

**S.G.M. College of Commerce and Management**  
**Mathematics-I- BCA (SEM-I)**

<b>Sr.No</b>	<b>Topic</b>	<b>Sessions required</b>
<b>1</b>	<b>Set s:</b>	<b>12</b>
	- Set operations, Algebra of Sets, Power sets, Symmetric difference	02
	- Finite sets & Mathematical induction	02
	- Functions	01
	- Composition of functions	02
	- One-one, onto and invertible Functions	03
	- Recursively defined functions	02
<b>2</b>	<b>Algebraic Systems:</b>	<b>10</b>
	-Binary Operations and semi groups	03
	-Groups	03
	-Group homomorphism	01
	-Rings	03
<b>3</b>	<b>Matrices:</b>	<b>13</b>
	- Vectors in $R^n$	01
	-Dot Product and norm	02
	-Metrix addition and scalar multiplication	02
	-Matrix multiplication	02
	-Transpose of a Matrix	01
	-Symmetric ,skew-symmetric matrices	02
	- upper and lower triangular	01
	-Determinants of order up to three and Cramer's rule	02
<b>4</b>	<b>Elementary Data Analysis:</b>	<b>10</b>
	-Discrete frequency distribution	03
	-Cumulative frequency distribution,	02
	-Pi charts	01
	-Measures of central tendency: Mean, median, mode, geometric & harmonic means.	04
	<b>Total:</b>	<b>45</b>