Example 6 : The capacity of Ping-Pong Ltd. is to produce 60,000 units per annum. But the company is operating on 60% capacity. On 31st December, 2008, it has the following Current Assets and Current Liabilities :

	₹
Raw materials 6,000 units, at cost	30,000
Work-in-Process 1,500 units, at cost	12,000
Finished goods 4,500 units, at cost	39,500
Sundry Debtors	1,17,000
Sundry Creditors for goods	45,000
Outstanding Wages *(Rs. 3 for each unit of production)*	4,500
Outstanding Overhead *(Rs. 3 for each unit of production)*	9,000

The company sells its product at ₹ 13 per unit.

You are required to calculate Net Block Period of Working Capital for Raw-materials, Labour, Overhead and Profit.

Solution ⇒ **Statement showing Computation of Net Block Period**

Particulars	*Raw materials (months)*	*Labour (months)*	*Overhead (months)*	*Profit (months)*
In Store	2	—	—	—
In Work-in-Progress	$\frac{1}{2}$	$\frac{1}{2}$	—	—
In Finished goods	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	—
Credit to Debtors	3	3	3	3
	7	5	$4\frac{1}{2}$	3
Less : Credit from Creditors	3	—	—	—
Lag in payment of Wages	—	$\frac{1}{2}$	—	—
Lag in payment of Overhead	—	—	1	—
Net Block Period	4	$4\frac{1}{2}$	$3\frac{1}{2}$	3

Working notes :

1. Effective annual capacity = $60{,}000 \times 60/100 = 36{,}000$ units.

$\therefore$ Monthly production $= \dfrac{36{,}000 \text{ units}}{12 \text{ months}} = 3{,}000$ units.

2. Raw materials Storing Period $= \dfrac{\text{Inventory of Raw materials}}{\text{Monthly requirement}} = \dfrac{6{,}000}{3{,}000} = 2$ months.

3. Processing Period $= \dfrac{\text{Inventory of Work-in-progress}}{\text{Monthly production}} = \dfrac{1{,}500}{3{,}000} = \dfrac{1}{2}$ month.

4. Finished goods storing period = $\dfrac{\text{Inventory of finished goods}}{\text{Monthly sales}} = \dfrac{4,500}{3,000} = 1\frac{1}{2}$ months.

5. Period of Credit allowed to Debtors = $\dfrac{\text{Debtors}}{\text{Monthly sales}} = \dfrac{1,17,000}{3,000 \times \text{Rs. } 13} = 3$ months.

6. (i) Cost per unit of Raw materials = $\dfrac{\text{Rs. } 30,000}{6,000} = \text{Rs. } 5.$

(ii) Period of Credit allowed by Creditors = $\dfrac{\text{Creditors}}{\text{Monthly Purchases}} = \dfrac{45,000}{3,000 \times \text{Rs. } 5} = 3$ months.

7. Lag in payment of Wages = $\dfrac{\text{Outstanding Wages}}{\text{Monthly Wages}} \times \dfrac{4,500}{3,000 \times 3} = \dfrac{1}{2}$ month.

8. Lag in payment of Overhead = $\dfrac{\text{Outstanding Overhead}}{\text{Monthly Overhead}} = \dfrac{9,000}{3,000 \times \text{Rs. } 3} = 1$ month.

9. Cost per unit of Work-in-Progress = Rs. $\dfrac{12,000}{1,500}$ or, Rs. 8. Again, Cost of materials and Labour for each unit of production = Rs. (5 + 3) or ; Rs. 8. Thus, it is cleared that the Work- in-Progress is valued at Prime Cost.

Example 7. From the following details concerning a manufacturing enterprise, estimate the amount of Working Capital needed to finance an activity level of 60%. The capacity of the concern is to produce 2,00,000 units p.a.

(i) Expected selling price ₹ 25.

(ii) 40% of selling price is the cost of raw materials.

(iii) 20% of selling price is the cost of labour.

(iv) Overhead (*including depreciation ₹ 1,20,000*) – ₹ 6,00,000.

(v) Planned stock will include raw materials for ₹ 1,50,000 and 20,000 units of finished goods.

(vi) Materials will stay in process for 1 month.

(vii) Credit allowed to Debtors $1\frac{1}{2}$ months.

(viii) Credit allowed by Creditors 2 months.

(ix) Lag in payment of wages is $\frac{1}{2}$ months.

(x) 40% of purchases and 20% of sales may be assumed to be made against cash.

(xi) Bank Overdraft ₹ 2,00,000.

(xii) Cash in hand is expected to be ₹ 82,000.

(xiii) Production is carried on evenly during the year and wages and overheads accrue in the same way.

Solution ⇒

1. Effective Annual Production = $2,00,000 \times \frac{60}{100} = 1,20,000$ units.

$\therefore$ Average Monthly Production = $\frac{1,20,000}{12} = 10,000$ units.

2. Analysis of Monthly Sales :

Items	*Per unit*		₹	*Total*		₹
Materials	Rs. $25 \times 40/100$	=	10	$10 \times 10,000$	=	1,00,000
Labour	Rs. $25 \times 20/100$	=	5	$5 \times 10,000$	=	50,000
Overhead : — Fixed (*Depreciation*)	$\left(\frac{1,20,000}{1,20,000}\right)$	=		$1 \times 10,000$	=	10,000
— Variable	$\left(\frac{6,00,000 - 1,20,000}{1,20,000}\right)$	=	4	$4 \times 10,000$	=	40,000
Profit (balancing figure)			5	$5 \times 10,000$	=	50,000
Total			25			2,50,000

3. Credit purchases per month $= 10,000 \times 60/100 = 6,000$ units.

4. Credit sales per month $= 10,000 \times 80/100 = 8,000$ units.

5. Raw materials storing period = $\frac{\text{Cost of average inventory}}{\text{Monthly cost of materials}}$

$= \frac{1,50,000}{1,00,000} = 1\frac{1}{2}$ month.

6. Finished goods storing period = $\frac{\text{Average inventory of finished goods}}{\text{Monthly production}}$

$= \frac{20,000 \text{ units}}{10,000 \text{ units}} = 2$ months.

7. Statement showing for computation of Net Block Period of each element :

Particulars	*Materials (months)*	*Labour (months)*	*Overhead (months)*	*Profit (months)*
In Store	$1\frac{1}{2}$	—	—	—
In work-in-progress	1	$\frac{1}{2}$	$\frac{1}{2}$	—
In finished goods	2	2	2	—
Credit to Debtors	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{2}$
	6	4	4	$1\frac{1}{2}$
Less : Credit from Creditors	2	—	—	—
Lag in payment of wages	—	$\frac{1}{2}$	—	—
NET BLOCK PERIOD	4	$3\frac{1}{2}$	4	$1\frac{1}{2}$

1st Method :

Working Capital Requirement Forecast Statement

Particulars	Period (Monthly)	Total ₹	Raw-materials ₹	Work-in-progress ₹	Finished goods ₹	Debtors ₹	Creditors ₹
1. Raw materials :							
In Store	$1\frac{1}{2}$		1,50,000				
In Work-in-progress	1			1,00,000			
In Finished goods	2				2,00,000		
Credit to Debtors [₹ 1,00,000 × $\frac{3}{2}$ × $\frac{80}{100}$] or, [8,000 × $\frac{3}{2}$ × 10]	$1\frac{1}{2}$					1,20,000	
	6						
Less : Credit from Creditors [₹ 1,00,000 × 2 × $\frac{60}{100}$] or, [6,000 × 2 × 10]	2						1,20,000
NET BLOCK PERIOD	4	4,50,000					
2. Labour :							
In Work-in-progress	$\frac{1}{2}$			25,000			
In Finished goods	2				1,00,000		
Credit to Debtors [₹ 50,000 × $\frac{3}{2}$ × $\frac{80}{100}$] or, [8,000 × $\frac{3}{2}$ × 5]	$1\frac{1}{2}$					60,000	
	4						
Less : Lag in payment of Wages	$\frac{1}{2}$						25,000
NET BLOCK PERIOD	$3\frac{1}{2}$	1,60,000					
3. Overhead :							
In Work-in-progress	$\frac{1}{2}$			20,000			
In Finished goods	2				80,000		
Credit to Debtors [₹ 40,000 × $\frac{3}{2}$ × $\frac{80}{100}$] or [8,000 × $\frac{3}{2}$ × 4]	$1\frac{1}{2}$					48,000	—
NET BLOCK PERIOD	4	1,48,000					
4. Profit :							
Credit to Debtors [₹ 50,000 × $\frac{3}{2}$ × $\frac{80}{100}$] or [8,000 × $\frac{3}{2}$ × 5]	$1\frac{1}{2}$	60,000				60,000	
WORKING CAPITAL		8,18,000	1,50,000	1,45,000	3,80,000	2,88,000	1,45,000

Summary Statement

Particulars	₹	₹	₹
Current Assets :			
Stock-in-trade :			
— Raw Materials	1,50,000		
— Work-in-progress	1,45,000		
— Finished goods	3,80,000	6.75,000	
Debtors		2,88,000	
Cash-in-hand		82,000	10,45,000
Less : Current Liabilities :			
Creditors		1,20,000	
Outstanding wages		25,000	
Bank overdraft		2,00,000	3,45,000
NET WORKING CAPITAL REQUIREMENT			7,00,000

2nd Method : ***Working Capital Requirement Forecast Statement***

Particulars		Amount ₹	Amount ₹	Amount ₹
CURRENT ASSETS :				
1. Stock-in-trade :				
Raw materials	(₹ 10,00,000 × $\frac{3}{2}$)		1,50,000	
Work-in-progress :				
— Raw materials	(₹ 1,00,000 × 1)	1,00,000		
— Labour	(₹ 50,000 × $\frac{1}{2}$)	25,000		
— Overhead	(₹ 40,000 × $\frac{1}{2}$)	20,000	1,45,000	
Finished Goods :				
— Raw materials	(₹ 1,00,000 × 2)	2,00,000		
— Labour	(₹ 50,000 × 2)	1,00,000		
— Overhead	(₹ 40,000 × 2)	80,000	3,80,000	6,75,000
2. Debtors :				
Raw materials	$\left[₹\,1,00,000 \times \frac{3}{2} \times \frac{80}{100}\right]$		1,20,000	
Labour	$\left[₹\,50,000 \times \frac{3}{2} \times \frac{80}{100}\right]$		60,000	
Overhead	$\left[₹\,40,000 \times \frac{3}{2} \times \frac{80}{100}\right]$		48,000	
Profit	$\left[₹\,50,000 \times \frac{3}{2} \times \frac{80}{100}\right]$		60,000	2,88,000
3. Cash in hand :				82,000
				10,45,000
Less : CURRENT LIABILITIES :				
Creditors	$\left[₹\,1,00,000 \times 2 \times \frac{60}{100}\right]$		1,20,000	
Outstanding wages	$\left[₹\,50,000 \times \frac{1}{2}\right]$		25,000	
Bank overdraft			2,00,000	3,45,000
Net Working Capital Requirement				7,00,000