Below is your **clean, systematic, exam-ready NOTES** based on the entire GFG article you pasted.
No extra theory, only what you need for government exams + shortcuts + patterns.
Copy–paste friendly.

✅ PERCENTAGE – SYSTEMATIC NOTES (EXAM ORIENTED)

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1. Basic Definition

- **Percent** means **per hundred** → % = out of 100.
- Example: 25% = 25/100.

Basic Formula

$$
\text{Percentage} = \frac{\text{Part}}{\text{Whole}} \times 100
$$

✅ 2. Common Fraction–Percentage Conversions (Must Memorize)

Fraction	%	Fraction	%
1/1	100%	1/20	5%
1/2	50%	1/25	4%
1/3	33.33%	1/50	2%
1/4	25%	1/100	1%
1/5	20%	3/4	75%
1/6	16.67%	2/3	66.67%

1/7	14.29%	3/5	60%
1/8	12.5%	5/6	83.33%
1/9	11.11%	7/8	87.5%
1/10	10%	9/8	112.5%

✅ 3. IMPORTANT SHORTCUTS AND TRICKS

(A) Numerator Swapping Trick

$$
x\% \text{ of } y = y\% \text{ of } x
$$

Example:
20% of 50 = 50% of 20 = **10**.

(B) 10% Trick

Move decimal one step left.

- 10% of 240 → 24
- 20% → double 10%
- 30% → triple 10%

(C) 1% Trick

Move decimal two steps left.

- 1% of 250 → 2.5

- 5% = 1% × 5
- 15% = 10% + 5%

(D) Using Fractions

- 50% = 1/2
- 25% = 1/4
- 75% = 3/4
- 20% = 1/5

(E) Doubling–Halving Strategy

- 20% → find 10%, double it
- 5% → find 10%, half it
- 40% → double 20%

(F) Quick Estimation

Round values for fast mental answer.
Example: 19% of 47 ≈ 20% of 50 = 10.

✅ 4. Percentage Increase / Decrease

Increase

$$
\text{Final} = \text{Original} + (p\% \text{ of Original})
$$

Decrease

$$
\text{Final} = \text{Original} - (p\% \text{ of Original})
$$

✅ 5. Reverse Percentage (Very Important for Exams)

If final amount is after increase/decrease:

Increase of p%

$$
\text{Original} = \frac{\text{Final}}{1 + \frac{p}{100}}
$$

Example: Final = 72 after 20% increase
Original = 72/1.2 = **60**

Decrease of p%

$$
\text{Original} = \frac{\text{Final}}{1 - p/100}
$$

Example: Final = 45 after 25% decrease
Original = 45/0.75 = **60**

✅ 6. Splitting Percentage Trick

Example: **47% of 9834**

47% = 50% – 3%

50% = 4917
1% = 98.34 → 3% = 295.02
Answer = 4917 – 295.02 = **4621.98**

✅ 7. IMPORTANT EXAM PATTERNS

Type–1: Find y% of A

$$
\text{Required} = \frac{yA}{100}
$$

Example: 30% of 500 = **150**

Type–2: A is what percent of B?

$$
\frac{A}{B} \times 100
$$

A = 30, B = 50 → (30/50)×100 = **60%**

A is how much less than B?

$$
\frac{B-A}{B} \times 100
$$

30 is **40% less** than 50.

B is how much more than A?

$$
\frac{B-A}{A} \times 100
$$

50 is **66.67% more** than 30.

✅ 8. Product Constant Ratio (Very Important Formula)

If price increases by R%

Required reduction in consumption:
$$
\frac{R}{100 + R} \times 100
$$

Example: Price ↑ 40% → reduction =
(40/140)×100 = **28.57%**

If price decreases by R%

Required increase in consumption:
$$
\frac{R}{100 - R} \times 100
$$

Example: Price ↓ 20% → increase =
(20/80)×100 = **25%**

✅ 9. Successive Percentage Formula

$$
\text{Net} = a + b + \frac{ab}{100}
$$

(Use + for increase, – for decrease)

Example:
Price ↑ 8%, Demand ↓ 5%
a = +8, b = –5

Net = 8 − 5 − 0.4 = **2.6% increase**

⭐ FINAL QUICK REVISION – MUST KNOW

✔ x% of y = y% of x
✔ 10% → move decimal left
✔ 1% → move decimal two steps left
✔ Fraction conversions
✔ Reverse % = divide by (1 ± p/100)
✔ Successive % = a + b + ab/100
✔ Increase/Decrease consumption formulas

If you want, I can also make:

📌 **One-page PDF revision notes**
📌 **100 practice questions with answers**
📌 **Exam-level mixed problems**

Just tell me **PDF / Questions / Both**.