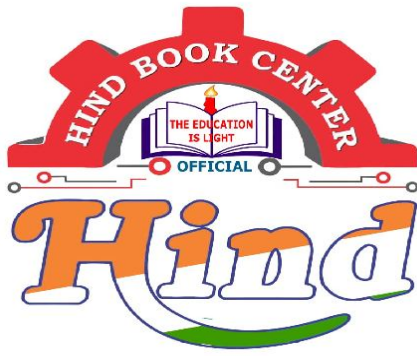




Hindbookcenter



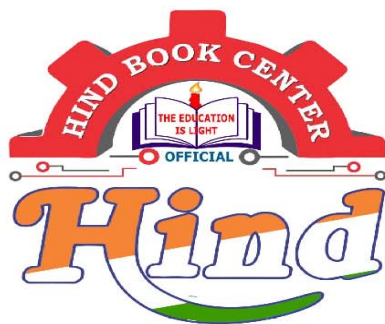
Hind Book Center & Photostat

MADE EASY
IES/GATE/PSUs
Toppers Handwritten Notes
REASONING AND APTITUDE
By-Anjaniya Sir

- Colour Print Out
- Blackinwhite Print Out
- Spiral Binding,& Hard Binding
- Test Paper For IES GATE PSUs IAS, CAT
- All Notes Available & All Book Availabie
- Best Quaity Handwritten Classroom Notes & Study Materials
- IES GATE PSUs IAS CAT Other Competitive/Entrence Exams

Visit us:-www.hindbookcenter.com

Courier Facility All Over India
(DTDC & INDIA POST)
Mob-9711475393



Hindbookcenter



ALL NOTES BOOKS AVAILABLE ALL STUDY MATERIAL AVAILABLE

COURIERS SERVICE AVAILABLE

MADE EASY, IES MASTER, ACE ACADEMY, KREATRYX

ESE, GATE, PSUs BEST QUALITY TOPPER HAND WRITTEN NOTES

MINIMUM PRICE AVAILABLE @ OUR WEBSITE

- | | |
|--------------------------------|---------------------------|
| 1. ELECTRONICS ENGINEERING | 2. ELECTRICAL ENGINEERING |
| 3. MECHANICAL ENGINEERING | 4. CIVIL ENGINEERING |
| 5. INSTRUMENTATION ENGINEERING | 6. COMPUTER SCIENCE |

IES, GATE, PSU TEST SERIES AVAILABLE @ OUR WEBSITE

❖ IES –PRELIMS & MAINS

❖ GATE

➤ NOTE;- ALL ENGINEERING BRANCHS

➤ ALL PSUs PREVIOUS YEAR QUESTION PAPER @ OUR WEBSITE

PUBLICATIONS BOOKS -

MADE EASY, IES MASTER, ACE ACADEMY, KREATRYX, GATE ACADEMY, ARIHANT, GK

RAKESH YADAV, KD CAMPUS, FOUNDATION, MC –GRAW HILL (TMH), PEARSON...OTHERS

HEAVY DISCOUNTS BOOKS AVAILABLE @ OUR WEBSITE

Shop No.7/8 Saidulajab Market Neb Sarai More, Saket, New Delhi-30	Shop No: 46 100 Futa M.G. Rd Near Made Easy Ghitorni, New Delhi-30	F518 Near Kali Maa Mandir Lado Sarai New Delhi-110030	
--	---	--	--

Website: www.hindbookcenter.com

Contact Us: 9711475393

NUMBER SYSTEM

TYPE I:

- * Prime no: having 2 factors.
- * Composite no: More than 2 factors.
- * 1: Neither Prime nor Composite. $\rightarrow$ have only 1 Factor.

PRIME NUMBER: (1-100)

$\downarrow$
25 Prime no.

- 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 73, 79, 83, 89, 97.

COMPOSITE NUMBER:

4, 6, 8, 10, ...

Ex: 15 $\rightarrow$ Factors $\rightarrow$ 1, 3, 5, 15 $\rightarrow$ 4 Factors

NO. OF FACTORS: 4

NO. OF PRIME FACTORS: 2

NO. OF DIFFERENT PRIME FACTORS: 2

ODD FACTORS: 4

EVEN FACTORS: 0

2
3
5
7
11

13 $\leftarrow$ Rare

3 | 15
5 | 5
1

$$15 = 3^1 \times 5^1$$

$$\text{No. of Factors} = a^p \times b^q$$

$$\text{No. of Factors} = (p+1)(q+1) \dots$$

$$= (1+1)(1+1)$$

$$= 2 \cdot 2 = 4$$

Ex: 16 : NO. of Factors

2 | 16
2 | 8
2 | 4
2 | 2
1

$$= 2^4$$

$$\text{No. of Factors} = 4+1 = 5$$

Ex: 60

2 | 60
2 | 30
3 | 15
3 | 5
1

$$2^2 \times 3^1 \times 5^1$$

$$3 \cdot 2 \cdot 2$$

$$= 12 \text{ Factors}$$

$$\text{Total Factors} = 12$$

No. of Prime Factors

4

No. of diff. Prime Factors

3

No. of Factors 9009.

3	9009
3	3003
7	1001
11	143
	13

$$3^2 \times 7^1 \times 11^1 \times 13^1$$

No. of Factors: $3 \times 2 \times 2 \times 2 = 24$

No. of Prime F = 5

No. of diff Prime Factors = 4

Ex. NO. of Factors: 7200

2	7200
2	3600
2	1800
2	900
2	450
5	225
5	45
3	9
3	3
	1

$$2^5 \times 3^2 \times 5^2$$

Total = $6 \times 3 \times 3 = 54$

Prime No. of = 9

Different = 3

EX: NO. of Prime Factors of $(30)^7 \times (22)^5 \times (34)^{11}$

2	30
5	15
3	3
	1

2	22
11	11
	1

2	34
17	17
	1

$$(2^1 \times 3 \times 5)^7 \times (2^1 \times 11)^5 \times (2^1 \times 17)^{11}$$

$$2^3 \times 5^1 \times 3^1 \times 11^1 \times 17^1$$

$$4 \times 2 \times 2 \times 2 \times 2 =$$

$$(30)^7 = (2 \times 3 \times 5)^7 = 2^7 \times 3^7 \times 5^7 = 7+7+7 = 21$$

$$(22)^5 = (2 \times 11)^5 = 2^5 \times 11^5 = 10$$

$$(34)^{11} = (2 \times 17)^{11} = 2^{11} \times 17^{11} = 22$$

Prime Factors
Total = 53

No. of diff. Prime Factors = 5 (2, 3, 5, 11, 17)

EVEN AND ODD FACTORS:

Odd Factors : Consider odd Prime Number.

$$\begin{aligned} 3^1 \times 5^1 &= a^p \times b^q \\ &= (p+1) \times (q+1) \\ &= 2 \times 2 = 4 \end{aligned}$$

$$\boxed{\text{NO. of Even Factors} = \text{Total} - \text{NO. of odd Factors}}$$

Ex: $15 = 3^1 \times 5^1$

NO. of Even Factors = Power of Even Prime number $\times$ (NO. of odd Factors)

$$= 0 \times (\text{NO. of odd Factors})$$

$$= 0$$

Ex: $60 = 2^2 \times \boxed{3^1 \times 5^1} \rightarrow 0 = (1+1)(1+1) = 4$

$$\downarrow E = 4 \times 2 = 8$$

$$\text{Total} = E + 0 = 12$$

Ex: $7200 = 2^5 \times \boxed{3^2 \times 5^2} \rightarrow 0 = (2+1)(2+1) = 9$

$$\downarrow E = (9 \times 5) = 45$$

$$\text{Total} = 9 + 45 = 54$$

Ex: NO. of Even Factors 10,800?

2	10800
2	5400
2	2700
2	1350
5	675
5	135
3	27
3	9
3	3
	1

$4 \times \boxed{2^2 \times 3^3} \rightarrow 0 = 3 \times 4 = 12$

$$\downarrow E = 4 \times 12 = 48$$

$$\text{Total} = 48 + 12 = 60$$

TYPE II: POWER OF PRIME NO.

Ex: $4! = 24 = 2^3 \times 3^1$

$$\boxed{\text{Power of } p \text{ in } n! = \frac{n}{p^1} + \frac{n}{p^2} + \frac{n}{p^3} + \frac{n}{p^4} + \dots}$$

$\rightarrow \text{Power of 2 in } 4! = \frac{4}{2} + \frac{4}{2^2} + \frac{4}{2^3} + \left[\frac{4}{2^4} \dots \right]$

$$= 2 + 1 + 0$$

$$= 3$$

(X)
den > Num
(stop)

$$\frac{1}{2} = 0 + \dots$$

↑
only Take before decimal

$$\frac{4}{3} = 1 + \dots$$

↑
only this