



SOMAIYA
VIDYAVIHAR UNIVERSITY

Maximum Marks: 30M
Duration: 1 Hr 15 min

Semester: July 2023-October 2023
Examination: In-Semester Examination (RE-ISE)

Programme code: 01
Programme: B.Tech

Class:
FY/SY/TY/LY
/MTECH

Semester:
I/II/III/IV/V/VI/VII/VIII
(SVU 2020)

Name of the Constituent College:
K. J. Somaiya College of Engineering

Name of the department:
COMP/ETRX/EXTC/IT/MECH

Course Code: 116U01C305

Name of the Course: Discrete Mathematics

| Question No. | | Max. Marks |
|--------------|---|----------------|
| Q1 | <p>In a canteen, out of 123 students, 42 students buy ice-cream, 36 buy buns and 10 buy cakes, 15 students buy ice-cream and buns, 10 buy ice-cream and cakes, 4 buy cakes and buns but not ice-cream and 11 buy ice-cream and buns but not cakes.</p> <p>Draw Venn diagram to illustrate the above information and Find: (i) How many students buy nothing at all? (ii) How many students buy at least two items? (iii) How many students buy all the three items?</p> | 10M |
| Q2 | <p>(i) Consider the conditional statement p. If the floods destroy my house or fires destroy my house, then my insurance company will pay me.</p> <p>Write the converse, inverse and contrapositive of the statement.</p> <p>(ii) There are two restaurants next to each other one has sign that says "Good food is not cheap" and other has a sign that says "cheap food is not good".</p> <p>Are the signs saying the same thing?</p> | (6M+4M) 10M |
| Q3 | <p>Let $X = \{1, 2, 3, 4, 5, 6, 7\}$ and $R = \{(x, y): (x - y) \text{ is divisible by } 3\}$.</p> <p>Show that R is an equivalence relation.</p> | 10M |

Wrong Question.
Question is incorrect