

**Krantiguru Shyamji Krishna Verma Kachchh University, Bhuj**  
**Master of Science (Computer Applications & Information Technology)**  
**Semester: III**

<b>Paper Code: FCCS304</b>		<b>Total Credit : 4</b> <b>Total Marks : 70</b> <b>Time : 3 Hrs</b>
<b>Title of Paper: Mathematical Foundation of Computer Science – II</b>		
<b>Unit</b>		
<b>Unit</b>	<b>Description</b>	<b>Weighting</b>
<b>I</b>	<b>Connectives</b> Introduction Statements, Connectives, Negation, Conjunction, Disjunction, Conditional and Bi-conditional, Equivalence of formulae and well-formed formulae, Two state devices, Gate and module, Two level networks, NOR and NAND gates.	<b>20%</b>
<b>II</b>	<b>Poset and Lattices</b> Introduction, Posets, Lattices as Posets, Lattices as algebraic systems, Sublattices, Complete Lattices, Bounds of Lattices, Modular and distributive lattices	<b>20%</b>
<b>III</b>	<b>Algebraic System</b> Binary operations, Semigroups, Groups, Homomorphism, Rings, Integral domains, Fields.	<b>20%</b>
<b>IV</b>	<b>Data Analysis – I</b> Measures of dispersions: range; quartile deviation; mean deviations, Standard deviations	<b>20%</b>
<b>V</b>	<b>Data Analysis – II</b> Introduction to Correlation, Methods of finding coefficient of correlation Rank Correlation	<b>20%</b>
<b>Basic Text &amp; Reference Books :-</b>		
<b>1.</b>	S.Lipschutz and Marc Lars Lipson : Discrete Mathematics, Schaum's series(Interational edition,1992)	
<b>2.</b>	Vinay Kumar: Discrete Mathematics (BPB Publication,First edition-2002)	
<b>3.</b>	S. C. Gupta, Fundamentals of Statistics, Himalaya Publishing House, 2004	

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I	Q.1 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	06	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	08	
II	Q.2 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	