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EX - 5(F)

i) $1 \times 9 + 1 = 10$
 $12 \times 9 + 2 = 110$
 $123 \times 9 + 3 = 1110$

ii) $9 \times 9 + 7 = 88$
 $98 \times 9 + 6 = 888$
 $987 \times 9 + 5 = 8888$

iii) $1 \times 8 + 1 = 9$
 $12 \times 8 + 2 = 98$
 $123 \times 8 + 3 = 987$

iv) $111 \div 3 = 37$
 $222 \div 6 = 37$
 $333 \div 9 = 37$

Solution:-

i) $1234 \times 9 + 4 = 11110$
 $12345 \times 9 + 5 = 111110$
 $123456 \times 9 + 6 = 1111110$

ii) $9876 \times 9 + 4 = 88888$
 $98765 \times 9 + 3 = 888888$
 $987654 \times 9 + 2 = 8888888$

iii) $1234 \times 8 + 4 = 9876$
 $12345 \times 8 + 5 = 98765$
 $123456 \times 8 + 6 = 987654$

iv) $444 \div 12 = 37$ / $555 \div 15 = 37$ / $666 \div 18 = 37$

(2) i) $6+7+2=15$
 $1+5+9=15$
 $8+3+4=15$
 $6+2+8=15$
 $7+5+3=15$
 $2+9+4=15$
 $6+5+4=15$
 $2+5+8=15$

Hence, is the magic square is 15.

~~ii) $4+9+8=21$
 $11+7+3=21$
 $4+11+6=21$~~

ii) $4+9+8=21$
 $11+7+3=21$
 $6+5+10=21$
 $4+11+6=21$
 $9+7+5=21$
 $8+3+10=21$
 $4+7+10=21$
 $8+7+6=21$

Hence, the magic square is 21.

iii) $16+2+12=30$
 $6+10+14=30$
 $8+18+4=30$
 $16+6+8=30$
 $2+10+18=30$
 ~~$12+14+4=30$~~
 $16+10+4=30$
 $12+10+8=30$

Hence, the Magic Square is 30.

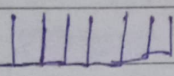
3. i) 1st fig / $n = 1$
 no. of matchsticks = $S = 3n + 4 + 7$
 $= 3 \times 1 + 4$

2nd fig $n = 2$
 $3A = 3n + 4$

ii) 1) 15th figure has $3 \times 15 + 4 = 49$ matchsticks

2) 40th figure has $3 \times 40 + 4 = 124$ matchsticks

iii) It is clear that each time the figure (n) is increased by 4, the no. of matchsticks are increased by 3.

4. i) 

N	1	2	3	4	5
L	2	4	6	8	10

iii) HENCE the value of L is $L = 2n$

iv) 1) Number of Matchsticks in 12th figure
 $= 2 \times 12 = 24$

2) Number of Matchsticks in 20th figure = $2 \times 20 = 40$

5. a) i) $F = 3n + 2$
 ii) 50 and 92

c) i) $F = 5n + 3$
 ii) 83 and 53

b) i) $F = 4n + 1$ / ii) 65 and 121

d) i) $F = 5n + 1$
 ii) 82 and 151

e) i) $F = 4n + 1$ / ii) 65 and 121

f) i) $F = 4n - 2$ / ii) 62 and 22