

S.G.M. College of Commerce and Management
Business Mathematics-I- B.COM
Semester-I

Sr.No	Topic	Sessions required
1	Determinant:	13
	-Definition of determinant, Basic properties of determinants(without proof)	02
	-Solution of linear equations in two and three variables using Cramer's formula	03
	Set Theory:	
	-sets, subsets ,equality of two sets, null set, universal set	02
	-Complement of a set, union and intersection of sets	02
	-Difference of two sets, venn diagram	02
	-De Morgan laws and Cartesian product of two sets	02
2	Matrix:	12
	-Definition of a matrix, types of matrices	02
	-Equality, addition, subtraction of matrices, scalar multiplication of two matrices	02
	-Multiplication of two matrices	02
	-Transpose of a matrix, orthogonal matrix, adjoint of a matrix, inverse of a matrix	03
	-Solution of a linear equations in two and three variables using inverse matrix	03
3	Limits(without involving trigonometric functions):	10
	-Limits of a function	03
	-Limits of sum, product and quotient of two functions(without proof) and use of them for evaluating other limits like $\lim_{x \rightarrow 0} (a^x - 1)/x$, $\lim_{x \rightarrow \infty} (1 + 1/n)^n$, $\lim_{x \rightarrow a} (x^n - a^n)/(x - a)$	07
4	Mathematics in finance:	10
	-Compound interest, nominal and effective rates of interest	02
	-continuous compounding	02
	-Concept of present value and amount of a sum, Annuity(only for a fixed period of time)	03
	-present value of annuity, sinking funds(with equal payments and equal time intervals)	03
	Total:	45