**APTITUDE FORMULA**

**NUMBER SYSTEM**

1. **N(N+1)/2 FOR POSTIVE INTEGERS**
2. **PRODUCT OF 2 NUM = HCF \* LCM**

**PROFIT LOSS FORMULA**

1. **P = SP-CP**
2. **L = CP-SP**
3. **P% = (SP/CP = (100+P)%) (OR) SP – CP THEN (P/CP)\*100**
4. **L% = CP - SP THEN (L/CP)\*100 (OR) (SP/CP = (100- L)%)**
5. **D% = SP = MP – D**

**TRAIN FORMULA**

**1.S = D/T , S = SPEED , D= DISTANCE , T = TIME**

**2.D = ST**

**3.T= D/S**

**1KM = 1000M 1HR = 3600S**

**4.RELATIVE SPEED = S1 + S2 (OPPOSITE DIRECTION)**

**5. RELATIVE SPEED = S1 – S2 (SAME DIRECTION)**

**6.RELATIVE TIME = TOTAL S/TOTAL T**

**7.LENGTH OF PLATFORM = TOTAL D – L OF T**

**(5/18 or 18/5)**

**BOATS FORMULA**

**SAME AS TRAIN FORMULAE ADDITONAL WE HAVE**

**DOWNSTREAM = SPEED OF BOATS(B) + WATER(S) (SAME DIRECTION)**

**UPSTREAM = SPEED OF BOAT(B) – WATER(S) (OPPOSITE DIRECTION)**

**B = speed of the boat in still water**

**S = speed of the stream**

**1.Downstream speed = B+S**

**2.Upstream speed = B−S**

**3.Time = Distance / Speed**

**4.** **Downstream Time = Time(down)​=D/B+S**

**5. UPSTREAM TIME = TIME(UP) = D/B-S**

**6.SPEED OF BOAT(B) = D + D/T+T**

**7.SPEED OF STREAM = D-D/T-T**

**8.** **Trick 2: If downstream and upstream times are given for same distance**

**B = D/2(1/T1+1/T2) S = D/2(1/T1-1/T2)**

**TIME&WORK**

**1.total work done = 1**

**2. efficiency = 1/durations and then we do durations =1/efficiency to find how many days**

**3. for find human count h1\*d1 = h2\*d2**

**4. remaining work = totalwork – complete work**

**TIME&DISTANCE**

**1.s = d/t**

**2.avg speed = total distance/total time**

**Partnership**

1. **Ratio 1:2**
2. **B or any share = (bshare/total share)\*total profit**
3. **Ratio = capital\*time**
4. **Profit Share=Investment×Time**
5. **A’s Profit:B’s Profit=A×TA​:B×TB​; TA= TIME OF A**

**AGES**

**1.** **Age after N years = X + N**

**2. Age N years ago = X – N**

**3.FUTURE AGE TRICKS = A+N/B+N =M/N**

**4. Total Age = n × A**

**5.New person’s age=New average+(Increase in average×Total persons)**

**CALENDER**

**1.CENTURY CODE: 1600-2100 = 6,4,2,0,6,4**

**2.MONTH CODE: JAN-DEC = 0,3,3,6,1,6,4,2,5,0,3,5**

**IN LEAP YEAR JAN -6 FEB-2**

**3.DAY CODE: SUN-MON = 0,1,2,3,4,5,6**

**4.YEAR = YY/4 SUPPOSE 1984 84/4 = 84+21 =105**

**5. TOTAL/7**

**6.same calender divisible by 7 trick for year normal yr 1 leap yr 2**