Republic of the Philippines
Professional Regulation Commission
Manila

PROFESSIONAL REGULATORY BOARD OF MECHANICAL ENGINEERING

RESOLUTION NO. 57
Series of 2013

PROMULGATION AND ADOPTION OF THE TABLES OF SPECIFICATIONS (TOS) FOR THE SUBJECTS IN THE BOARD LICENSURE EXAMINATION FOR REGISTERED MECHANICAL ENGINEERS

WHEREAS, Section 17, Article III of R.A. 8495, known as the "Philippine Mechanical Engineering Act of 1998" states that the Professional Regulatory Board of Mechanical Engineering, may amend or revise the subjects, syllabi, passing average, and the system and procedure in the licensure examinations for the practice of mechanical engineering and the corresponding weight pursuant to the implementing rules and regulations issued for this purpose;

WHEREAS, Section 9(h) of R.A. 8981, called as the "PRC Modernization Act of 2000", empowers the Professional Regulatory Boards to prepare, adopt, and issue the syllabi or tables of specifications of the subjects for examinations, in consultation with the academe; determine and prepare the questions for the licensure examinations which shall strictly be within the scope of the syllabus or table of specifications (TOS) of the subject for examination;

WHEREAS, a syllabus for each examination subject is necessary to delineate the scope or parameters of each subject for examination and to guide the Professional Regulatory Boards, examinees and reviewers in preparing, taking and reviewing the licensure examinations;

WHEREAS, the syllabus or TOS is the basis for the test questions that will be inputted into the computer test question bank;

WHEREAS, the adoption of the syllabus or TOS will appropriately incorporate the competencies covering the topics and sub-topics, or areas and sub-areas, or concepts and sub-concepts into the Board Licensure Examination subjects, with the same not only providing the percentage weights and number of items but also the levels of difficulty, namely, Easy: K (knowledge), Moderate: U (understanding), C (comprehension), Difficult: A (analysis), S (synthesis), and E (evaluation);

WHEREFORE, the Professional Regulatory Board of Mechanical Engineering, pursuant to Sec. 9(k) Article II of R.A. 8495, **RESOLVES,** as it is hereby **RESOLVED**, to adopt, promulgate, and issue a modified syllabi of the subjects in the licensure examination for Registered Mechanical Engineers;

FURTHER RESOLVED, that this Resolution with Annexes "A" and "B" hereof shall apply in the September 2013 Licensure Examinations for Registered Mechanical Engineers.

FURTHERMORE RESOLVED, this Resolution shall take effect after it shall have been docketed and received by the Records Division, Rating Division, Educational Statistic Division (ESD), and the Board.

FINALLY RESOLVED, that this Resolution be widely disseminated and circularized, through the Philippine Society of Mechanical Engineers (PSME), to all schools, colleges and universities offering courses in Mechanical Engineering, and all other concerned sectors.

Done in the City of Manila, this 25th day of July, 2013.

LEANDRO A. CONTI
Officer-in-Charge

VICENTE B. VOSOTROS
Member

(VACANT)
Member

ATTESTED BY:

LOVELIKA T. BAUTISTA
OIC, Secretary to the Professional Regulatory Boards

APPROVED:

TERESITA R. MANZALA
Chairperson

JENNIFER JARDIN-MANALILI
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(VACANT)
Commissioner

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ANNEX A-3

Republic of the Philippines
Professional Regulation Commission
Manila

PROFESSIONAL REGULATORY BOARD OF MECHANICAL ENGINEERING

Table of Specifications in Machine Design, Materials and Shop Practice

COMPETENCY in Machine Design, Mateials and Shop Practice	Weight 30%	No. of Items 100	Level of Difficulty					
			Easy Items		Moderate	Difficult Items		
			knowledge	comprehension	application	analysis	synthesis	evaluation
			K	*C*	*A*	*A*	*S*	*E*
.0 Kinematics	2.88	12						
1.1 Displaceent velocity and acceleration analysis	**0.96**	**4.0**	1	1	1	1		
. Define the basic knowledge and concepts	0.24	1.0	1					
. Explain the basic methods and concepts	0.24	1.0		1				
. Analyze the concepts	0.24	1.0				1		
. Apply the concepts (designing or problem solving)	0.24	1.0			1			
1.2 Analysis of mechanism	**0.96**	**4.0**	1	1	1	1		
. Define the basic knowledge and concepts	0.24	1.0	1					
. Explain the basic methods and concepts	0.24	1.0		1				
. Analyze the concepts	0.24	1.0				1		
. Apply the concepts	0.24	1.0			1			
1.3 Cam mechanism and gear train	**0.96**	**4.0**	1	1	1	1		
. Define the basic knowledge and concepts	0.24	1.0	1					
. Explain the basic methods and concepts	0.24	1.0		1				
. Analyze the concepts	0.24	1.0				1		
. Apply the concepts (designing or problem solving)	0.24	1.0			1			
2.0 Machine Design	**25.00**	**81.0**						
2.1 Stress Analysis-Simple Stresses	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.2 Materials and their Properties	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts through proper material selection	0.32	1.0			1			
2.3 Tolerances and Allowances	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.4 Variable Loads & Stress Concentration	**0.96**	**3.0**	1		1	1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0			1			
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.5 Colums and Central Loads	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.6 Combined Stresses	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing and problem solving)	0.32	1.0			1			
2.7 Ball and Roller Bearings	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					

2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.8 Journal and Plane-Surface Bearings	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.9 Flexible transmission, flat belts, v-blets, and chains	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.10 Screw Fastening and Rivets	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.11 Springs	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.12 Shafts	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.13 Keys and Couplings	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.14 Journal and Plane-Surface Bearings	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.15 Spur Gears	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.16 Helical Gears	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.17 Bevel Gears	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.18 Worm Gearing	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.19 Brakes & Clutches	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0				1		
2.20 Welding	**0.96**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	**0.32**	1.0				1		
2.21 Thin Cyclinders & Cylindrical Cylinders	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			

2.22 Steel Tubes	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.23 Flat Plates	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.24 Flywheels	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.25 Punch Press	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.26 Pipe and Fittings	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
2.27 Engineering Drawing Practices	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts (designing or problem solving)	0.32	1.0			1			
3.0 Shop Machinery	**0.96**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts	0.32	1.0	1					
2. Explain the basic methods and concepts	0.32	1.0		1				
3. Analyze & apply the concepts through proper material selection	0.32	1.0			1			
4.0 Shop Practice	**0.96**	**4.0**	1	1	1	1		
1. Define the basic knowledge and concepts	0.24	1.0	1					
2. Explain the basic methods and concepts	0.24	1.0		1				
3. Analyze the concepts	0.24	1.0				1		
4. Apply the concepts	0.24	1.0			1			
	30%	**100.0**	32	31	19	18	0	0

Total Test Questions = **100**

Easy =	63	63%
Mod =	19	19%
Diff =	18	18%
		100%

Prepared by:

VICENTE B. VOSOTROS
Member

Reviewed by:

DRA. LUCILA F. TIBIGAR
PRC Consultant

ANNEX A-3

Republic of the Philippines
Professional Regulation Commission
Manila

PROFESSIONAL REGULATORY BOARD OF MECHANICAL ENGINEERING

Table of Specifications in Power Plant Engineering

COMPETENCY in Power Plant Engineering	Weight 35%	No. of Items 100	Level of Difficulty					
			Easy Items		Moderate	Difficult Items		
			knowledge K	comprehension C	application A	analysis A	synthesis S	evaluation E
1.0 POWER PLANT ELEMENTS	**3.80%**	**11**	*5*	*5*	*1*	*0*	*0*	*0*
1.1 Fuels and Combustion	**0.76**	**3.0**	1	1	1			
1. Define the basic knowledge and concepts			1					
2. Explain the basic methods and concepts				1				
3. Apply the the knowledge and concept					1			
1.2 Variable Load Problems	**0.76**	**2.0**	1	1				
1. Define the basic knowledge and concepts			1					
2. Explain and apply the basic methods and concepts				1				
1.3 Thermodynamics	**0.76**	**2.0**	1	1				
1. Define the basic knowledge and concepts			1					
2. Explain the basic methods and concepts				1				
1.4 Internal Combustion Engines	0.76	2.0	1	1				
1. Define the basic knowledge and concepts			1					
2. Explain and comprehend the basic methods and concepts				1				
1.5 Heat Transfer	0.76	2.0	1	1				
1. Define the basic knowledge and concepts			1					
2. Explain and apply the basic methods and concepts				1				
	3.80							
2.0 Power Plant Design	**7.60**	**24.0**	2	3	10	7	1	1
2.1 Diesel Engine Power Plant	**0.76**	**3.0**	1		2			
1. Define and explain the basic knowledge and concepts			1					
2. Comprehend and apply the basic methods and concepts					2			
2.2 Gas Turbine Power Plant	**0.76**	**3.0**	1	1	1			
1. Define and comprehend the basic knowledge and concepts			1	1				
2. Apply the basic methods and concepts					1			
2.3 Combined Cycle Power Plant	**0.76**	**2.0**			1	1		
1.Define and comprehend the basic knowledge and concepts								
2.Apply and Analyze the basic methods and concepts					1	1		
2.4 Steam Power Plant	**0.76**	**3.0**		1	1		1	
1. Define and comprehend the basic knowledge and concepts				1				
2.Apply and analyze the basic methods and concepts					1			
3. Synthesize the methods and concepts							1	
2.5 Hydro-electric Power Plant	**0.76**	**2.0**			1	1		
1. Define and explain the basic knowledge and concepts								

2. Apply and analyze the methods and concepts					1	1		
2.6 Geothermal Power Plant	**0.76**	**3.0**		1	1	1		
1. Define and explain the basic knowledge and concepts				1				
2. Apply the methods and concepts					1			
3. Analzye the methods and concept (problem solving)						1		
2.7 Nuclear Power Plant	**0.76**	**2.0**			1	1		
1. Define and comprehend the basic knowledge and concepts								
2. Apply and analyze the methods and concepts					1	1		
2.8 Non-conventional Sources of Energy	**0.76**	**2.0**			1	1		
1. Define and comprehend the basic knowledge and concepts								
3. Analyze & apply the concepts (designing or problem solving)					1	1		
2.9 Piping System and Insulation	**0.76**	**2.0**			1	1		
1. Define and apply the basic knowledge and concepts								
2. Apply and analyze the concepts (designing or problem solving)					1	1		
2.10 Insstrumentation and Control	**0.76**	**2.0**			1			1
1. Defineand comprehend the basic knowledge and concepts					1			
2. Apply and evaluate the concepts (designing or problem solving)								1
	7.60							
3.0 Industrial Plant Engineering	**4.56**	**13.0**	4	6	2	1	0	0
Industrial Plant Elements								
3.1. Project Feasibility Study	**0.76**	**3.0**	1	1		1		
1. Define the basic knowledge and concepts			1					
2. Explain the basic methods and concepts				1				
3. Analyze & apply the concepts						1		
3.2 Industrial Safety and Accident Prevention	**0.76**	**2.0**		1	1			
1. Define & comprehend the basic knowledge and concepts				1				
2. Apply the methods & concepts					1			
3.3 Heat Transfer Modes and Laws	**0.76**	**2.0**	1	1				
1. Define the basic knowledge and concepts			1					
2. Explain the basic methods and concepts				1				
3.4 Fluid Machineries Principles and Operation	**0.76**	**2.0**	1	1				
1. Define the basic knowledge and concepts			1					
2. Explain and comprehend the basic methods and concepts				1				
3.5 Industrial Lubrication	**0.76**	**2.0**		1	1			
1.Comprehend , basic principles				1				
2. Apply the basic methods and concepts					1			
3.6 Environmental Engineering & Pollution Control	**0.76**	**2.0**	1	1				
1. Define the basic knowledge and concepts			1					
2.Comprehend the basic methods and concepts				1				
	4.56							
4.0 Industrial Plant Design	**9.12**	**24.0**	1	10	11	2	0	0
4.1 Dryers	**0.76**	**2.0**			1	1		
1. Comprehend & apply the basic knowledge and concepts								
2. Apply the concepts (designing or problem solving)					1			
3. Analyze the concepts and methods						1		
4.2 Fans and Blowers	**0.76**	**2.0**			1	1		
1. Apply the basic knowledge and concepts					1			
2. Analyze the concepts (designing or problem solving)						1		
4.3 Pumps	**0.76**	**2.0**		1	1			

1. Comprehend & apply the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
4.4 Cooling Towers & Other Water Cooling Equipment	**0.76**	**2.0**		1	1			
1. Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
4.5 Gas Compressors	**0.76**	**2.0**		1	1			
1. Explain the basic methods and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
4.6 Chimney-Smokestack and Draft System	**0.76**	**2.0**		1	1			
1. Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
4.7 Heat Transfer Equipment	**0.76**	**2.0**		1	1			
1. Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
4.8 Conveyors & Other Material Handling Equipment	**0.76**	**2.0**		1	1			
1. Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
4.9 Industrial Instrumentation and Control	**0.76**	**2.0**	1	1				
1. Define the basic knowledge and concepts			1					
2. Explain the basic methods and concepts				1				
4.10 Machinery Foundatin	**0.76**	**2.0**		1	1			
1. Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
4.11 A.C. and D.C. Machinery Performance and Characteristics	**0.76**	**2.0**		1	1			
1. Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
4.12 Industrial Processes: Mfg Procedures & Flowheets	**0.76**	**2.0**		1	1			
2. Explain the basic methods and concepts				1				
3. Apply the basic methods and concepts	9.12				1			
5.0 Refrigeration Engineering & Its Applicatin	**3.80**	**10.0**	1	4	4	1	0	
5.1 Principles of Different Refrigerations Systems	**0.76**	**2.0**		1		1		
2. Explain the basic methods and concepts				1				
3. Analyze the concepts						1		
5.2 Determination of Cooling Loads	**0.76**	**2.0**		1	1			
1. Explain the basic methods and concepts				1				
2. Aply the basic concepts					1			
5.3 Basic Design of Ice Plants , Cold Storage & Skating Rinks	**0.76**	**2.0**		1	1			
1. Explain the basic knowledge and concepts				1				
2. Apply the basic methods and concepts(problem solving)					1			
5.4 Desisgn selection & specification of ref. plants & Equipment	**0.76**	**2.0**		1	1			
1. Explain the basic knowledge and concepts				1				
2. Apply the basic methods and concepts(problem solving)					1			

5.5 Instrumentation and Controls	**0.76**	**2.0**	1		1			
1. Define the basic knowledge and concepts			1					
2. Apply the basic methods and concepts(problem solving)					1			
	3.80							
6.0 Air Conditioning	**6.12**	**18.0**		6	8	2	0	1
6.1 Psychrometric properties of air	**0.76**	**3.0**			1	1		1
					1			
1.Apply the basic knowledge and concepts								
2. Analyze the methods and concepts						1		
3. Evaluate the knowledge and concepts								1
6.2 Various Aircnditioning Processes	**0.76**	**2.0**			1	1		
1.Apply the basic knowledge and concepts					1			
2. Analyze the methods and concepts						1		
6.3 Factors Affecting Human Comfort	**0.76**	**2.0**		1	1			
1. Explain the basic methods and concepts				1				
2. Apply the concepts					1			
6.4 Air Distribution and Simple Duct Design	**0.76**	**2.0**		1	1			
1. Explain the basic methods and concepts				1				
2. Apply the concepts					1			
6.5 Drying Heating and Ventilation	**0.76**	**2.0**		1	1			
1. Explain the basic methods and concepts				1				
2. Apply the concepts					1			
6.6 Cooling Load Calculations	**0.76**	**2.0**		1	1			
1.Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
6.7 Selection & Specification of airconditioning plants & comp	**0.76**	**3.0**		1	1			1
1.Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
3.Evaluate the knowledge and concepts								1
6.8 Instsrumentation and Controls	**0.76**	**2.0**		1	1			
1.Comprehend the basic knowledge and concepts				1				
2. Apply the concepts (designing or problem solving)					1			
	6.08							
	35%	**100.0**	13	34	35	14	1	3

Total Test Questions = 100

Easy =	54	54%
Mod =	36	36%
Diff =	10	10%
		100%

Prepared by:

LEANDRO A. CONTI
Chairman

Reviewed by:

DRA. LUCILA F. TIBIGAN
PRC Consultant

Manila

PROFESSIONAL REGULATORY BOARD OF MECHANICAL ENGINEERING

Table of Specifications in Mathematics

COMPETENCY in Mathematics, Engineering Economics and Basic Economics	Weight 35%	No. of Items	Level of Difficulty: Easy Items – knowledge K	Easy Items – comprehension C	Moderate – application A	Difficult Items – analysis A	Difficult Items – synthesis S	Difficult Items – evaluation E
Competencies involve in problem solving								
Identify what are given , determine the missing data,								
interprete what is ask, formulation and solution:								
01 MATHEMATICS	**24.0%**	**32.0**	**6**	**13**	**7**	**6**		
A. Algebra & Plane Trigonometry								
1.1 Fundamental Algebraic Laws	3.0%	4.0	1	1	1	1		
1.2 Polynomials	3.0%	4.0	1	1	1	1		
1.3 Roots of quadratic equations	3.0%	5.0	1	2	1	1		
1.4 Rules for Exponents and Radicals	3.0%	3.0		2		1		
1.5 Logarithms and Logarithm Identities	3.0%	4.0	1	2		1		
1.6 Simultaneous Linear Equations	3.0%	2.0		1		1		
1.7 Degrees, Radians and Plane Angles	2.0%	3.0		1	2			
1.8 Triangles, Right Triangles and Circular Transcendental Functions	2.0%	4.0	1	1	2			
1.9 Trigonometric Identities	2.0%	3.0	1	2				
02 ANALYTIC GEOMETRY	**8.0%**	**12.0**	**3**	**2**	**4**	**3**		
1. Mensuration of regular shapes	2.0%	4.0	1	1		2		
2. Straight Lines	2.0%	2.0			1	1		
3. Planes and Conic Sections	2.0%	2.0	1		1			
4. Distances and Angles between geometric figures	2.0%	4.0	1	1	2			
03. ENGINEERING ECONOMICS, ME LAW AND CODE OF ETHICS	**14.0%**	**15.0**	**8**	**2**	**3**	**2**		
1. Basic Principles of Engineering Economics								
1.1 Interest, Annuities, Depreciation	2.0%	3.0	1		1	1		
1.2 Principles of Engineering Accounting	2.0%	1.0	1					
1.3 Alternative Investments	2.0%	3.0	1		1	1		
1.4 Replacement Analysis	2.0%	2.0	1	1				
1.5 Break Even Analysis	2.0%	2.0	1	1				
2. Mechanical Engineering Law	1.0%	1.0	1					
3. Mechanical Engineering Code	1.0%	1.0	1					
4. Code of Ethics for Mechanical Engineers	1.0%	1.0	1					
5. Obligations and Contracts	1.0%	1.0			1			
04. CHEMISTRY	**8.0%**	**12.0**	**4**	**2**	**4**	**2**		
1. Theory of atoms and molecules	2.0%	6.0	2	1	2	1		
2. Calculation of chemical changes and energy	2.0%	1.0	1					
3. Chemical bonding	2.0%	2.0	1	1				
4. Nuclear Chemistry	2.0%	3.0			2	1		
05. PHYSICS	**10.0%**	**10.0**	**4**		**6**			
1. Waves	2.0%	2.0	2					
2. Sound	2.0%	2.0	2					
3. Heat	2.0%	2.0			2			
4. Light	2.0%	2.0			2			
5. Electricity and Magnetism	2.0%	2.0			2			
06. STRENGTH OF MATERIALS	**14.0%**	**9.0**	**1**		**4**	**4**		
1. Stress and Strain	4.0%	3.0	1		1	1		
2. Torsion and Bending	4.0%	2.0			1	1		
3. Tensile and Compressive Stresses	4.0%	2.0			1	1		
4. Combine Stresses	2.0%	2.0			1	1		
07. THERMODYNAMICS	**12.0%**	**6.0**	**1**	**2**	**2**	**1**		
1. Define/describe basic knowledge of concepts/principles	2.0%	1.0	1					
2. Explain basic methods/theories	4.0%	2.0		2				
3. Apply the concepts/compute using applicable formulas	4.0%	2.0			2			
4. Analyze - e.g., the cause or effect (Problem Solving)	2.0%	1.0				1		
08. FLUID MECHANICS	**10.0%**	**4.0**	**1**	**1**	**1**	**1**		
1. Define/describe basic knowledge of concepts/principles	3.0%	1.0	1					
2. Explain basic methods/theories	3.0%	1.0		1				
3. Apply the concepts/compute using applicable formulas	2.0%	1.0			1			
4. Analyze - e.g., the cause or effect (Problem Solving)	2.0%	1.0				1		
	100.0%	100.0	28	22	31	19		

100.0%

Total Test Questions = 100

Easy = 50
Mod = 31
Diff = 19

Prepared by:

LEANDRO A. CONTI
Chairman

Reviewed by: Lucila F. Tibigar

DRA. LUCILA F. TIBIGAR
PRC Consultant