFT book.pdf
Lecture notes for Electro Dynamics					
lecture-notes1.pdf			All		Summary of electro statics
lecture-notes2.pdf			All		Potential
lecture-notes3.pdf			All		Electro-magnetics waves
lecture-notes4.pdf			All		Classical optics
Lecture notes for Physics Concepts					
PH36 Lect01			All		Conservation Law
PH36 Lect02			All		Conservation Law
PH36 Lect03			All		Conservation Law
PH36 Lect04			All		Generic wave
PH36 Lect05			All		Electromagnetic waves in vacuum
PH36 Lect06			All		Electromagnetic waves in matter
PH36 Lect07			All		Electromagnetic waves in conductor
PH36 Lect08			All		Electromagnetic waves propagation
PH36 Lect09			All		Electromagnetic waves field
PH36 Lect10			All		Wave guides
PH36 Lect13			All		Electromagnetic waves radiation
PH36 Lect15			All		Electro-dynamics
PH36 Lect7PS			All		Frequency
Exercise					

Part (2) Competency Units

EE 407 Electromagnetism (1 pt)

Folder				EE407 Electro-magnetism
File				EE407 Electro-magnetism for electronics engineers.pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	32	to	39	Di-electric materials and capacitance
	117	to	140	Transmission Lines
	142	to	154	Maxwell's equations and electro-magnetic waves
Folder				EE407 Electro-magnetism
File				EE407 Electro-magnetism for electronics engineers examples .pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
1				Electrostatics Example 1.1,1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13
2				Di-electric Example 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.11, 2.12, 2.13, 2.14
7				Transmission Line Example 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11
8				Maxwell Equation Example 8.1, 8.2, 8.3, 8.4, 8.5
Exercise	Q448	to	Q458	of Assignment (29)

BAE 408 Analogue & Digital Electronics (5 pt)

Folder				BAE 408 Analogue & Digital Electronics
File				Electrical & Electronic Engineering.zip / Introduction to Electronic Engineering
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	17	to	63	Semi conductor devices
	128	to	135	Digital circuits
Exercise	Q459	to	Q467	of Assignment (30)

Folder				BAE 408 Analogue & Digital Electronics
File				Electrical & Electronic Engineering.zip / Introduction to Power Electronics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	14	to	101	Power Electronics Converters
Exercise	Q468	to	Q476	of Assignment (30)

Part (2) Competency Units

EE 403 Introduction to Electronic Engineering (1 pt)

EE 524 Power Electronics & Applied Electronics (1 pt)

EE 405 Digital System (1 pt)

EE 526 Digital Signal Processing (1 pt)

EE 527 Digital Image Processing 1/ 2 (1 pt)

Folder				EE403 Introduction to Electronic Engineering (1 pt)
File				EE403 Introduction to Electronic Engineering
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	66	to	128	Electronics Circuits
Exercise	Q477	to	Q488	of Assignment Number (31)

Folder				EE524 Introduction to Power Electronics (1 pt)
File				EE524 Introduction to Power Electronics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	76	to	117	Power Electronics Control
Exercise	Q489	to	Q493	of Assignment Number (32)

References

EE524 Applied Electronics

Book 1-Electronics Companion

Book 2-Electronics Design

Folder				EE405 Digital System (1 pt)
File				EE405 Digital System Design
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	9	to	15	Number system basics
	19	to	32	Introduction to logic gates
	33	to	43	Combinational logic
	47	to	51	Karnaugh map
	67	to	84	Arithmetic circuit
	98	to	111	Coders/ Multiplexers
	114	to	123	Counters
Exercise	Q494	to	Q511	of Assignment Number (33)

Folder				EE526 Digital Signal Processing (1 pt)
File				EE526 Digital Signal Processing
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	1	to	13	Signal system representation
	14	to	26	Fourier/ Z Transform
	27	to	34	Discrete Fourier Transform
	43	to	51	Principle of filter design
	52	to	58	FIR filter design
Exercise	Q512	to	Q517	of Assignment Number (34)

Folder				EE527 Digital Image Processing (1 pt)
File				EE527 Digital Image Processing Part 1
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	9	to	19	Introduction
	21	to	36	Intensity transformation & spatial filtering
	38	to	40	Filtering in frequency domain
	43	to	44	Discrete Fourier Transform
	49			Butterworth Low Pass Filter
	51			Butterworth High Pass Filter
	58			Image restoration / Noise analysis
Exercise	Q518	to	Q524	of Assignment Number (35)

BAE 501 Advanced Power Systems & Power Transmission Networks (3 pt)

Part (1) Overview Knowledge of the subject

Folder				BAE 501 Advanced Power System –Power Transmission Network 1
File				Principle of Power System
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	3			Source of energy
	10	to	18	Steam power station
	19	to	27	Hydro power station
	28	to	30	Diesel power station
	31	to	35	Nuclear power station
	35	to	40	Gas turbine power station
	42	to	58	Variable load on power station
	63	to	67	Interconnected grid system
	69	to	75	Economic of power generation
	76	to	78	Importance of high load factor
	88	to	94	Tariffs
	101	to	113	PF improvement
	127	to	145	Supply system
	159	to	180	Mechanical design of OH line
	184	to	185	Corona
	187	to	196	Sag

	202	to	220	Electrical design of OH line
	228	to	250	Performance of transmission line
	256	to	261	Line generalised constants
	264	to	287	UG cable
	288	to	293	Capacitance in 3 core cable
	307	to	308	Distribution system
	310	to	316	DC Distribution
	343	to	347	DC System
	356	to	365	AC Distribution
	374	to	386	Voltage control
	387	to	396	Introduction to switch gear
	460	to	483	Circuit breaker
	487	to	489	Fuse
	497	to	500	Relays
	521	to	525	Protection transformers
	569	to	585	Substation
Exercise	Q525	to	Q566	of Assignment Number (36)

Folder				BAE 501 Advanced Power System –Power Transmission Network 1
File				Intech – Power Quality Harmonic
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	15	to	28	Consequence of power quality
	57	to	78	Power quality & applications
	95	to	109	Power quality analysis
	115	to	136	Power quality monitoring
	139	to	162	Management, control and automation of power quality improvement
Exercise	Q567	to	Q574	of Assignment Number (36)

Folder				BAE 501 Advanced Power System –Power Transmission Network 1
File				Intech – Electrical generation and distribution system and power quality disturbances
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	17	to	44	Integration of hybrid distribution units in power grid
	45	to	47	Optimal location and control of multi hybrid model based wind shunt facts to enhance power quality
	153	to	162	Power quality and voltage sags indices in electrical power systems.
Exercise	Q575	to	Q579	of Assignment Number (36)

References

Wind 1 to 9

BAE 501 Advanced Power System –Power Transmission Network 2

Folder		BAE 501 Advanced Power System & Power Transmission Network (Power Transmission Line 1)
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
AASR Conductors			All		AASR Conductors
ARC Fault			All		ARC Fault
Circuit breaker rating			All		Circuit breaker rating
Current transformer			All		Current transformer
Electrical bushing			All		Electrical bushing
Electrical fuse			All		Electrical fuse
Induction motor model			All		Induction motor model
IP rating			All		IP rating
Load factor			All		Load factor
Load redundancy			All		Load redundancy
Over current protection			All		Over current protection
Partial discharge			All		Partial discharge
Per unit system			All		Per unit system
Phase conversion			All		Phase conversion
Resonance			All		Resonance
RL Switching			All		RL Switching
Sequence network			All		Sequence network
Short circuit calculation			All		Short circuit calculation
Symmetrical component			All		Symmetrical component
Transformer impedance			All		Transformer impedance

Folder		BAE 501 Advanced Power System & Power Transmission Network (Power Transmission Line 2)			
File					
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
AC Power Transmission			All		AC Power Transmission
Insulation Resistance test			All		Insulation Resistance test
Dry type transformer			All		Dry type transformer
Electrical software			All		Electrical software
Insulation resistance test			All		Insulation resistance test
Exercise	Q580	to			of Assignment (36)

Part (2) Competency Units

EE 512 Power System (1 pt)

EE 302 Power System Technology (Optional)

EE 402 Electrical Power (1 pt)

EE 513 Power Transmission and Distribution Lines (1 pt)

Folder				EE 512 Electrical Power Generation System (1 pt)
File				EE 512 Electrical Power Generation System
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	20	to	25	Designing for high temperature and pressure
	36			Turbine components
	53			Burning of fuel
	55			Facts about fuel
	59			Burning gas and oil
	72	to	73	Selecting fuel
	112	to	117	Water treatment
	140	to	143	Heat exchanger
	189	to	191	Computer control
	192	to	193	System economics
Exercise	Q581	to	Q587	of Assignment Number (37)

Folder				EE 512 Power System (1 pt)
File				EE 512 Power System
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	30	to	36	Transmission & distribution system
	92	to	104	Control of power and frequency
	107	to	122	Control of voltage and reactive power
	124	to	130	Load flow
	146	to	157	Faults
	169	to	179	System stability
	200	to	216	Over voltage and insulation requirement
	229	to	254	Substations and protection
Exercise	Q588	to	Q597	of Assignment Number (37)

Folder				EE 402 Electrical Power (1 pt)
File				EE 302 Electrical Power
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	143			Power line
	145			Neutral earthing
	147			Switch gear
	156			Instrument
	164			Protection
	169			Power system
	174			Generator response to system faults
	191			Calculation of fault current
	197			Symmetrical components
	205			Commissioning electrical plant
Exercise	Q598	to	Q604	Assignment Number (38)

Folder				EE 302 l Power System Technology (1 pt)
File				EE 302 Electrical Power
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	7	to	15	Power system fundamental
	15	to	19	Modern power system
	74	to	82	Power control devices
	83	to	88	Operational control system
	89	to	96	Power conversion
	120	to	125	Specialised testing & measurement devices
Exercise	Q605	to	Q609	Assignment Number (38)

Folder				EE 512 Generation , Transmission and Distribution of Electric Power
File				EE 512 Generation , Transmission and Distribution of Electric Power
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	601	to	673	Voltage transient and line surge
	768	to	775	Transmission of electrical energy
	800	to	802	Corona
	803	to	812	UG Cable
	828	to	833	Voltage drop in distribution
	834			Regulation
	838	to	843	Line and machine chart
	844	to	851	Voltage regulation stability
	868	to	871	Fault calculation in line
Exercise				

Folder				EE 512 Electrical Power Distribution in Industry & Transmission (Electrical Distribution Engineering)
File				EE 512 Electrical Power Distribution in Industry & Transmission
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	23	to	30	Planning & design
	31	to	37	Electrical design
	70	to	90	Mechanical design (Over head)
	107	to	128	Mechanical design (Under ground)
	138	to	141	Metering
	508	to	533	Conductor inductance & capacitance
Exercise				

Folder				EE 513 Power Transmission and Practical Power Distribution (1 pt)
File				EE 513 Power Transmission and Practical Power Distribution
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	8	to	19	Electric power system
	4	to	62	Percentage and per unit quantities
	63	to	73	Circuit constants
	74	to	84	Assemblies of power system components
	93	to	99	Power circuit stability
Exercise	Q610	to	Q614	of Assignment Number (39)

BAE 502 Linear System (1 pt)

Part (1) Overview Knowledge of the subject

Folder				BAE 502 Linear System+ BAE 503 Control System 1
File				Coron-book.pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Part 1				Controllability of linear control system
1	1	to	12	Finite dimensional linear control system
2	24	to	26	Linear partial differential equations
Exercise	Q615	to	Q617	of Assignment Number (40)

Folder		BAE 502 Linear System+ BAE 503 Control System 1			
File					
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter	Page			Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Ch 1	1		All		Introduction to intelligent control system with high degrees of autonomy
Control 02_Ch2.pdf	2		All		Overview of field
Exercise	Q618	to	621		of Assignment (40)

Folder		BAE 502 Linear System+ BAE 503 Control System 2
File		Control system.pdf
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page	Topics
		Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
		Introduction to control system
	All	System identification
		Digital and analog
		System metrics
		System modelling
		Classical control
	All	Transform
		Transfer functions
		Sampled data system
		System delays
		Poles and zeros
	All	Modern control
		State space equation
		Linear system solution
Exercise	Q622 to Q638	of Assignment Number (40)

Part (2) Competency Units

EE 304 Computer Mathematics (1 pt)

BAE 503 Control System (4 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 502 Linear System+ BAE 503 Control System 2
File		Control system.pdf
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page	Topics
		Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
		System Representation
	All	Gain
		Block diagram
		Feedback control loop
		Bode plot
		Nichol chart
		Stability
	All	Stability
		Routh Hurwitz Criterion, Root Locus
		Nyquist Criterion
		State Space Stability
		Controllers & Compensators
	All	Controllability & Observability
		System Specifications
		Controllers, Compensators
APPENDIX		Z - Transform
Exercise	Q648 to Q671	of Assignment Number (42)

Part (2) Competency Units

EE 601 Non Linear Control Applications (1 pt)

EE 601 Control Engineering , Feedback and Control System , PID_Control (1 pt)

EE 624 Process Control (1 pt)

ME 534 Numerical Control Part 2 (1 pt)

Dip/ Adv Dip in Mechanical Engineering

ME 304 Introduction to Nonlinearity-in-control-systems

Introduction to Nonlinearity-in-control-systems

Folder				EE 601 Non Linear Control Applications (1 pt)
File				EE 601 Applications of Non Linear Control
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	10	to	28	Application of input/ output linearization
	31	to	44	Non linear control for 2 stages PF correction converter
	125	to	137	Non linear observer based control allocation
Exercise	Q672	to	Q675	of Assignment Number (43)

Dip/ Adv Dip in Mechanical Engineering

ME 203 Control Engineering

Control Engineering

Folder				EE 601 Control Engineering (1 pt)
File				EE 601 Control Engineering MATLAB
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	29	to	39	Transfer functions and their responses
	40	to	59	Frequency response/ Plotting
	60	to	69	Closed loop control
	70	to	91	Controller design
Exercise	Q678	to	Q684	of Assignment Number (43)

Folder				EE 601 Feedback and Control System
File				EE 601 Feedback and Control System
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	8	to	19	Introduction to linearized dynamic model
	23	to	36	Transfer function model of physical systems

	40	to	53	Transient performance / S- Plane
	56	to	65	Feedback system modelling / Performance
	69	to	78	Dynamic compensation of feedback system
Exercise	Q685	to	Q705	of Assignment Number (43)

Folder				EE 601 PID Control
File				EE 601 PID Control
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
4	91	to	108	Application of PID controllers in motor drive system
Exercise	Q705	to	Q708	of Assignment Number (43)

Folder				EE 601 Non Linear Control Applications
File				EE 601 Applications of Non Linear Control
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
1	12			Introduction
2	19	to	34	Phase plane method
Exercise	Q709	to	Q714	of Assignment Number (44)

Dip/ Adv Dip in Mechanical Engineering

EE 624 Process Control

Process Control

Folder				EE 624 Process Control (1 pt)
File				EE 624 Process Control
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	31	to	59	Analog Signal Conditioning
3	62	to	85	Digital Signal Conditioning
7	169	to	189	Final Control
8	193	to	211	Discrete State Control
9	214	to	234	Controller Principle
10	235	to	252	Analog Controller
11	254	to	276	Digital Controller
12	279	to	295	Control Loop Characteristics
Exercise	Q715	to	Q743	of Assignment Number (44)

Dip/ Adv Dip in Mechanical Engineering

ME 534 Numerical Control

Numerical Control

Folder				ME 534 Numerical Control (1 pt)
File				ME 534 Numerical Control Part 2
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
1	8	to	16	Introduction to numerical control machinery
2	17	to	27	Numerical control system
5	57	to	63	Programming co-ordinates
6	63	to	81	Two axis programming
7	82	to	100	Three axis programming
8	101	to	109	Maths for numerical control programming
Exercise	Q744	to	Q750	of Assignment Number (45)

BAE 504 Power System Analysis (1 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 504 Power System analysis
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Lecture 1.pdf			All		
Lecture 2.pdf			All		
Lecture 3.pdf			All		
Lecture 4.pdf			All		
Lecture 5.pdf			All		
Lecture 6.pdf			All		
Lecture 7.pdf			All		
Lecture 8.pdf			All		
Lecture 9.pdf			All		
Lecture 10.pdf			All		
Lecture 11.pdf			All		
Lecture 12.pdf			All		
Lecture 13.pdf			All		
Lecture 14.pdf			All		
Lecture 15.pdf			All		
Lecture 16.pdf			All		
Lecture 17.pdf			All		
Lecture 18.pdf			All		

Lecture19.pdf			All		
Lecture 20.pdf			All		
Lecture 21.pdf			All		
Lecture 22.pdf			All		
Lecture 23 (1) .pdf			All		
Introductory					
Lecture 2.ppt					
Lecture 3.ppt					
Exercise	Q751	to	Q776		of Assignment (46)

Folder		BAE 504 Power System analysis / Power System Load Flow			
File					
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Load Flow 1. mht			All		Overview
Load Flow 2. mht			All		Real & Reactive power injected bus
Load Flow 3. mht			All		Classification of buses
Load Flow 4. mht			All		Classification of buses
Load Flow 5. mht			All		Preparation of data for load flow
Load Flow 6. mht			All		Load flow by Gauss Seidel method
Load Flow 7. mht			All		Updating load bus voltage
Load Flow 8. mht			All		Updating PV bus voltage

Load Flow 9. mht			All		Convergence of the algorithm
Load Flow 10. mht			All		Solution of a set of non linear equation by Newton Raphson method
Load Flow 11. mht			All		Load flow by Newton Raphson method
Load Flow 12. mht			All		Load flow algorithm
Load Flow 13. mht			All		Formation of Jacobian matrix
Load Flow 14. mht			All		Formation of Jacobian matrix
Load Flow 15. mht			All		Solution of Newton Raphson load flow
Load Flow 16. mht			All		Load flow results
Load Flow 17. mht			All		Load flow results
Load Flow 18. mht			All		Load flow programs in MATHLAB
Load Flow 19. mht			All		Forming Y bus matrix
Load Flow 20. mht			All		Gauss Seidel Load Flow
Load Flow 21. mht			All		Solving non linear equation using Newton Raphson method
Load Flow 22. mht			All		Newton Raphson load flow
Reference					
Matrice 1.mht to Matrice18.mht			All		
Exercise	Q777	to	Q781		of Assignment (47)

Part (2) Competency Units

EE 614 Power System Analysis

Folder				EE 614 Power System Analysis
File				EE 614-BAE 504 Power System Analysis Text book/ 10.1.1.64.9435.pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	1	to	8	Transformer
	8	to	16	Transmission line model
	17	to	20	Gauss Seidel Algorithm
	20	to	21	Newton Raphson Iteration
	23	to	24	DC Power Flow Algorithm
	24	to	39	Modelling
	30	to	36	Transient Stability
REFERENCE				Comparison document 1 ETA Comparison of load flow and short circuit calculations between ETAP 5.5.6 & Power APPS
Exercise	Q782	to	Q788	of Assignment Number (48)

Folder				EE 614 Power System Analysis
File				EE 614-BAE 504 Power System Analysis Text book/ Microsoft Word PowerAppsWebDocumentVALIDATIONDOCUMENT SinglePoleOpenCaseSimulationinPowerApps.pdf
				Power Apps Transient Stability validiation document for single pole open/ close simulation
				Modelling _ h508_script02 (01) Modelling & analysis of electric power system (Power flow analysis + FaULT ANALYSIS + Power system dynamics and Stability)
				Static Analysis
	1	to	3	Introduction
	5	to	20	Network model
	21	to	25	Active & reactive power flow
	27			Nodal formation of power flow problem
	31	to	34	Basic power flow problem
	37	to	55	Solution of power flow problems
	57	to	71	Fault analysis
	77	to	87	Power system dynamics and stability
	89	to	94	Synchronous machine model
	103	to	106	The swing equation
	109	to	121	Power swing in simple system
	131	to	132	Oscillation in multi machine system
	135	to	136	Voltage stability
	157	to	160	Control of reactive power voltage
REFERENCE				Study the other documents related to power system analysis software applications
Exercise	Q789	to	Q797	of Assignment Number (48)

BAE 505 Power System Optimization (1 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 505 Power System Optimization				
File		Optimization				
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated				
File name	Chapter	Page				Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Optimization 1.mht			All			
Optimization 2.mht			All			
Optimization 3.mht			All			
Optimization 4.mht			All			
Optimization 5.mht			All			
Optimization 6.mht			All			
Optimization 7.mht			All			
Optimization 8.mht			All			
Optimization 9.mht			All			
Optimization 10.mht			All			
REFERENCE						Reactive power optimisation.doc
Exercise	Q798	to	Q801			of Assignment (49)

Part (2) Competency Units

EE 613 Power System Optimization

Folder				EE 613-BAE 505 Power System Optimization Text books (1pt)
File				Power_optimization[1].pdf
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
1	21	to	26	Introduction
2	29	to	59	Power Flow Analysis
4	105	to	149	Classic Economic Dispatch
5	161			Topic 5.2 Linear programming method
	161			Topic 5.2.1 Mathematical model of economic dispatch
	166			Topic 5.2.3 Linear programming model
Reference				Optimization of power system performance using facts devices
				Optimization of dynamical system Chapter 1- Matrix Eigen Value Method
Exercise	Q802	to	Q812	of Assignment Number (1)

BAE 506 Power System Stability & Protection (2 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 506 Power System Stability & Protection – Power System Stability			
File					
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Short circuit 1.mht			All		Transient in RL circuit
Short circuit 2.mht			All		Symmetrical fault
Short circuit 3.mht			All		Transient in RL circuit
Short circuit 4.mht			All		DC Source
Short circuit 5.mht			All		AC Source
Short circuit 9.mht			All		Faults in AC Circuit
Short circuit 10.mht			All		Short circuit in unloaded synchronous generator
Short circuit 8.mht			All		Symmetrical faults in power system
Short circuit 12.mht			All		Calculation of fault current using Z bus matrix
Short circuit 13.mht			All		Circuit breaker selection
Short circuit 11.mht			All		Symmetrical components & representation of faulted network
Short circuit 14.mht			All		Overview
Short circuit 15.mht			All		Overview
Short circuit 18.mht			All		Real & reactive power
Short circuit 19.mht			All		Real & reactive power
Short circuit 16.mht			All		Orthogonal Transformation

Short circuit 20.mht			All		Sequence circuit for star load
Short circuit 21.mht			All		Sequence circuit for delta load
Short circuit 22.mht			All		Sequence circuit for synchronous generator
Short circuit 23.mht			All		Sequence circuit for symmetrical transmission line
Short circuit 24.mht			All		Sequence circuit for transformer
Short circuit 25.mht			All		Star/ Star Connected Transformer
Short circuit 26.mht			All		Delta/Delta Connected Transformer
Short circuit 27.mht			All		Star/ Delta Connected Transformer
Short circuit 28.mht			All		Sequence Network
Short circuit 29.mht			All		Un- symmetrical Faults
Short circuit 30.mht			All		Introduction
Short circuit 31.mht			All		Single line to ground fault
Short circuit 32.mht			All		Line to line fault
Short circuit 33.mht			All		Two lines to ground fault
Short circuit 34.mht			All		Fault current computation using sequence network
Short circuit 32.mht			All		Transient Stability
Exercise	Q813	to	Q832		of Assignment (51)

Folder		BAE 506 Power System Stability & Protection – Power System Stability			
File					
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Transient Stability 1.mht			All		Introduction
Transient Stability 2.mht			All		Power angle relationship
Transient Stability 3.mht			All		Swing equation
Transient Stability 4.mht			All		Equal area criterion
Transient Stability 5.mht			All		Equal area criterion
Transient Stability 6.mht			All		Multi machine stability
Transient Stability 7.mht			All		Oscillation in " S " Two areas System
Transient Stability 8.mht			All		Compensation of power transmission
Transient Stability 9.mht			All		Introduction
Transient Stability 10.mht			All		Ideal shunt compensator
Transient Stability 11.mht			All		Improving voltage profile
Transient Stability 12.mht			All		Improving power angle characteristics
Transient Stability 13.mht			All		Improving stability margin
Transient Stability 14.mht			All		Improving damping power oscillations
Transient Stability 15.mht			All		Ideal series compensator
Transient Stability 16.mht			All		Impact of series compensator for voltage profile
Transient Stability 18.mht			All		Improving power angle characteristics
Transient Stability 19.mht			All		Improving power angle characteristics
Transient Stability 21.mht			All		Alternate mode to voltage injection

Transient Stability 22.mht			All		Alternate mode to voltage injection
Transient Stability 23.mht			All		Comparison of two modes of operation
Transient Stability 24.mht			All		Power flow control and power swing damping
Exercise	Q833	to	Q839		of Assignment (51)

Folder		BAE 506 Power System Stability & Protection – Power System Protection
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page		Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Power system protection studies and relay co-ordination		All		Different types of relays and settings
Power Transmission Planning & Engineering		All		▪ Technical feasibility of various options ▪ Cost of options ▪ Type of transmission AC/DC ▪ Number of circuits ▪ Conductor type ▪ Transmission loss ▪ Reactive power support requirements ▪ Reliability ▪ Quality of power supply ▪ Stability aspects of the interconnected system ▪ Operational planning ▪ Short circuit levels and breaker requirements ▪ over voltages and control ▪ Insulation coordination at substations ▪ Substation arrangements at the

					end of line, including switching arrangements. ▪ Insulation requirements. ▪ Protection, monitoring, control and automation requirements ▪ Study of harmonics where needed [as in case of HVDC or when a terminating station is close to sources of harmonics] ▪ Basic and Detailed engineering related to transmission towers, routes, substations
Exercise	Q865	to	Q867		of Assignment (52)

References

0220_0005.pdf	Power system stability Guidelines
0228_0005.pdf	Power system stability guidelines for determination and report
00481632 (1) .pdf	Direct stability analysis of electric power system using energy functions
Base_Grad Comm: Overview chapter One	Power system stability –New opportunity for control
Development of modern power system	Typical power quality and harmonic measurement plots
V 3.13 121 (1)	Robust power system stabilizer design using particle swarm optimisation techniques
Validation documents	Harmonic analysis

Part (2) Competency Units

EE 615 Power System Stability & Power Quality (1 pt)

EE 616 Power System Protection (1 pt)

Folder				EE 615-BAE 506 Power System Stability & Protection (1 pt)
File				EE 615-BAE 506 Power System Stability & Protection
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	7	to	16	Power quality
	19	to	23	Electrical protection for power system
	34	to	40	Substation automation
Exercise	Q840	to	Q844	of Assignment (52)

Folder				EE 618 Power Quality 1
File				EE 618 Power Quality 1
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	256	to	266	Introduction to power quality
	283	to	297	Harmonic model of transformer
	311	to	327	Substation automation
	333	to	351	Modelling analysis of synchronous machines
Exercise				

Folder				EE 618 Power Quality 2
File				EE 618 Power Quality 2
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	1	to	3	Life time reduction
	18	to	30	Power system modelling under non sinusoidal condition
	38	to	46	Impact of power quality on reliability
	67	to	77	Role of filters in power system
Exercise	Q845	to	Q854	of Assignment (53)

Folder				EE 616 Power System Protection
File				EE 618 Power Quality 2
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	110	to	116	Philosophy of protective relaying
	117	to	118	Fundamental of relaying
	129	to	134	Current/ voltage/directional/ differential relay
	143	to	150	Distance relaying
	151	to	157	Pilot wire relay
	158	to	163	Carrier current relay
	175	to	177	Voltage transformer
	187	to	199	Relay response
	1	to	10	Generator protection
	26	to	34	Transformer protection
	43	to	50	Busbar protection
	54	to	61	Line protection
	76	to	85	Line protection with distance relay
	94	to	99	Line protection with pilot relay
Exercise	Q868	to	Q880	of Assignment (54)

BAE 507 Electro-mechanical Energy Conversion (2 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 507 Electro-mechanical Energy Conversion
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Chapter 1.pdf			All		Basic semiconductor physics
Chapter 2.pdf			All		PN Junction semiconductor
Chapter 3.pdf			All		Power switching devices
Chapter 4.pdf			All		Electrical rating of switching devices
Chapter 5.pdf			All		Cooling
Chapter 6.pdf			All		Load/ switch communication
Chapter 7.pdf			All		Driving semiconductor & thyristor
Chapter 8.pdf			All		Protecting diode / Thyristor/ Transistors
Chapter 9.pdf			All		Switching circuit energy recovery
Chapter 10.pdf			All		Series , parallel devices operation protection
Chapter 11.pdf			All		Naturally commutating converter
Chapter 12.pdf			All		AC Voltage Regulator
Chapter 13.pdf			All		DC choppers
Chapter 14.pdf			All		Power inverters
Chapter 15.pdf			All		Switched mode & resonant DC-DC power supplies
Chapter 16.pdf			All		Capacitors
Chapter 17.pdf			All		Soft magnetic materials

Chapter 18.pdf			All		Resistors
Exercise	Q881	to	Q903		of Assignment (55)

References

All others

Part (2) Competency Units

EE 602 Motor Control Electronics (1 pt)

ME 434 Mechtronics & Robotics (1 pt)

Folder				EE 502 Motor Control Electronics (1 pt)
File				EE 502 Motor Control Electronics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
8	12			AC Induction motor control
10	89			Motor control MCU
11	113			Networking for motor control system
3	183			DC motor control design
4	207			Motor control electronic devices
13	217			Power semi conductors
Exercise	Q904	to	Q911	of Assignment Number (56 A)

Dip/ Adv Dip in Mechanical Engineering

ME 434 Mechtronics-Robotics

Mechtronics-Robotics

Folder				ME 434 Mechtronics/ Robotics (1 pt)
File				ME 434 Mechtronics/ Robotics
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
1	3			Robotics Application
9	3			Robotic Gears
10	19			Interfacing
12	43			Robotic Sensors
15	79			Communication
Exercise	Q912	to	Q918	of Assignment Number (56 B)

BAE 508 Industrial Engineering & Industrial Management (1 pt)

Dip/Adv Dip in Mechanical Engineering

Mgt 501 Basic Management

Basic Management

Part (1) Overview Knowledge of the subject

Effective management decision making

Chapter (1) Introduction

Business Information System

Chapter (1) Defining Information System

Chapter (7) Acquiring Information System

Chapter (8) Developing Information System

Managing Human Resources in 21 Century

Chapter (3) Human resources Management

Management Basics

Chapter (2) The Manager's Job

Chapter (4) Planning in Organization

Operation Management

Chapter (1) Introduction

Chapter (2) Operation Strategy

Chapter (10) Work System Design

Chapter (11) Project Management

Chapter (12) Inventory Management

Quality Management

Chapter (7) Leadership in Quality Management

Chapter (8) Strategic Quality Management

Chapter (15) Implementing Quality Management

Strategic Financial Management

Chapter (1) Finance An Overview

Chapter (2) Capital Budgeting

Chapter (5) Equity Valuation & Cost of Capital

Strategic Management

Chapter (2) The Basic of Strategy

Chapter (3) The Levels of formulation of strategy

Chapter (6) External analysis

Chapter (7) Internal analysis

Chapter (10) Strategy implementation

Understanding organization part 1

Chapter (3) Organization structure

Chapter (4) Organization culture

Chapter (5) Managing behaviour

Chapter (6) Effective leadership

Assignment (57)

Do Q919 for BAE 508

Part (2) Competency Units

Mgt 501 Basic Management & Communication Skills (1 pt)

Mgt 501 Basic Management (1 pt)

Textbook – Mgt 501 Management Basics

Chapter (1) Management basics

Chapter (3) Planning

Chapter (5) Organizing

Chapter (6) Organizing the organization

Chapter (7) Leading

Textbook—Mgt501 Management Briefs

Chapter (2) Leadership

Chapter (5) Motivation

Assignment (58)

Do Q919 for Mgt 919

BAE 601 Computer Programming (3 pt)

Part (1) Overview Knowledge of the subject

Select any of the following textbooks

- C Programming
- C++ Programming
- C# Programming
- Object Oriented Programming
- C Programming in Linux

Study the notes, example programs & practice

Assignment (64)

Submit the assignment Q 924 to complete the overview

Part (2) Competency Units

IT 401 Object Oriented Programming (1 pt)

IT 402 Structured Programming (1 pt)

IT 403 Visual Basic Programming (1 pt)

IT 401 Object Oriented Programming (1 pt)

Study the notes, example programs & practice

Assignment (65)

Submit the assignment Q 925 to complete the unit

IT 402 Structured Programming (1 pt)

Study the notes, example programs & practice

Assignment (66)

Submit the assignment Q 926 to complete the unit

IT 403 Visual Basic Programming (1 pt)

Assignment (67)

Submit the assignment Q 927 to complete the unit

BAE 602 Computer Network (1 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 602 Computer Network
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Presentation 1			All		Computer Network
Presentation 2			All		Peer to peer networking
Presentation 3			All		Client server networking
Presentation 4			All		Network hardware
Presentation 5			All		Network cable
Presentation 6			All		Hub
Presentation 7			All		Wired network
Presentation 8			All		Wireless network card
Presentation 9			All		Firewall
Presentation 10			All		Wiring the network
Presentation 11			All		Wiring the network
Presentation 12			All		Running the network program
Presentation 13			All		Viewing network connection
Presentation 14			All		Network set up on additional computers
Presentation 15			All		Viewing network connection
Presentation 16			All		Necessary hardware software
Presentation 17			All		Server operating system
Exercise	Q	to			of Assignment

Folder		Networking Lesson Powerpoints
File		
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page	Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Ch1_V1		All	Introduction
Ch2_V1		All	Network model
Ch3_1_V1		All	Data and signals
Ch3_2_V1		All	Data and signals
Ch3_4_V1		All	Data rate limit
Ch3_5_V1		All	Performance
Ch4_1_V1		All	Digital transmission
Ch4_2_V1		All	Digital transmission
Ch5_1_V1		All	Analog transmission
Ch5_2_V1		All	Analog transmission
Ch6_1_V1		All	Bandwidth utilization/ Multiplexing/ Spreading
Ch6_2_V1		All	Bandwidth utilization/ Multiplexing/ Spreading
Ch7_1_V1		All	Transmission media
Ch10_1_V1		All	Error detection & correction
Ch10_2_V1		All	Error detection and correction
Exercise	Q933	to 936	of Assignment (68)

Part (2) Competency Units

ICT 202 Information Systems Principles and Networking (1 pt)

ICT 202 Information Systems Principles and Networking (1 pt)

ICT 202 Network D016 Study Guide.pdf

- Follow the instruction in the guide

- Study ICT 202 IT Network D016 Network Theory Part 1 Zip folder

  D016 Theory Notes

  D016 Theory Notes (2.4.30 Network Infrastructure)

- Study ICT 202 IT Network D016 Theory Notes Part 2 .zip

  D016 Theory Notes

  2.4.31 Directory Service

Folder				ICT 203 Information System Analysis & Design (1)
File				
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Lesson	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
1	1			Defining needs
2	4			Area covered
3	6			Organization information requirement
6	14			System VS Procedure

7	15			Types of systems
8	18			What are the systems?
9	22			Infrasturcture
10	25			Support system
11	28			Data mart
13	37			Organizational structure
17	50			Planning for system development
19	58			System design
29	81			Security of information system
36	100			Risk management
Exercise	Q948	to	Q962	of Assignment Number (69)

It also completes ICT 203 competency unit of BAE 603 Software Engineering

BAE 603 Software Engineering (2 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 603 Software Engineering			
		ICT 106 Software Engineering (1 pt)			
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Lecture 1			All		Introduction
Lecture 2			All		Software process
Lecture 3			All		Feasibility study
Lecture 4			All		Project management
Lecture 5			All		Documentation, Requirement analysis
Lecture 6			All		Requirement specification
Lecture 7			All		Business/ Legal aspect
Lecture 8			All		Source code management
Lecture 10			All		Formal specification
Lecture 11			All		Object oriented design 1
Lecture 12			All		Object oriented design 2
Lecture 13			All		Object oriented design 3
Lecture 14			All		System Architecture 1
Lecture 15			All		System Architecture 2
Lecture 16			All		System Architecture 3
Lecture 17			All		Design for utility
Lecture 19			All		Performance of computer system

Lecture 20			All		Coding standard/ Tools for designing 1
Lecture 21			All		Dependable system 1 Reliability
Lecture 22			All		Dependable system 2 Validation
Lecture 24			All		Law aspect
Lecture 26			All		Risks in software engineering
Lecture 27			All		Software engineering as engineering
Exercise	Q963	to	Q973		of Assignment (70)

Part (2) Competency Units

ICT 106 Software Engineering (1 pt)

ICT 203 Information Systems, Analysis and Design (1 pt)

EE 626 Nano Technology (1 pt)

Folder				EE 626 Nano Technology (1 pt)
File				EE 626 Nano Technology
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
1	16			What is Nano technology?
2	20			Motivation for Nano technology
3	28			Scaling laws
4	38			Nano technology
Exercise	Q974	to	Q983	of Assignment Number (71)

References

Chapter (5) Raw materials for Nano Technology

Chapter (6) Nano Devices

BAE 604 Telecommunication Engineering (2 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 604 Telecommunication Engineering
File		H046 Telecom Note 1
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Week 1			All		Communication fundamental
Week 2			All		Information & bandwidth
Week 3			All		Amplitude modulation transmission
Week 4			All		Amplitude modulation reception
Week 5			All		Single side banded communication

File		H046 Telecom Note 2
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Week 6			All		Frequency modulation –Transmission
Week 7			All		Frequency modulation –Reception
Week 8			All		Communication Techniques
Week 9			All		Communication Receivers
Week 10			All		Pulse Modulation

File		H046 Telecom Note 3			
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter		Page		Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Week 11			All		Code transmission
Week 12			All		ISDN
Week 13			All		Transmission lines
Week 14			All		Wave propagation
Week 15			All		Antenna
Week 16			All		Fibre optics
Exercise	Q989	to	Q1026		of Assignment (72A)

Part (2) Competency Units

EE 525 Data Communication (1 pt)

EE 603 Electronics Telecommunication (1 pt)

Folder				EE 525 Data Communication (1 pt)
File				EE 525 Data Communication
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	2	to	14	Overview of data communication
	15	to	28	Data terminals
	31	to	40	Massage and transmission channels
	41	to	60	Asynchronous modems and interfaces
	61	to	75	Synchronous modem and digital transmission
	88	to	101	Protocol and error control
Exercise	Q1027	to	Q1034	of Assignment Number (72B)

Folder				EE 608 Electronics Telecommunication (1 pt)
File				EE 608 Electronics Telecommunication
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	349	to	354	RF Transmission
	355	to	360	Transmission Lines & Antennas
	309	to	316	Video signals
Exercise	Q1035	to	Q1043	of Assignment Number (73)

BAE 605 Engineering Management (5 pt)

Part (1) Overview Knowledge of the subject

Completion of BAE 508 Overview also completes BAE 605 Overview

Part (2) Competency Units

Mgt 502 Operation Management (1 pt)

Mgt 503 Production & Operation Management (1 pt)

Mgt 504 Project Management (1 pt)

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Mgt 506 Strategic Financial Management (1 pt)

Dip/ Adv Dip in Mechanical Engineering

Mgt 503 Production & Operation Management

Production & Operation Management

Mgt 505 Quality Management and Manufacturing Engineering

Quality Management and Manufacturing Engineering

Mgt 502 Operation Management (1 pt)

Chapter (3) Product design and process selection

Chapter (4) Total quality management

Chapter (7) JIT & Lean System

Chapter (8) Capacity planning

Assignment (59)

Do Q 920 to complete Mgt 502

Mgt 503 Production & Operation Management (1 pt)

Chapter (6) Planning production

Chapter (7) Managing inventories-Material requirement planning

Chapter (11) Manufacturing

Chapter (13) Dealing with technology and design

Chapter (15) Operation strategy

Assignment (60)

Do Q 921 to complete Mgt 502

Mgt 504 Project Management (1 pt)

Chapter (1) Project management

Chapter (2) Project organization

Chapter (4) Project plan

Chapter (5) Progress & performance measurement

Chapter (6) Risk management

Chapter (7) Documentation/ Audit/ Closure

Assignment (61)

Do Q 921 to complete Mgt 502

Mgt 505 Quality Management and Manufacturing Engineering (1 pt)

Chapter (2) Background

Chapter (3) Why quality management

Chapter (5) Standards and models

Chapter (5) Progress & performance measurement

Chapter (8) Strategic quality management

Chapter (7) Documentation/ Audit/ Closure

Assignment (62)

Do Q 923 to complete Mgt 505

Mgt 506 Strategic Financial Management (1 pt)

Chapter (3) Capital budgeting

Chapter (4) Treatment of uncertainty

Chapter (6) Debt valuation and cost of capital

Chapter (7) Capital gathering & cost of capital

Assignment (63)

Do Q 924 to complete Mgt 506

BAE 606 Building Service Electrical & Mechanical Engineering (2 pt)

Part (1) Overview Knowledge of the subject

Folder				BAE 606 Building Service Electrical & Mechanical Engineering
File				Building Construction 1
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	5	to	12	Making building
	13	to	20	Foundations
	40	to	47	Wood
	117	to	125	Interior finish for wood light frame construction
	173	to	175	Wall types
	181			
	237	to	239	Concrete construction

Folder				BAE 606 Building Service Electrical & Mechanical Engineering
File				Air-conditioning & Refrigeration
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	105	to	108	Controlling the temperature of mass
	236	to	243	Electric heat
	305	to	308	Humidification
	309	to	314	Air-conditioning –Cooling / Comfort
	324	to	339	Air-distribution & Balance
	400	to	432	Reference Tables

Folder				BAE 606 Building Service Electrical & Mechanical Engineering
File				Sanitation & Water Supply
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
Annex A	124			Design of onsite sanitation system
Annex B	127	to	139	Hydraulic design of sewers
Exercise	Q1044	to	Q1059	of Assignment Number (74)

Part (2) Competency Units

EE 617 Building Electrical and Mechanical System (1 pt)

ME 334 Airconditioning and Refrigeration (1 pt)

CE 301 Building Construction (Optional)

CE 301 Conceise Hydroulics (Optional)

Dip/ Adv Dip in Mechanical Engineering

EE 617 Building Electrical and Mechanical System Part 1

Building Electrical and Mechanical System Part 1

Folder				EE 617 Building Electrical & Mechanical System (1 pt)
File				EE 617 Building Electrical & Mechanical System Part 1
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	35	to	50	Climate comfort and design strategies
	74	to	85	Thermal control
	109	to	120	Designing for heating cooling
	209	to	234	Large building HVAC system
	256	to	270	Water and basic design
	276	to	291	Water supply
	314	to	322	Water and waste
	366	to	379	Fire protection
	388	to	401	Fire protection
	479	to	507	Illumination
	554	to	575	Lighting design
	624	to	630	Signal system
Exercise	Q1060	to	Q1077	of Assignment Number (75)

Dip/ Adv Dip in Mechanical Engineering

ME 334 Airconditioning and Refrigeration

Airconditioning and Refrigeration

Folder				ME 334 Air-conditioning & Refrigeration (1 pt)
File				ME 334 Air-conditioning & Refrigeration
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
	13	to	24	Theory of heat
	286	to	297	Solar heat
	305	to	307	Humidification
	308	to	315	Air-conditioning-Cooling
	324	to	339	Air-distribution & Balance
	399	to	442	Air-conditioning Calculation worksheets
Exercise	Q1078	to	Q1085	of Assignment Number (76)

BAE 607 Radio Wave Propagation & Microwave Techniques (2 pt)

Part (1) Overview Knowledge of the subject

Folder		BAE 607 Radio Wave Propagation & Microwave Technique
File		Radio Wave Propagation
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
1.Propagation 1.pdf			All		Introduction to radio wave propagation
2.ppt			All		Propagation features/ Overviews
03 Electromagnetic propagation			All		Electromagnetic waves, Prpagation through atmosphere
Antenna propagation (1).pdf			All		Antenna
ARC slides wave prop			All		Radio wave propagation fundamentals
Chap 5.ppt			All		Antennas and propagation
Chap03.ppt			All		Mobile radio propagation
Chap 7 Note . ppt			All		Propagation
Chap 12. ppt			All		Wave propagation
Lecture 2 Radio communication .ppt			All		Radio navigation
Week 3 . ppt			All		Wireless communication
Exercise	Q1086	to	Q1118		of Assignment (77)

Reference

Electromag Demo.ppt

Introduction to wireless communication

Slide 4. ppt Radio propagation

Folder		BAE 607 Radio Wave Propagation & Microwave Technique
File		Microwave Technique
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page			Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
ECE 5014 Microwav.ppt					Microwave antenna and radio wave propagation
Chap02					Distributed element circuit analysis techniques
Chap08					Matching networks
Chap09					Couplers, combiners, dividers
Chap13					Mixers
Chap14					Gain and stability
Chap16					Noise
Exercise	Q1119	to	Q1133		of Assignment (78)

Part (2) Competency Units

EE 625 Radio Wave Propagation (1 Pt)

EE 626 Microwave Technique (1pt)

Folder				EE 625 Radio wave propagation (1 pt)
File				Elementary linear algebra
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
2	32	to	56	Electromagnetism and RF Propagation
3	57	to	80	Antenna Fundamental
4	86	to	105	Communication system
12	302	to	317	RF Safety
Exercise	Q1134	to	Q1141	of Assignment Number (79)

Folder				EE 626 Microwave Techniques(1 pt)
File				EE625 Radio Wave Propagation
				Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated
Chapter	Page			Topics
				Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
10	237	to	260	Rain attenuation of microwave and milli-meter wave signals

Folder		EE 626 Microwave Techniques(1 pt)			
File		MJ Part 1			
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated			
File name	Chapter	Page			Topics
					Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
MJ Part 1					Design of microwave filters (Vol 1)
Chapter 1		15	to	28	General applications of filter structure in microwave engineering
Chapter 5		171	to	230	Properties of some common microwave filter elements

Folder		EE 626 Microwave Techniques(1 pt)
File		MJ Part 2
		Instruction Study the notes, calculate the example problems then do the exercises numbers as indicated

File name	Chapter	Page	Topics
			Note- PDF File page number and the page number of the scanned document may be different. The student need to check both as necessary
MJ Part 2			Design of microwave filters (Vol 1)
Chapter 17			Mechanically & magnetically tunable microwave filters
Exercise	Q1142	to Q1160	of Assignment (80)

ADDITIONAL UNITS FOR DIPLOMA/ ADVANVCED DIPLOMA IN MECHANICAL ENGINEERING COURSE

GROUP (1)

Do the exercises given by the teacher for the following units

ME 108 Principle of Engines

- Principle of Engines

ME 109 Engineering Drawing

- Engineering Drawing
- GeneralDrawing1.zip
- GeneralDrawing2.zip

ME 201 Introduction to Fluid Mechanics

- Introduction to Fluid Mechanics

ME 202 Introduction to Aero Dynamics

- Introduction to Aero Dynamics

ME 204 Engineering Fluid Mechanics

- Engineering Fluid Mechanics

ME 206 Introduction to Turbo Machinery

- Introduction to Turbo Machinery

ME 301 Fluid Dynamics

- Fluid Dynamics

GROUP (2)

Write the essay for the manufacturing system based on the study in the following units

ME 205 Manufacturing Processes-and-Materials

- Manufacturing Processes-and-Materials

ME 302 Automation-and-Robotics

- Automation-and-Robotics

ME 303 Computer Aided Design and Manufacturing

- Computer Aided Design and Manufacturing

ME 305 Corrosion Prevention

- Corrosion Prevention

GROUP (3)

Write the essay for the hydro carbon production system based on the study in the following units

ME 207 Chemical Thermodynamics

- Chemical Thermodynamics

ME 208 Hydrocarbons

- Hydrocarbons

ME 209 Introduction-to-polymer-science-and-technology

- Introduction-to-polymer-science-and-technology

BAE 608 Professional Engineer Competency Demonstration Report

- The students will have to write Engineering Competency Demonstration Report based on their academic study and work experiences gained after completion of academic study.
- Competency Demonstration Report is voluntarily to be submitted. It prepares the students to have the necessary skills to gain the membership of Engineers Australia later.
- The outlines of Competency Demonstration Report will be provided to the students after completion of the last course work subject.