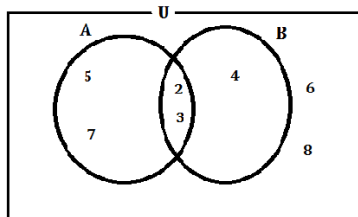Attempt all questions.

1. A venn diagram is given .

a) Define imporper sub -set .   1

b) Write all the subset with two members of set A.   1

c) Sets A and B are overlapping sets ? Justify it .   1

2. Two sub-sets of the universal set U={a,b,c,d,e} are P= {a,b,c} and Q = {c,d,e}.

 a) Define overlapping set.   1

 b) Write common sub-sets of the sets P and Q.   1

 c) Which element of set P and set Q is to be removed to make them disjoint sets?1

3. A={x:2≤ x3,≤ 4, $x \in N$ }   B= {x:x ≤ 3, $x \in N$ } are the sub-sets of the universal set U= {x:x≤ 6, $x \in N$} .

 a) Write the sets A,B and U in listing method.   1

 b) Write the all common sub-set of set A and B with two elements .   1

 c) Write the improper subset of the set B.   1

4. a) Write the number 23500000 in scientific notation .   1

  b) Convert $0.\overline{24}$ into fraction.   2

  c) Convert 435 into binary number system.   2

5. a) Convert 1.525×10^4 into decimal number .   1

  b) If 5 pens can be bought for rs.80 find how many pens can be bought for Rs 128.   2

  c) Convert $(101101)_2$ into decimal number.   2

6. a) Find the ratio of 750gm and 2kg .   1

  b) Simplify and write the answer in scientific notation.   3

$$\frac{1.1 \times 10^3 + 2.3 \times 10^3}{1.7 \times 10^{-6}}$$

 c) Convert 512 into quinary number system .   2

7. a) Convert 0.00000235 into scientific notation .   1

  b) If 3,x,6 and 8 are in proportion find the value of x.   2

  c) Convert the quinary number $(3421)_5$ into decimal number.   2

8.a) if the cost of 10kg of apples is Rs .2500, what is the cost of 15kg of apples at the same rate ?   2

 b) Rajan divides Rs.800 between his son and daughter in the ratio of 3:2 , find how much would each of them get ?   2

9.a) How many digits are there in binary number system and what are they ? 1

 b) Which of the following numbers are irrational number ?   1

     $\sqrt{4}$, $\sqrt{2}$, 0.15, $\frac{22}{7}$

 c) The ratio of milk and sugar in a sweet is 5:4 . if the milk is 650gm, then find the quantity of sugar .   2

10. a) If 5,x and 20 are in continued proportion , find the positive value of x .   2

  b) Simplify and write down the result in scientific notation.   2

$$\frac{(8.6 \times 10^{-3}) \times (3.9 \times 10^{-6})}{(3.6 \times 10^{-7}) \times (4.3 \times 10^{-3})}$$

11.The cost price of a mobile is Rs. 20,000 and the marked price is 20% above the cost price.

 a) Write the formula to find profit percent.   1

 b) Find the marked price of the mobile .   2

 c) If the mobile sold for Rs.23,000 find the discount amount .   1

12) A watch with marked price Rs.15000 is sold for Rs.12000.

 a) Find the discount amount .   1

 b) Write the formula to find the discount percent .   1

 c) Find the discount percent .   2

The End