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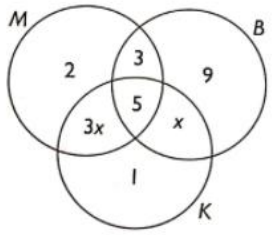
|---|---|
| **NAME :** | **TOTAL MARKS:** |
| **ID :** | $\left(\frac{\quad}{12}\right)$ |
| **LECTURE GROUP:** | |

1. The Venn diagram shows the number of students in sets *M*, *B* and *K*. Given

*M* = {students who like CMT1134 subject}
*B* = {students who like CMT1124 subject}
*K* = {students who like CMT1114 subject}




If the number of students who like both CMT1134 and CMT1114 subjects is 32,

i) find the value of *x*,
ii) find the number of students who like two subjects only.

[2 marks]

Solution:

2. There are 4 women and 5 men to be arranged in a row. Find the number of arrangements that can be formed if

   i) no restriction,
   ii) both ends of the rows are men.
   iii) Find the probability that both ends of the rows are men.

[4 marks]

Solution:

3. Determine the number of ways of arranging 8 girls of in a CIRCLE where 4 girls are always next to each other.

[1 mark]

Solution:

4. A study shows that 15% of the population in a country wear spectacles. A random sample of 20 persons is selected from this country.

   i) Find the probability that at most 2 persons in this sample wear spectacles.
   ii) What is the mean and standard deviation of the number of persons who wear spectacles?

[5 marks]

Solution: