10.PERCENTAGE

IMPORTANT FACTS AND FORMULAE

1. **Concept of Percentage :** By a certain percent ,we mean that many hundredths. Thus x percent means x hundredths, written as x%.

   To express x% as a fraction : We have , x% = x/100.

   Thus, 20% =20/100 =1/5; 48% =48/100 =12/25, etc.

   To express a/b as a percent : We have, a/b =((a/b)*100)%.

   Thus, ¼ =[(1/4)*100] = 25%; 0.6 =6/10 =3/5 =[(3/5)*100]% =60%.

2. If the price of a commodity increases by R%, then the reduction in consumption so asnot to increase the expenditure is

   [R/(100+R))*100]%.

   If the price of the commodity decreases by R%,then the increase in consumption so as to decrease the expenditure is

   [(R/(100-R)*100]%.

3. **Results on Population :** Let the population of the town be P now and suppose it increases at the rate of

   R% per annum, then :

   1. Population after nyeras = P [1+(R/100)]^n.
   2. Population n years ago = P /[1+(R/100)]^n.

4. **Results on Depreciation :** Let the present value of a machine be P. Suppose it depreciates at the rate

   R% per annum. Then,

1. Value of the machine after n years = $P[1-(R/100)]^n$.
2. Value of the machine n years ago = $P/[1-(R/100)]^n$.

5. If A is R% more than B, then B is less than A by

$[(R/(100+R))*100]\%$.

If A is R% less than B , then B is more than A by

$[(R/(100-R))*100]\%$.