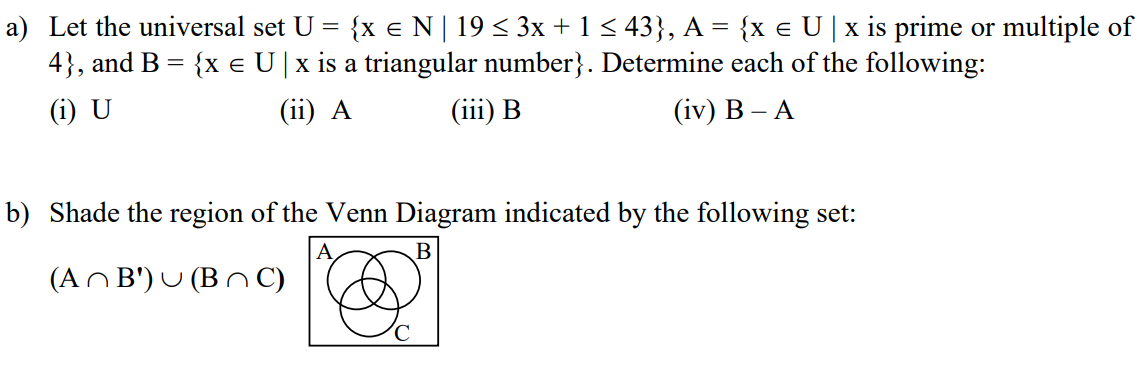
**Test 2**

**Attempt ALL Questions:**

**Q.N.1**



c. If universal set U = {1, 2, 3… 10} and its subsets are A = {x:}, B = {factors of 4} and C ={x: x} then,

i. Find (ABC)

ii. List the elements of set

iii. List the elements of A

iv. Draw a Venn diagram and shade the portion represented by ABC, A

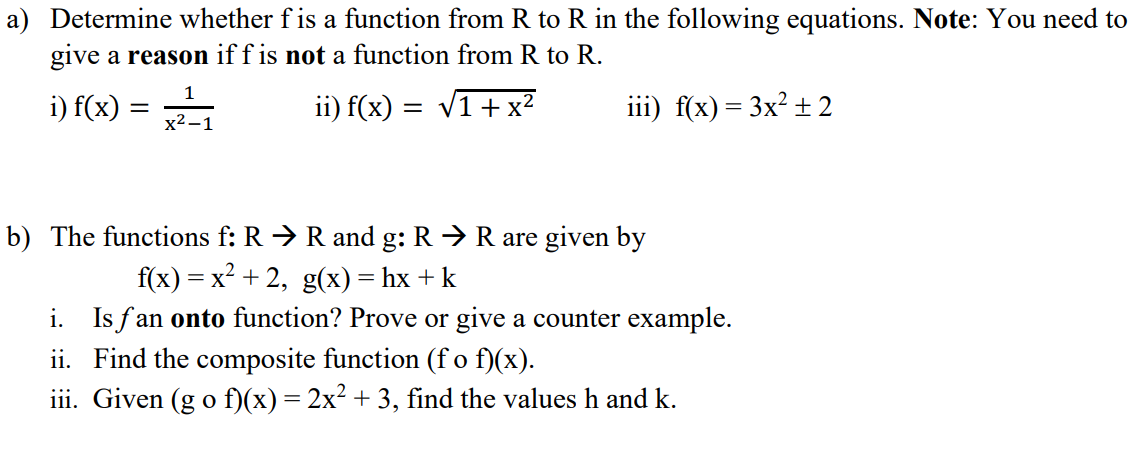
d. Use a hybrid truth/membership table to prove

Q.N.2

Let A= {1, 2, 3} and B ={a, b, c} b and C = {x, y, z}then consider R:A ={(1, b), (2, a), (2, c)} and S :B= {(a, y),(b, x),(c, y),(c, z)}.Then,

1. Find
2. Find domain, codomain and range of relation R
3. Find the composition of SoR
4. Show the relation R on arrow diagram, matrix form and directed graph.
5. Find and compare .

Q.N.3



c) Define relational Database. Why it is more important than other types of database explain with suitable examples.

**Q.N.4**

a.

i. Find the GCD of (33245, 325) by using Euclidean Algorit

ii. Construct addition and multiplication modulo 6.

iii. Calculate: in Z103

iv. Solve: 25x = 10 (mod10)

b. Messages are to be encoded using the RSA method, and the primes chosen are 13 and 17.Encode and decode the numbers 21.

*The End*