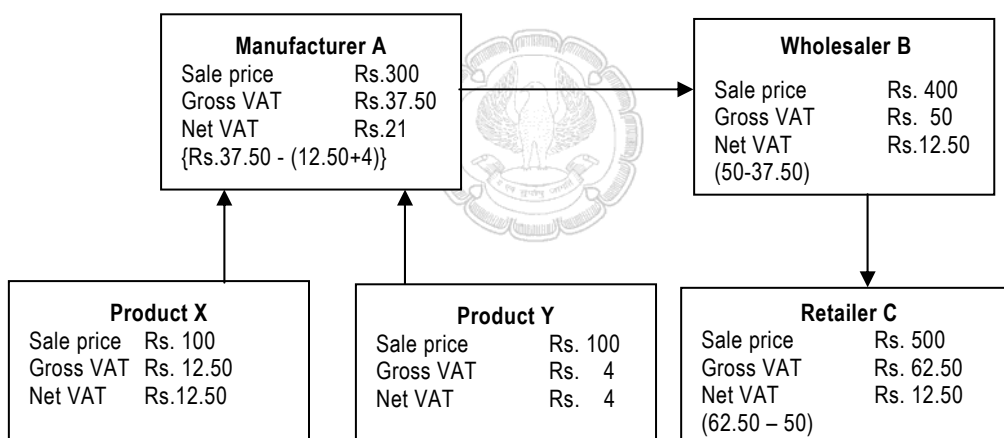


TAXONOMY OF VAT

7.1 DIFFERENT STAGES OF VAT

The Value Added Tax (VAT) is a multistage tax levied as a proportion of the value added (i.e. sales minus purchase) which is equivalent to wages plus interest, other costs and profits. To illustrate, a chart of transactions is given below:



Inputs for manufacturer

Note: The rate of tax is assumed to be 12.5% on the transactions relating to goods manufactured by A.

For a manufacturer A, inputs are product X and product Y which are purchased from a primary producer. In practice, even these producers use inputs. For example, a farmer would use seeds, feeds, fertilizer, pesticides, etc. However, for this example their VAT impact is not considered. B is a wholesaler and C is a retailer.

The inputs X and Y are purchased at Rs. 100 each on which tax is paid @12.5 % and 4% respectively. The manufacturer A would, therefore, take the credit for tax paid by him for the

7.2 Service tax & VAT

use of such inputs. The input price of Rs.200 plus tax would include wages, salaries and other manufacturing expenses. To all this, he would also add his own profit. Assuming that after the addition of all these costs his sale price is Rs.300, the gross tax (at the rate of 12.5 per cent) would be Rs.37.50. As manufacturer A has already paid tax on Rs.200, he would get credit for this tax (i.e. $12.50 \times 4 = 16.50$). Therefore, his net VAT liability would be Rs.37.50 minus Rs.16.50. Thus, manufacturer A would pay Rs.21 only (because of this he would take the cost of his inputs to be only Rs.200)

Similarly, the sale price of Rs.400 fixed by wholesaler B would have net VAT liability of Rs.12.50 ($\text{Rs.}50 - 37.50 = \text{Rs.}12.50$) and the sales price of Rs.500 by Retailer C would also have net VAT liability of Rs.12.50 ($\text{Rs.}62.50 - 50 = \text{Rs.}12.50$). Thus, VAT is collected at each stage of production and distribution process, and in principle, its entire burden falls on the final consumer, who does not get any tax credit. Thus, VAT is a broad-based tax covering the value added to each commodity by parties during the various stages of production and distribution.

7.2 HOW VAT OPERATES

The operation of VAT can be further appreciated from the following illustrations:

Illustration

A is a trader selling raw materials to a manufacturer of finished products. He imports his stock-in-trade as well as purchases the same in the local markets. If the rate of VAT is assumed to be 12.50 per cent ad valorem, he will pay VAT as under:

Sl. No.	Particulars	Rs.
(i)	A's cost of imported materials (from other State)	10,000
	(A will deposit Rs.1250 duty on the above. Since, this is not a State VAT it will form a cost of input)	1,250
(ii)	A's cost of local materials	20,000
	(VAT charged by local suppliers Rs.2,500. Since the credit of this would be available it will not be included in cost of input)	
(iii)	Other expenditure (such as for storage, transport, interest, etc.) incurred and profit earned by A	<u>8,750</u>
(iv)	Sales price of goods	40,000
(v)	VAT on the above @ 12.50% (Approx.)	<u>5,000</u>
(vi)	Invoice value charged by A to the manufacturer, B	<u>45,000</u>

I. A's liability for VAT

	Rs.
Tax on the sales price	5,000
Less: Set-off of VAT paid on purchases	
On imported goods	Nil
On local goods	<u>2,500</u> <u>2,500</u>
Net Tax Payable	<u>2,500</u>

In the above illustration (as well as in illustrations that follows) it is assumed that set off of VAT paid on imported goods from outside countries or other States is not allowed.

Now B manufactures finished products from the raw materials purchased from A and other materials purchased from other suppliers. His liability would be as under:

Sl. No.	Particulars	Rs.
(i)	B's cost of raw materials	40,000
	(VAT recovered by A Rs.5,000)	
(ii)	B's cost of other materials	
	Local Purchases	20,000
	(VAT charged on the above Rs.2,500)	
	Inter- State Purchases*	10,400
	(CST paid Rs.400)	
(iii)	Manufacturing and other expenses incurred and profit earned by B	<u>29,600</u>
(iv)	Sale price of finished product	1,00,000
(v)	VAT on the above	<u>12,500</u>
(vi)	Invoice value charged by B to the wholesaler, C	<u>1,12,500</u>

II. B's liability for VAT

	Rs.
Tax on the sales price	12,500
Less: Set-off of VAT on Purchases	
To A	5,000
To other suppliers	<u>2,500</u>
Net Tax Payable	<u>5,000</u>

*Credit / set off for tax paid on inter-State purchases (inputs) is not allowed.

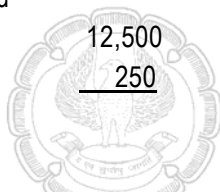
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When C, after repacking the goods into other packing, sells the finished product to a retailer. The following would be the position:

Sl. No.	Particulars	Rs.
(i)	C's cost of goods	1,00,000
	(VAT recovered by B Rs.12, 500)	
(ii)	Cost of packing material	2,000
	(VAT charged on the above Rs. 250)	
(iii)	Expenses incurred and profit earned by C	<u>18,000</u>
(iv)	Sale price of goods	1,20,000
(v)	VAT on the above	<u>15,000</u>
(vi)	Invoice value charged by C to D, a retailer	<u>1,35,000</u>

III. C's liability for VAT

	Rs.
Tax on the sales price	15,000
Less: set-off of VAT paid	
To B	12,500
To other suppliers	<u>250</u>
Net Tax payable	<u>2,250</u>



When D sells the goods to the consumers, the position would be as under:

Sl. No.	Particulars	Rs.
(i)	D's cost of goods	1,20,000
	(VAT recovered by C Rs.15,000)	
(iii)	Expenses incurred and profit earned by D	<u>20,000</u>
(iv)	Sale price of goods	1,40,000
(v)	VAT on the above	<u>17,500</u>
(vi)	Invoice value charged by D to the consumers	<u>1,57,500</u>

IV. D's liability for VAT

	Rs.
Tax on the sale price	17,500
Less: Set-off of VAT paid to C	<u>15,000</u>
Net Tax Payable	<u>2,500</u>

Total recovery

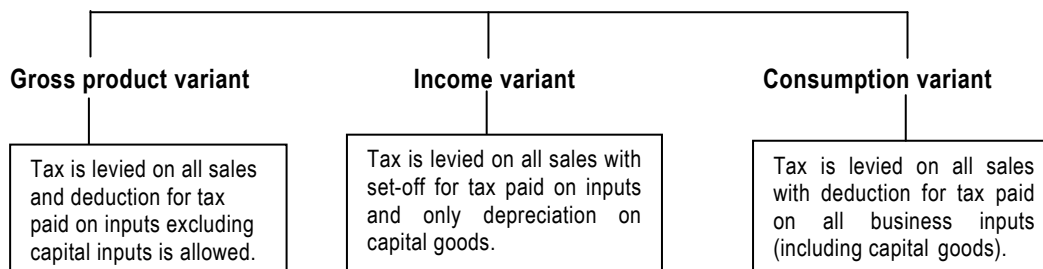
It would be seen that in the above illustrations, at the successive stages which the raw materials and other goods pass till they are sold to the ultimate consumers, VAT would be collected as under:

Sl. No.	Particulars	Rs.
(i)	Paid by suppliers selling raw materials to A	2,500
(ii)	Net tax paid by A on his sales to B	2,500
(iii)	Paid by suppliers selling other materials to B	2,500
(iv)	Net tax paid by B	5,000
(v)	Paid by suppliers selling packing materials to C	250
(vi)	Net tax paid by C	2,250
(vii)	Net tax paid by D	<u>2,500</u>
	Total Recovery of Revenue	<u>17,500</u>

Now, if tax was leviable under a sales-tax law at the last stage in a series of successive sales (when the finished product is sold to consumers) the authorities in the above case would have recovered the entire tax of Rs.17,500 from D at 12.50 per cent on his sale price of Rs.1,40,000 and all earlier stages are to be exempted.

7.3 VARIANTS OF VAT

VAT has three variants, viz., (a) gross product variant, (b) income variant, and (c) consumption variant. These variants are presented in a schematic diagram given below:

Different variants of VAT

The gross product variant allows deductions for taxes on all purchases of raw materials and components, but no deduction is allowed for taxes on capital inputs. That is, taxes on capital goods such as plant and machinery are not deductible from the tax base in the year of purchase and tax on the depreciated part of the plant and machinery is not

7.6 Service tax & VAT

deductible in the subsequent years. Capital goods carry a heavier tax burden as they are taxed twice. Modernization and upgrading of plant and machinery is delayed due to this double tax treatment.

The income variant of VAT on the other hand allows for deductions on purchases of raw materials and components as well as depreciation on capital goods. This method provides incentives to classify purchases as current expenditure to claim set-off. In practice, however, there are many difficulties connected with the specification of any method of measuring depreciation, which basically depends on the life of an asset as well as on the rate of inflation.

Consumption variant of VAT allows for deduction on all business purchases including capital assets. Thus, gross investment is deductible in calculating value added. It neither distinguishes between capital and current expenditures nor specifies the life of assets or depreciation allowances for different assets. This form is neutral between the methods of production; there will be no effect on tax liability due to the method of production (i.e. substituting capital for labour or vice versa). The tax is also neutral between the decision to save or consume.

Among the three variants of VAT, the consumption variant is widely used. Several countries of Europe and other continents have adopted this variant. The reasons for preference of this variant are:

Firstly, it does not affect decisions regarding investment because the tax on capital goods is also set-off against the VAT liability. Hence, the system is tax neutral in respect of techniques of production (labour or capital-intensive).

Secondly, the consumption variant is convenient from the point of administrative expediency as it simplifies tax administration by obviating the need to distinguish between purchases of intermediate and capital goods on the one hand and consumption goods on the other hand.

In practice, therefore, most countries use the consumption variant. Also, most VAT countries include many services in the tax base. Since the business gets set-off for the tax on services, it does not cause any cascading effect.

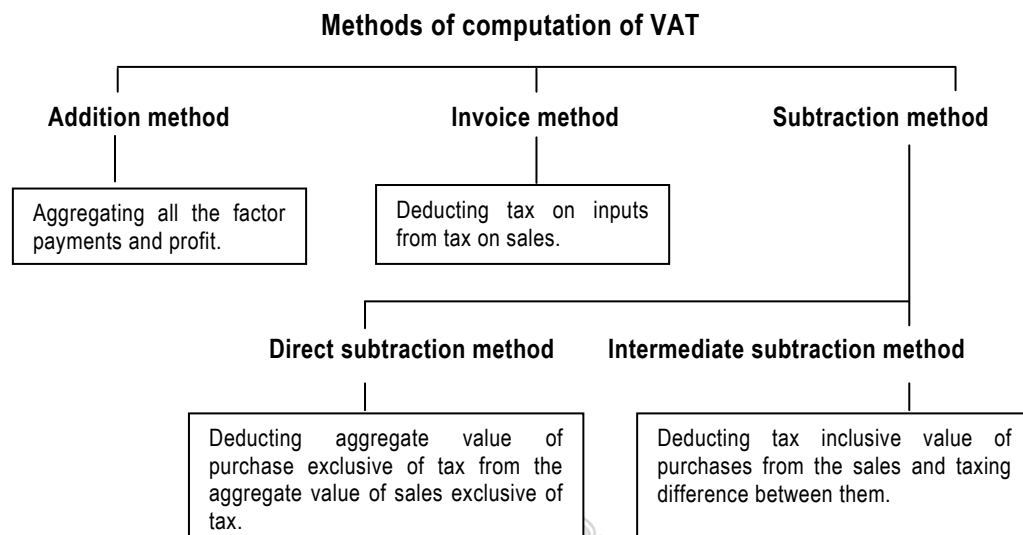
7.4 METHODS FOR COMPUTATION OF TAX

There are several methods to calculate the 'value added' to the goods for levy of tax. The three commonly used methods are:

- (a) addition method,
- (b) invoice method and
- (c) subtraction method.

The subtraction method can be further divided into:

- (a) direct subtraction method
- (b) intermediate subtraction method



7.4.1 Addition Method

This method aggregates all the factor payments including profits to arrive at the total value addition on which the rate is applied to calculate the tax. This type of calculation is mainly used with income variant of VAT. Addition method does not easily accommodate exemptions of intermediate dealers. A drawback of this method is that it does not facilitate matching of invoices for detecting evasion.

7.4.2 Invoice Method

This is the most common and popular method for computing the tax liability under 'VAT' system. Under this method, tax is imposed at each stage of sales on the entire sale value and the tax paid at the earlier stage is allowed as set-off. In other words, out of tax so calculated, tax paid at the earlier stage i.e., at the stage of purchases is set-off, and at every stage the differential tax is being paid. The most important aspect of this method is that at each stage, tax is to be charged separately in the invoice. This method is very popular in western countries. In India also, under the VAT law as introduced in several States and under the Central Excise Law this method is followed. This method is also called the 'Tax Credit Method' or 'Voucher Method'. From the following illustration, the mode of calculation of tax under this method will become clear:

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Stage	Particulars	VAT Liability	Less VAT Credit	Tax to Government
1.	Manufacturer/first seller in the State sells the goods to distributor for Rs.1000. Rate of tax is 12.50%. Therefore, his tax liability will be Rs.125. He will not get any VAT credit, being the first seller.	125	-	125
2.	Distributor sells the goods to a wholesale dealer for say Rs. 1200 @ 12.50% and will get set-off of tax paid at earlier stage at Rs. 125. The tax payable by him will be Rs. 25.	150	125	25
3.	Wholesale dealer sells the goods to a retailer at say Rs. 1500. Here again he will have to pay the tax on Rs. 1500. He will get credit of tax paid at earlier stage of Rs. 150. The tax payable by him will be Rs. 37.50.	187.50	150	37.50
4.	Retailer sells the goods to consumers at say Rs. 2000. Here again he will have to pay tax on Rs. 2000. He will get credit for tax paid earlier at. Rs. 187.50. The tax payable by him will be Rs.62.50.	250	187.50	62.50
	Total	712.50	462.50	250

Thus, the Government will get tax on the final retail sale price of Rs. 2,000. However, the tax will be paid in instalments at different stages. At each stage, tax liability is worked out on the sale price and credit is also given on the basis of tax charged in the purchase invoice. If the first seller is a manufacturer, he gets the credit of tax paid on raw materials, etc. which are used in the manufacturing. From the above illustration, it is clear that under this method, tax credit cannot be claimed unless and until the purchase invoice is produced. As a result, in a chain, if at any stage the transaction is kept out of the books, still there is no loss of revenue. The department will be in a position to recover the full tax at the next stage. Thus,

the possibility of tax evasion, if not entirely ruled out, will be reduced to a minimum. However, proper measures should be implemented to prevent the production of fake invoices to claim the credit of tax at an earlier stage.

It is said that in this method the beneficiary is the trade and industry because in the above example, the total tax collection at all the stages is Rs.712.50 whereas tax received by the State is only Rs. 250. The set-off available is also tax paid. If the profit margin is to be kept at the constant level then the set-off will have to be considered to avoid cascading effects of taxes.

7.4.3 Subtraction Method

While the above-stated invoice or tax-credit method is the most common method of VAT, another method to determine the liability of a taxable person is the cost subtraction method, which is also a simple method. Under this method, the tax is charged only on the value added at each stage of the sale of goods. Since, the total value of goods sold is not taken into account, the question of grant of claim for set-off or tax credit does not arise. This method is normally applied where the tax is not charged separately. Under this method for imposing tax, 'value added' is simply taken as the difference between sales and purchases. The following illustration will make the working of this system clear:

Stage No.	Particulars	Turnover for tax under VAT	Tax @ 12.50%
		(Rs.)	(Rs.)
1.	First seller sells the goods to a distributor at say, Rs. 1125 inclusive of tax	1,125	125 $\left[\frac{(1125 \times 12.50)}{100 + 12.50} \right]$
2.	Distributor sells the goods to a whole-seller at say, Rs.1,350. Here taxable turnover will be Rs.1,350 - Rs.1,125	225	25 $\left[\frac{(225 \times 12.50)}{100 + 12.50} \right]$
3.	Wholesaler sells the goods to a retailer at say, Rs 1,687.50. Here taxable turnover will be Rs. 1,687.50 - Rs. 1,350	337.50	37.50 $\left[\frac{(337.50 \times 12.50)}{100 + 12.50} \right]$
4.	Retailer selling the goods at say, Rs. 2250.	562.50	62.50

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	Taxable turnover will be' Rs.2250 - Rs. 1687.50		$\left[\frac{(562.50 \times 12.50)}{100 + 12.50} \right]$
		2,250	250

Tax is calculated by the formula
$$\frac{T \times R}{100 + R}$$

T = Taxable turnover, R = Rate of Tax

Thus, under this system also, the incidence of tax is at each stage and the incidence of tax on the final sale price to the consumer will remain the same as in the earlier method. However, this holds good till the time the same rate of tax is attracted on all inputs, including consumables and services, added at all the stages of production/distribution. If the rates are not common, then the final tax by the two methods may differ. This is explained in tables given below:

Invoice Method (All inputs taxable under ONE rate)

Particulars	Invoice	Material Value	VAT	Input tax credit	NET
Inputs for A					
Product X(@12.50%)	260	231	29	--	29
Product Y(@12.50%)	450	400	50	--	50
	-----	-----	-----	-----	-----
'A' sales goods to 'B'	710	631	79	--	79
'B' sales goods to 'C'	1125	1000	125	79	46
'C' sales goods to 'D'	1800	1600	200	125	75
'D' sales goods to 'E'	2250	2000	250	200	50
	2700	2400	300	250	50
FINAL	2700	2400	300	--	300

Subtraction Method (All inputs taxable under ONE rate)

Particulars	Invoice	Purchase Price	Value Added	VAT @ 12.50%
Inputs for A				
On Input	710	--	--	79
'A' to 'B'	1125	710	415	46
'B' to 'C'	1800	1125	675	75
'C' to 'D'	2250	1800	450	50
'D' to 'E'	2700	2250	450	50
FINAL	2700	--	--	300

Invoice Method (Inputs taxable at different rates)

Particulars	Invoice	Material Value	VAT	Input tax credit	NET
Inputs for A					
Product X(@12.50%)	450	400	50	--	50
Product Y(@ 4%)	260	250	10	--	10
	-----	-----	-----	-----	-----
'A' sales goods to 'B'	710	650	60	--	60
'B' sales goods to 'C'	1125	1000	125	60	65
'C' sales goods to 'D'	1800	1600	200	125	75
'D' sales goods to 'E'	2250	2000	250	200	50
	2700	2400	300	250	50
FINAL	2700	2400	300	--	300

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Subtraction Method (Inputs taxable at different rates)

Particulars	Invoice	Purchase Price	Value Added	VAT @ 12.50%
Inputs for A				
On Input	710	--	--	60
'A' to 'B'	1125	710	415	46
'B' to 'C'	1800	1125	675	75
'C' to 'D'	2250	1800	450	50
'D' to 'E'	2700	2250	450	50
FINAL	2700	--	--	281

Thus, on the same consumer price of Rs. 2700 under invoice method VAT works out to be Rs.300 where as under the subtraction method it works out to be Rs. 281. Therefore, the method is not considered as a good method. The method is being objected to on the ground that under this method, tax is levied on income. The value addition at each stage may not be only due to profit but may be partly due to freight/transportation and other services. The incidence of tax is on the sale of goods. However, the mode of calculation of taxable turnover is value added. Therefore, the method cannot be said to be imposing tax on income/profit.

7.5 MERITS AND DEMERITS OF VAT

7.5.1 Merits

1. No tax evasion

It is said that VAT is a logical beauty. Under VAT, credit of duty paid is allowed against the liability on the final product manufactured or sold. Therefore, unless proper records are kept in respect of various inputs, it is not possible to claim credit. Hence, suppression of purchases or production will be difficult because it will lead to loss of revenue. A perfect system of VAT will be a perfect chain where tax evasion is difficult.

2. Neutrality

The greatest advantage of the system is that it does not interfere in the choice of decision

for purchases. This is because the system has anti-cascading effect. How much value is added and at what stage it is added in the system of production/distribution is of no consequence. The system is neutral with regard to choice of production technique, as well as business organisation. All other things remaining the same, the issue of tax liability does not vary the decision about the source of purchase. VAT facilitates precise identification and rebate of the tax on purchases and thus ensures that there is no cascading effect of tax. In short, the allocation of resources is left to be decided by the free play of market forces and competition.

3. Certainty

The VAT is a system based simply on transactions. Thus there is no need to go through complicated definitions like sales, sales price, turnover of purchases and turnover of sales. The tax is also broad-based and applicable to all sales in business leaving little room for different interpretations. Thus, this system brings certainty to a great extent.

4. Transparency

Under a VAT system, the buyer knows, out of the total consideration paid for purchase of material, what is tax component. Thus, the system ensures transparency also. This transparency enables the State Governments to know as to what is the exact amount of tax coming at each stage. Thus, it is a great aid to the Government while taking decisions with regard to rate of tax etc.

5. Better revenue collection and stability

The Government will receive its due tax on the final consumer/retail sale price. There will be a minimum possibility of revenue leakage, since the tax credit will be given only if the proof of tax paid at an earlier stage is produced. This means that if the tax is evaded at one stage, full tax will be recoverable from the person at the subsequent stage or from a person unable to produce proof of such tax payment. Thus, in particular, an invoice of VAT will be self enforcing and will induce business to demand invoices from the suppliers. Another attribute of VAT is that it is an exceptionally stable and flexible source of government revenue.

6. Better accounting systems

Since the tax paid on an earlier stage is to be received back, the system will promote better accounting systems.

7. Effect on retail price

A persistent criticism of the VAT form has been that since the tax is payable on the final sale price, the VAT usually increases the prices of the goods. However, VAT does not have any inflationary impact as it merely replaces the existing equal sales tax. It may also be pointed out that with the introduction of VAT, the tax impact on raw material is to be

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totally eliminated. Therefore, there may not be any increase in the prices.

7.5.2 Demerits

1. The merits accrue in full measure only under a situation where there is only one rate of VAT and VAT applies to all commodities without any question of exemptions whatsoever. Once concessions like differential rates of VAT, composition schemes, exemption schemes, exempted category of goods etc. are built into the system, distortions are bound to occur and the fundamental principle that VAT will totally eliminate cascading effects of taxes will also be subject to qualifications.
2. In the federal structure of India in the context of sales-tax, so long as Central VAT is not integrated with the State VAT, it will be difficult to put the purchases from other States at par with the State purchases. Therefore, the advantage of neutrality will be confined only for purchases within the State.
3. For complying with the VAT provisions, the accounting cost will increase. The burden of this increase may not be commensurate with the benefit to traders and small firms.
4. Another possible weak point in the introduction of VAT, which will have an adverse impact on it is that, since the tax is to be imposed or paid at various stages and not on last stage, it would increase the working capital requirements and the interest burden on the same. In this way it is considered to be non-beneficial as compared to the single stage-last point taxation system.
5. VAT is a form of consumption tax. Since, the proportion of income spent on consumption is larger for the poor than for the rich, VAT tends to be regressive. However, this weakness is inherent in all the forms of consumption tax. While it may be possible to moderate the distribution impact of VAT by taxing necessities at a lower rate, it is always advisable to moderate the distribution considerations through other programmes rather than concessions or exemptions, which create complications for administration.
6. As a result of introduction of VAT, the administration cost to the State can increase as the number of dealers to be administered will go up significantly.

Self-examination questions

1. What are the different stages of VAT? Discuss.
2. Explain the mechanism of operation of VAT by an illustration.
3. Briefly discuss the different variants of VAT.
4. Describe the advantages and disadvantages of VAT.
5. Describe the invoice method of calculation of VAT.