SSC CHSL Percentage Quick Maths Formulas

1. **Percentage = [Value / Total Value * 100]**

2. If two values are respectively x% and y% more than a third value, then the first is the **(100+x) / (100+y) *100%** of the second.

3. If A is x% of C and B is y% of C, then A is **x/y*100% of B**.

4. x% of quantity is taken by the first, y% of the remaining is taken by the second and z% of the remaining is taken by third person. Now is A is left in the fund then there was (**A*100*100*100) / (100-x) (100-y) (100-z)** in the beginning.

5. x% of quantity is added. Again y% of increased quantity is added. Again z% of the increased quantity is added. Now, it becomes A, then the initial amount is given by **(A*100*100*100) / (100+x) (100+y) (100+z)**

6. If the original population of a town is P and the annual increase is r%, then the population in n years will be –

   P + P*r/100 = P*(1+r/100)

7. The population of a town is P. It increases by x% during the 1st year, increases by y% during the 2nd year and again increases by z% during the third year. Then, the population after 3 years will be -

P*(100+x)(100+y)(100+z) / 100*100*100

8. When the population decreases by y% during the 2nd year, while for the 1st and 3rd years, it follows the same, the population after 3 years will be –

P*100+x)(100-y)(100+z) / 100*100*100

9. If the price of a commodity increases by r%, then the reduction in consumption so as not to increase the expenditure, is **(r/100+r) * 100%**

10. If the price of a commodity decreases by r%, then the increase in consumption so as not to decrease the expenditure, is **(r/100-r) * 100%**

11. If the first value is r% more than the second value, then the second is **(r/100+r) * 100%** less than the first value.

12. If the first value is r% less than the second value, then the second is **(r/100-r) * 100%** more than the first value.

13. If the value of a number is first increased by x% and later decreased by x%, the **net change is always a decrease which is equal to x% of x or $x^2/100$**.

14. If the value of a number is first increased by x% and later decreased by y%, then there is **[x-y-(x*y/100)] %** increase or decrease, according to the =ve or –ve sign respectively.

15. If the order of increase and decrease is changes, the result remain unaffected.

16. If the value is increased by x% and y% then the final increase is **[x+y+(x*y/100)] %**.

17. If the price of a commodity is diminished by x% and its consumption is increased by y%

Or

If the price of a commodity is increased by x% and its consumption is decreased by y%

Then the effect on revenue is = **[Inc. % Value – Dec. % Value – (Inc. % Value * Dec. % Value/100)]**.

18. The passing marks in an examination is x%. If a candidates who scores y marks, fails by z marks, then the max marks –

M = 100*(y+z)/x.

19. A candidate scoring x% in an exam fails by 'a' marks, while another candidate who scores y% marks gets 'b' marks more than the min required pass marks. Then the max marks for the exam are -

M = 100*(a+b) / (y-x).

20. In measuring the sides of rectangle, one side is taken x% in excess and the other y% in deficit. The error % in area calculated from the measurement is [**x – y - (x*y/100)]**.

21. If the sides of triangle, rectangle, square, circle, rhombus are increased by x%, then **its area is increased by [x * (x+200) / 100] % or [2*x + (x^2/100)] %**.

22. In an exam x% students failed in English and y% students failed in Maths. If z% of students failed in both,

Then the % of passed students in both subjects is = **100 – (x + y - z) or (100-x) + (100-y) + z**.