



## Scheme of Work

Unit 76 : Management Mathematics

Academic year : 2005 /2006

<u>Week 1</u> 24 Sept- 29 Sept 2005	Lecture Topic :	<b>Set Theory I:</b> Sets notation, subsets, operations on sets : Union, Intersection, Compliments, Venn Diagram.
	Tutoring Session	<b>Tutoring Sheet 1</b> Solution: Problems 1-2-3
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Barnett, RA and Zeigler MR <b>Handout 1</b>
<u>Week 2</u> 2 Oct- 6 Oct 2005	Lecture Topic :	<b>Set Theory II:</b> Applications of Venn diagram, Logical analysis.
	Tutoring Session	<b>Tutoring Sheet 1</b> Solution: Problems 4-5-6
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Booth DJ :Module 25 <b>Handout 1</b>
<u>Week 3</u> 8 Oct- 13 Oct 2005	Lecture Topic :	<b>Index Numbers I:</b> Notation, Simple Index, Simple aggregate index, Weighted price relative indices: Laspeyre's and Paache's indices. Ideal indices: Irving Fischer and Marchall's indices, Laspeyr's and Paache's Volume indices, Index tests: Time reversal and factor reversal tests.
	Tutoring Session	<b>Tutoring Sheet 2</b> Solution: Problems 1-2-3
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Owen F and Jones R : Chapter 5 <b>Handout 2</b>
<u>Week 4</u> 8 Oct- 13 Oct 2005	Lecture Topic :	<b>Index Numbers II:</b> Chain linked index numbers, Changing a base and linking index series, Deflating a series.
	Tutoring Session	<b>Tutoring Sheet 4</b> Solution: Problems 3-4-5
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Owen F and Jones R : Chapter 5 <b>Handout 2</b>

<u>Week 5</u> 15 Oct- 20 Oct 2005	Lecture Topic :	<b>Trigonometric Functions</b> : definitions ,properties, Basic rules, formulae, derivative and integration of trigonometric functions.
	Tutoring Session	<b>Tutoring Sheet 3</b> Solution: Problems 1-2-3-4-5
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Booth DJ : Modules 9,13 <b>Handout 3</b>

<u>Week 6</u> 15 Oct- 20 Oct 2005	Lecture Topic :	<b>Imaginary Numbers</b> : definition,complex numbers operations,conjugates,Argand diagram, Demiovre's Theorem ,Euler's theorem.
	Tutoring Session	<b>Tutoring Sheet 4</b> Solution: Problems 1-2-3-4-5
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Booth DJ : Module 10 <b>Handout 4</b>

<u>Week 7</u> 15 Oct- 20 Oct 2005	Lecture Topic :	<b>Difference Equations I</b> : First order difference equation, Linear second order difference equation.
	Tutoring Session	<b>Tutoring Sheet 5</b> Solution: Problems 1:a,b,c – 2:a,c,d
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Dowling ET Schaum's :Chapters 19,20 <b>Handout 5a</b>

<del> <u>Week 8</u>  28 Oct- 3 Nov  2005  <b>Eid &amp; Diwali  Break</b> </del>		

<u>Week 9</u> 12 Nov- 17 Nov. 2005	Lecture Topic :	<b>Assignment #1</b>
	Tutoring Session	<b>Assignment #1 Solution</b>
	Reading	Assignment #1 solution: <a href="http://www.mathyards.com/lse/mm/page5.html">http://www.mathyards.com/lse/mm/page5.html</a>

<u>Week 10</u> 19 Nov- 24 Nov 2005	Lecture Topic :	<b>Difference Equations II</b> : Non homogeneous second order difference equations,particular solutions, conditions for oscillation and convergence.Management applications.
	Tutoring Session	<b>Tutoring Sheet 5</b> Solution Problems 2: b ,e - 3
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Dowling ET Schaum's :Chapters 19,20 <b>Handouts 5b , 5c</b>

<u>Week 11</u> 26 Nov- 30 Nov 2005	Lecture Topic :	<b>Differential Equations I</b> : First order ,First degree differential equations, separable equations, Homogeneous equations, Equations reducible to homogeneous, other substitutions.
	Tutoring Session	<b>Tutoring Sheet 6</b> Solution: Problems 1:a,b,c,d,e,f – 2 : a,b,c,d
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Dowling ET Schaum’s :Chapters 18,20 <b>Handout 6a</b>

<u>Week 12</u> 4 Dec –8 Dec 2005 <b>Assignment #3</b> <b>Take Home</b> <b>Due Date</b> <b>Dec. 20 2005</b>	Lecture Topic :	<b>Differential Equations II</b> : First order linear equation integrating factor, Second order linear differential equation,auxiliary roots: real equal, real distinct,imaginary.Particular solutions. Behavior of differential equations solutions, Economic applications.
	Tutoring Session	<b>Tutoring Sheet 6</b> Solution Problems:2:e,f,g,h,I,j,k- 3- 4 – 5
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Dowling ET Schaum’s :Chapters 18,20 <b>Handout 6b</b>

<u>Week 13</u> 10 Dec - 15 Dec. 2005	Lecture Topic :	<b>Assignment #2</b>
	Tutoring Session	<b>Assignment #2 Solution</b>
	Reading	Assignment #2 solution : <a href="http://www.mathyards.com/lse/mm/page5.html">http://www.mathyards.com/lse/mm/page5.html</a>

<u>Week 14</u> 17 Dec - 22 Dec 2005	Lecture Topic :	<b>Further Applications of Matrices</b> : Input-Output Economics using Matrix methods,Networks ,Transition Probabilities construction and solving ,Markov’s chains.
	Tutoring Session	<b>Tutoring Sheet 7</b> Solution: Problems : 1-2-3-4-5
	Reading	<a href="http://www.mathyards.com/lse/mm">http://www.mathyards.com/lse/mm</a> Lessons Bartlett ,MS : Intro to Stochastic Processes- <b>Handout 7</b>

<u>Week 15</u> 24 Dec – 29 Dec 2005	Lecture Topic :	<b>Mid Term Exams</b>
	Tutoring Session	
	Reading	

<u>Weeks 16,17</u> 1 Jan – 14 Jan 2006	Lecture Topic :	<b>BREAK</b>
	Tutoring Session	
	Reading	