SOMAIYA
VIDYAVIHAR UNIVERSITY

Semester: August 2022-December 2022			
Maximum Marks: 30	**Examination: In-Semester Examination**		**Duration :1 hr:15 min**
Programme code: 116U01C305 Programme: B Tech Computer Engineering		Class: SY	Semester: III (SVU 2020)
Name of the Constituent College: K. J. Somaiya College of Engineering		Name of the department: COMP	
Course Code: 116U01C303	Name of the Course: Discrete Mathematics		

Question No.		Max. Marks	CO	Blooms Taxonomy
Q1	1) Determine the number of integers between 1 and 250 that are di[...] by any of the integers 2 ,3, 5 and 7. OR In a survey, it is reported that of 1000 programmers, 650 habitually flowchart their programs, 788 are skilled Python programmers, 67[...] men , 278 of the women are skilled Python programmers , 440 programmers habitually flowchart and are skilled Python programm[...] 210 habitually flowchart and 166 women are both skilled in Python habitually flowchart. Would you accept these data as being accurately reported? Justify [...] answer. Find whether the following statement is tautology? $(p \Leftrightarrow q) \Rightarrow (\neg p \wedge r)$	10M	CO 1	Analyse
Q2	**Solve any two.** (I) Show that $1_3 + 2_3 + 3_3 + \dots n_3 = (1 + 2 + \dots n)_2$ (II) Find out CNF of the following statement. (Using laws of logic using truth table). $(p \Leftrightarrow q) \Rightarrow (\neg p \wedge r)$ (III) Find whether the relation is equivalence relation? $A = \{1,2,3,4,5\} = B$ aRb iff a is multiple of b. Write the relation.	10 M	CO 1	Evaluate
Q3	Consider the relation with A = {1,2,4,6,8,10}= B such that, aRb iff a divides b. Calculate R R2 R3 R ∞ Represent R, R2 , R3 relations with digraph.	10M	CO 2	Applying