

# GST Calculations Explained

## 1. Introduction

The **Goods and Services Tax (GST)** is a comprehensive indirect tax levied on the manufacture, sale, and consumption of goods and services across India. GST is a destination-based tax and is structured to eliminate the cascading effect of taxes (tax on tax).

Understanding how to **calculate GST** is crucial for business owners, accountants, tax practitioners, and students. This guide explains the different types of GST, the calculation methods, and includes practical examples.

## 2. Types of GST

GST in India is divided into the following components based on the nature of the transaction:

Type	Full Form	Applied When
<b>CGST</b>	Central GST	Intra-state supply
<b>SGST</b>	State GST	Intra-state supply
<b>IGST</b>	Integrated GST	Inter-state supply or import/export
<b>UTGST</b>	Union Territory GST	Supply within Union Territories

## 3. GST Rates in India

GST rates are generally structured in the following slabs:

- **0%** – Essential items (milk, eggs, fruits, vegetables)
- **5%** – Basic items and transport services
- **12%** – Processed food, business services
- **18%** – Most goods and services
- **28%** – Luxury items, automobiles, tobacco (plus cess)

## 4. GST Calculation Formula

The basic formula to calculate GST is:

$$\text{GST Amount} = (\text{Original Cost} \times \text{GST Rate}) \div 100$$

$$\text{Final Price (inclusive of GST)} = \text{Original Cost} + \text{GST Amount}$$

Or for inclusive GST:

**Original Cost (exclusive of GST)** =  $(Total\ Amount \times 100) \div (100 + GST\ Rate)$

**GST Amount** =  $Total\ Amount - Original\ Cost$

## 5. GST Calculation – Step-by-Step

Let's break it down:

### A. For GST Exclusive Prices

When the price does not include GST:

#### Example 1:

A product costs ₹1,000 and GST is 18%.

- $GST = ₹1,000 \times 18\% = ₹180$
- $Final\ Price = ₹1,000 + ₹180 = ₹1,180$

### B. For GST Inclusive Prices

When the price already includes GST:

#### Example 2:

A product is sold at ₹1,180 including GST at 18%.

- $Base\ Price = (1,180 \times 100) \div 118 = ₹1,000$
- $GST\ Amount = ₹1,180 - ₹1,000 = ₹180$

## 6. GST in Intra-State vs Inter-State Supply

Let's consider both intra-state and inter-state scenarios:

### Intra-State Supply (CGST + SGST)

#### Example 3:

Product cost = ₹5,000

GST rate = 12%

- $Total\ GST = ₹5,000 \times 12\% = ₹600$
- $CGST = ₹600 \div 2 = ₹300$
- $SGST = ₹600 \div 2 = ₹300$

- Final Price = ₹5,000 + ₹600 = ₹5,600

### Inter-State Supply (IGST)

#### Example 4:

Product cost = ₹5,000

GST rate = 12%

Supply is from Karnataka to Maharashtra.

- $\text{IGST} = ₹5,000 \times 12\% = ₹600$
- Final Price = ₹5,000 + ₹600 = ₹5,600

## 7. GST Calculation for Services

GST applies to services just like goods.

#### Example 5:

A digital marketing company provides services worth ₹20,000 with 18% GST.

- $\text{GST} = ₹20,000 \times 18\% = ₹3,600$
- Final Bill = ₹20,000 + ₹3,600 = ₹23,600

For intra-state supply:

- $\text{CGST} = ₹1,800$
- $\text{SGST} = ₹1,800$

For inter-state supply:

- $\text{IGST} = ₹3,600$

## 8. GST with Input Tax Credit (ITC)

Businesses can claim **Input Tax Credit** on tax paid on purchases used for business.

#### Example 6:

- Purchase price = ₹10,000
- GST paid on purchase = ₹1,800 (input GST)
- Sale price = ₹15,000
- GST on sale = ₹2,700 (output GST)

**Net GST payable:**

$$= \text{Output GST} - \text{Input GST}$$

$$= ₹2,700 - ₹1,800 = ₹900$$

The business pays only ₹900 in cash and adjusts ₹1,800 via ITC.

## 9. GST for Composition Scheme Dealers

Composition scheme is for small businesses with turnover up to ₹1.5 crore (₹75 lakh for services). They pay GST at a fixed rate but **cannot collect GST from customers or claim ITC**.

### Composition Rates:

- 1% for traders
- 5% for restaurants
- 6% for service providers

#### Example 7:

Turnover = ₹10,00,000

Type: Trader

GST Rate = 1%

GST payable = ₹10,00,000 × 1% = ₹10,000

They cannot charge GST on invoices.

## 10. Reverse Charge Mechanism (RCM)

In RCM, the **recipient pays GST** instead of the supplier.

#### Example 8:

ABC Ltd. avails legal service from a law firm (unregistered).

Service value = ₹50,000

GST = 18%

- GST payable = ₹50,000 × 18% = ₹9,000
- ABC Ltd. pays ₹9,000 to government and can claim ITC.

## 11. Discounts and GST

### Pre-Sale Discount:

If a discount is given **before** sale and mentioned on the invoice, GST is calculated on the discounted amount.

**Example 9:**

Price = ₹2,000

Discount = 10%

GST = 18%

- Net price = ₹2,000 – ₹200 = ₹1,800
- GST = ₹1,800 × 18% = ₹324
- Final Price = ₹2,124

**Post-Sale Discount:**

If discounts are given **after sale**, GST is calculated on the full amount unless terms were agreed in advance and documented.

**12. GST on Mixed Supplies**

**Mixed Supply:** Two or more goods/services sold together but not naturally bundled. The highest tax rate among them applies.

**Example 10:**

A gift box contains:

- Perfume (28%)
- Chocolate (18%)
- Diary (12%)

Price = ₹1,000

GST Rate = 28%

GST = ₹1,000 × 28% = ₹280

Total = ₹1,280

**13. GST on Composite Supplies**

**Composite Supply:** Goods/services sold together and naturally bundled.

**Example 11:**

Hotel bill = Room + breakfast

Room = ₹3,000

Breakfast = ₹500

Charged together

If room rate GST = 12%, the entire ₹3,500 is taxed at 12%.

## 14. GST Calculation in GSTR Filing

In **GSTR-3B**, output tax liability and ITC are reported:

- **Table 3.1(a):** Outward taxable supplies
- **Table 4A:** Eligible ITC
- **Table 5.1:** Interest and late fees

Proper GST calculations ensure accurate filing, avoiding penalties.

## 15. Real-Life Case Study

A textile business buys fabric for ₹1,00,000 + 5% GST = ₹1,05,000

They sell garments worth ₹1,50,000 + 12% GST = ₹1,68,000

### Calculations:

- Input GST = ₹5,000
- Output GST = ₹18,000
- Net GST payable = ₹13,000

Business pays ₹13,000 after adjusting ITC.

## 16. Common Mistakes to Avoid

- Calculating GST on full price without deducting eligible discounts
- Not segregating CGST/SGST vs IGST properly
- Ignoring RCM liabilities
- Misclassifying supply types

## 17. Conclusion

Accurate GST calculation is essential for pricing, invoicing, and compliance. Whether you're a trader, manufacturer, service provider, or accountant, understanding how GST works—from basic math to input credits and return filing—helps streamline operations and avoid penalties. With practice and proper records, GST can be managed efficiently and transparently.