



Doubt Clearing Session

Course on General Aptitude for GATE 2022-23 Batch - Part I

PERMUTATION COMBINATION

① ✓ — (X) — (X) — (X) — (X) — = 216

✓ X ✓

Product = 6³ = 2³ × 3³ = Symx

$(+1)$
 7 autorise
 $(6) \times (6) \times (6) \times 1 \times 1 = 20$ Sum
 $(2 \times 3) \times (6 \times 6) \times 1 = 18$
 $(2 \times 3) \times (2 \times 3) \times 6 = 16$
 $(4 \times 3 \times 3 \times 6 \times 1) = 17 \leftarrow$

7 factorisation ✓

Given, INTERVIEW

$$\textcircled{1} \textcircled{1} \times \textcircled{3} \times \textcircled{3} = \textcircled{3} \textcircled{3} \times \textcircled{3} \times \textcircled{3}$$

$$\textcircled{5} \quad \textcircled{3} \textcircled{3} \times \textcircled{3} \times \textcircled{3}$$

$$\textcircled{2} \quad 1 - 9 = \textcircled{1 - 9}$$

$$\textcircled{3^3} = 8 \checkmark$$

$$2^2 = 4 \checkmark$$

$$2 \times 3 = 6 \checkmark$$

$$2 \checkmark$$

$$2 \times \boxed{7} \times \textcircled{3}$$

$$3^2 = \textcircled{9} \times$$

$$3 \times 2 = \textcircled{6} \times$$

$$9 = 3 +$$

$$\boxed{A | C | D | F = 3^2 = 9 \times}$$

A

B

C

8
⑥
⑦

D

G

H

①

2 1 2

①
②
③
④

①-9

~~5~~
6 = 2 x 3
~~7~~
8 = 2 x 4

9 = 3 x 3

② x ③ = ⑥
② x ④ = ⑧
③ x ④ = ⑫
③ x ③ = ⑨

Q

A
9

B
3

C
8

D
4

E
4

F
7

G
2

1-9

A+B+C

= C+D+E

= E+F+G

= 9+4+1

= 13

9 1 3

A B C

6 D

4 E

8

7 F

6 G

2

4

6

X

→

9

9 + 1 + 3

~~12 + 2~~

7 + 1 + 5
+ 2 + 4
+ 5 + 5

7 + 1 + 5
+ 2 + 5
+ 3 + 4

8 + 1 + 4
+ 2 + 5

15 X 30 X 45 X ... X 150.

$$(15 \times 1) \times (15 \times 2) \times (15 \times 3) \times \dots \times (15 \times 100)$$

12x5-10

✓ 24 (N1)

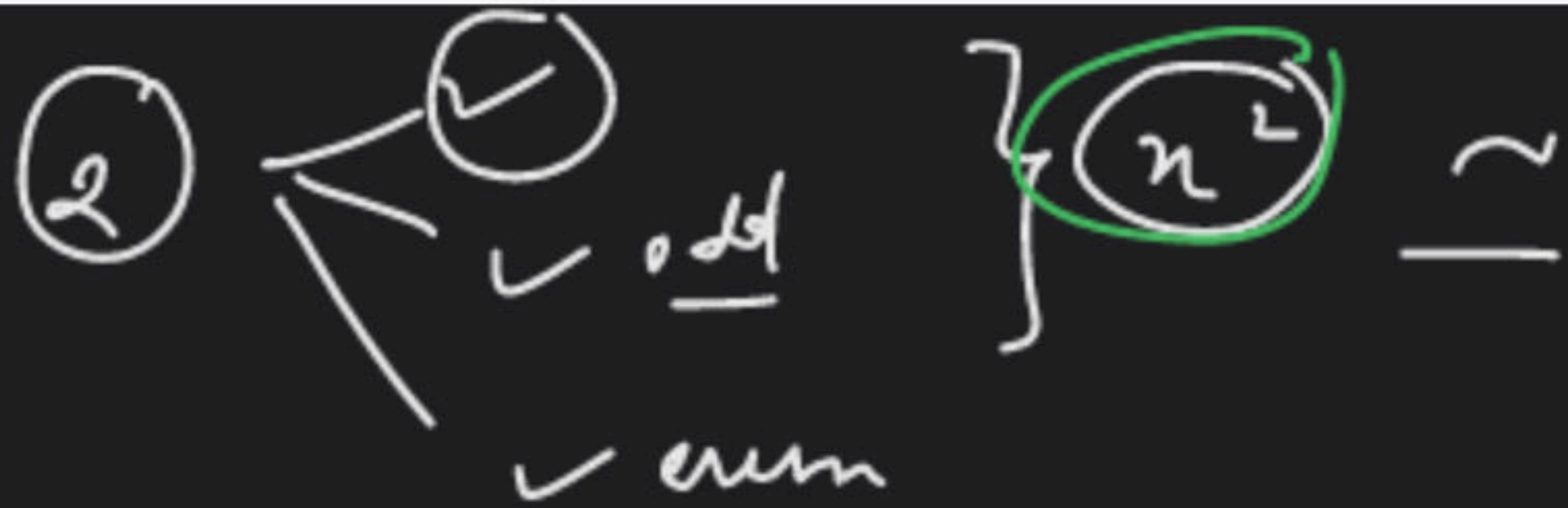
~~1-24~~

12X5

22 X 15

$$10 \rightarrow 97_{11}$$

[illegible]



$$n^2 \equiv$$

$$n^2 \sim$$

③

$n^3 \sim$

$n^3 \neq \approx 930$

50.31 $\Rightarrow 930$

30×3

930

$n \times (n+1) = 961$

930

$$n^2 + n - 961 = 0$$

$$n^2 + 31n - 30n - 961 = 0$$

$$\frac{n(n+31)}{(n-30)} - 30 \frac{(n+31)}{(n+31)} = 0$$

$n = 30$

- 5X

✓ 12 · 13

$$\underline{n \times (n+1)} = \underline{15}$$

$$n^2 \approx \underline{152}$$

$$12^2 = 144$$

$$13^2 = 169$$

$$\underline{n \times (n+1)} : \underline{240}$$

$$n^2 \approx 240$$

$$\underline{15^2 = 225}$$

$$15^2 = \underline{225} \checkmark$$

$$16^2 = \underline{256}$$

Handwritten notes showing a sequence of operations and calculations, likely related to a sorting algorithm (e.g., bubble sort or selection sort) on the array $[7, 8, 1, 8, 3]$.

Top Row: $7 \cdot 8 \cdot 1 \cdot 8 \cdot 3$ (circled in blue) with a red circle above it. Below it, $8 \cdot 7 \cdot 9 \cdot 1 \cdot 9$ (circled in blue) with a red circle above it. To the right, n^3 and a red circle with a checkmark.

Second Row: $9 \times \dots \times 1 \times \dots \times 3 = 531117$ (circled in blue). To the right, 1531000 (circled in blue) and $9^3 = 7 < 9$.

Third Row: $100 \times 100 \times 100$ (circled in blue). Below it, 1000000 (circled in blue).

Bottom Row: $9 \times 1 \times 3$ (circled in blue). To the right, $8^3 = 512$, $9^3 = 7 \times 1$, and $10^3 = 1000$.

Other Notes: 531117 (circled in green), 1000000 (circled in green), and 7 (circled in yellow).

$$35^2 = \underline{1225}$$

$$37^2 = 1369 \quad 5^2 = 25$$

$$6^2 = 36$$

$$\frac{10}{10} \sqrt{5}$$

$$= \frac{1}{10} \sqrt{500}$$

$$= \frac{1}{10} \times 22.36$$

$$\Rightarrow \begin{matrix} 22^2 & 484 \\ 23^2 & 529 \end{matrix} \sqrt{5} = 2$$

$$= \sqrt{2 \cdot 25}$$

$$24^2 = 576$$

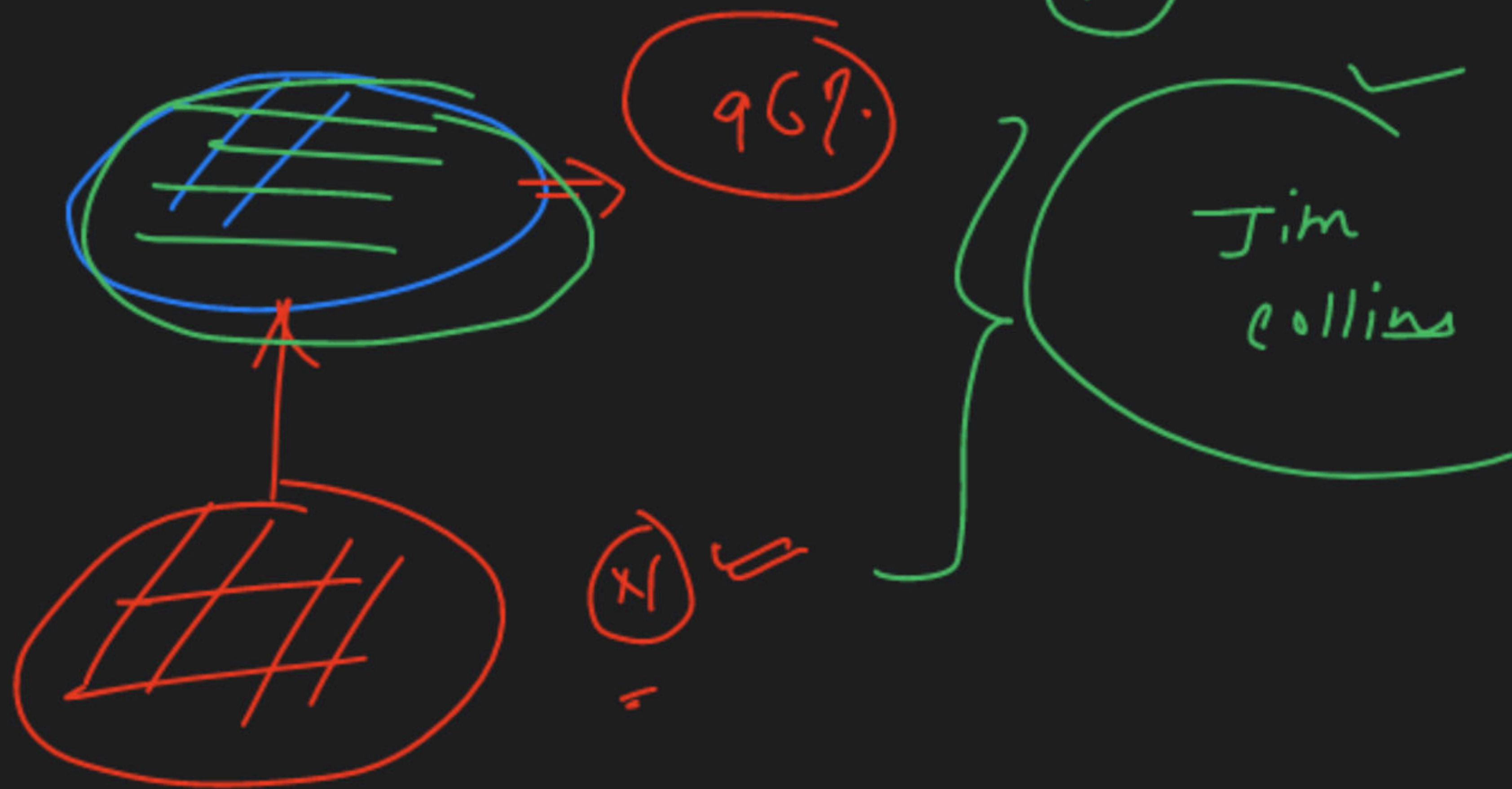
$$25^2 = 625$$

$$\frac{10}{10} \sqrt{1300} \Rightarrow$$

$$\frac{1}{10} \times 36$$

$$\sqrt{13}$$

$$= 3.6$$



$$13^3 = 2197$$

$$\left[\begin{array}{l} 14^3 = 2744 \\ 15^3 = 3375 \end{array} \right]$$

$$10^3 = 4096$$

$$\frac{10^6}{10} \textcircled{2} \sqrt{3}$$

$$\frac{1}{10} \textcircled{3} \sqrt{3 \overline{650}}$$

$$\frac{1}{10} \times 14.5$$

$$\boxed{1.45}$$



Agenda : Letters Arrangement

Q.11 How many different words can be formed from the letters of the word GANESHPURI when:

- (A) All the letters are taken.
- (B) The letter G always occupies the first place.
- (C) The letters P and E respectively occupy the first and last places.
- (D) All the vowels are always together.
- (E) How many words of 5 letters each can be formed each containing 3 consonants and 2 vowels?
- (F) All the vowels are never together.
- (G) No 2 vowels are together.

Agenda : Team Formation

Q.12 How many committees of 5 members each can be formed from 8 official and 4 non-official members in the following cases :

- (A) Each consisting of 3 official and 2 nonofficial members.
- (B) Each contains at least two non-official members.
- (C) Each consisting of at most two official members.
- (D) A particular official member is always included.
- (E) A particular non-official member is never included.

Q.13 Out of 8 men and 10 women a committee consisting of 6 men and 5 women is to be formed. How many such committees can be formed when one particular man A refuses to be a member of the committee is which his boss B's wife is there?

Q.15 A three-member committee has to be formed a group of 9 people. How many such distinct committees can be formed?

(A) 27

(B) 72

(C) 81

(D) 84

[GATE 2018 : IIT Guwahati (CE Set – 2)]

Q.16 An e-mail password must contain three characters. The password has to contain one numeral from 0 to 9, one upper and one lower case character from the English alphabet. How many distinct passwords are possible?

(A) 6,760

(B) 13,520

(C) 40,560

(D) 1,05,456

[GATE 2018 : IIT Guwahati (EE Set – 1)]