Arithmetic aptitude 1

* Multiply with 125 convert to 1000/8
* (a+b)^2 formula
* 3 divisibilty
* 39 => 13\*3 so 3 divisibilty
* P and q work = a and b so 1/a + 1/b together for 1 day
* (4446)x + (2222)x = (10001)x , here 6 + 2 = 8 but here is 1 so , 8-x = 1 , x = 7 , 7 is base, so every calc just replace 1 with 7
* Loss profit sale , direct %add or multi or subtract
* Series- maybe 2 series together
* Inequality x1 + x2 + x3 <= r, => x1 + x2 +x3 +x4 = r , C(n – 1 + r , n-1)
* Two numbers with high power add- (35)6 + (63)6 ,here 5 power always 5, another unit number cyclicity check
* Smallest num div by many small num gives some remainder, small num factors multi
* Digit n number and sum to p => n-1+pCp

Arithmetic aptitude 2

* Divisible by many num – LCM

Arithmetic aptitude 3

* Ratio ques – 4:5 take 4x and 5x and put in eqn

Arithmetic aptitude 4

* Power of n ,? = m (large num) ,? = log m / log n
* Ratio and HCF , a:b , ax , bx , x = HCF
* 4 consecutive odd num – numbers assume = 2x+1 , 2x+3 …
* Sum of 2 num and sum of sq of two num , (a+b)^2

Arithmetic aptitude 5

* Tens num = x + 10y
* if we get prod and subtract of two num , we need the nums, => (a+b)2 = (a-b)2 + 4ab, solve a+b and a-b
* AI concepts , modus tollen , knowledge base..

Arithmetic aptitude 6

* Min num to add in P to be divisible by Q, => div P by Q ans = x.65564, just inc x by 1, now Q\*(x+1) , calc excess by P, => Q\*(x-1) – P  
  2nd method , div P by Q, remainder R, ans = P-R

General Apti

* If irrational num at deno , multi with irrational on numerator and den, , multi with root(1)-root(2) at num and den, (a-b)(a+b) = a2 – b2
* In ques of maxi or min , take derivative
* Prob ques, A and B producers , x% and y% positive ft respectively , ques ask = positive ft by A => (prob made by A \* positive(x)) / (prob made by A \* positive(x)) + (prob made by B \* positive(y))
* Log relation? Log A = 1/2log B , take one term equal to constant C, log A = C, A = Bc, where B is base of log
* Root(12 + root(12 + …infinity , y = Root(12 + root(12 + …infinity, => y = root(12 + y) , quad soln
* Clock ques , find speed in common units, hour = 360 deg / 12 \* 60 min = 0.5deg/min, minute = 360/12min = 6deg/min, current angles = angle swept already + 0.5t (t in min)
* Prime factorization of 2014 = 21x191x531 Therefore, total number of factors of 2014 = (1+1)x(1+1)x(1+1) = 2x2x2 = 8
* The subtraction of octal numbers follows the same rules as the subtraction of numbers in any other number system. The only variation is in borrowed number. In the decimal system, you borrow a group of 10(10). In the binary system, you borrow a group of 2(10). In the octal system you borrow a group of 8(10)
* Num of divisor in 2100, 2100 = 22 \* 31 \* 52 \* 71 so for 2 we have 3 choices , power 0,1 or 2 , same for others , => 3 \* 2 \* 3 \* 2 = 36
* Num of rectangles in rectangle made up of rectangles, mC2 nC2, m is total horizontal lines, n is total vertical lines, 2 from both are req for rectangle
* Coprime – ex – coprime of 14, a number that shouldn’t be multiple of factors of 14, i.e. 2 and 7

Probabilty

*  poisson distribution, u is mean of prob, e- expo (2.71), x- num of success, P(x;u)- prob of these x success where mean is u
* Commulative distribution func = P(X<=x), x given point , basically prob of success less than or eq to x
* Mutually Exclusive Events => P(A intersection B) = P(A) x P(B)
* f(x) be the continuous probability density func­tion of a random variable X. The probability that a < X ≤ b, is

Misc

* sum of numbers on opp faces of general dice = 7
* river problem - For downstream ----> Rate of (boat /steamer) in still water + rate of stream

For upstream ----> Rate of (boat /steamer) in still water - rate of stream