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sol (i)

Statement for Net operating cycle Period
Particulars

	Days
RM Holding Period = $\frac{\text{Average RM Stock} \times 365}{\text{RM Consumed}} = \frac{55178 \times 365}{379644}$	53
WIP Conversion Period = $\frac{\text{AV WIP} \times 365}{\text{Cost of Prod}} = \frac{43150 \times 365}{759000}$	21
FG Holding Period = $\frac{\text{AV FG} \times 365}{\text{COGS}} = \frac{65178 \times 365}{915000}$	26
Debtors Collection Period = $\frac{\text{AV Debtors} \times 365}{\text{Credit Sales}} = \frac{123562 \times 365}{11,00,000}$	41
- Creditors Payment Period = $\frac{\text{AV Creditors} \times 365}{\text{Credit Purchases}} = \frac{60274 \times 365}{4,00,000}$	(55)

Net operating cycle Period 86 Days

(ii) Number of operating cycles in a year = $\frac{365}{\text{operating cycle}} = \frac{365}{86} = 4.244$ (approx)

(iii) WC required = $\frac{\text{Cash operating exp} \times \text{operating cycle}}{365}$
 $= \frac{9,59,000 \times 86}{365} = 2,23,836$ (approx)

$$\text{WON (i) Average RM} = \frac{(45000 + 65356)}{2} = 55178$$

$$\text{Average WIP} = 43150$$

$$\text{Average FG} = 65178$$

$$\text{Average Debtors} = 123562$$

$$\text{Average Creditors} = 60274$$

$$\text{WON (ii) } \begin{aligned} \text{OPRM} + \text{PUC} - \text{CRM} &= \text{RM Consumed} \\ 45000 + 4,00,000 - 65356 &= 379644 \end{aligned}$$

Sol 3 Main
SelectionStatement for operating cycle

	Particulars	Days
RM Storage Period	$= \frac{\text{Average RM} \times 365}{\text{RM Consumed}} = \frac{82.5 \times 365}{295}$	102
WIP Conversion Period	$= \frac{\text{Average WIP} \times 365}{\text{Cost of Prod}^n} = \frac{22 \times 365}{516}$	16
FG Storage Period	$= \frac{\text{Average FG} \times 365}{\text{Cost of goods sold}} = \frac{95 \times 365}{506}$	69
Debtors Collection Period	$= \frac{\text{Average Debtors} \times 365}{\text{Credit Sales}} = \frac{145 \times 365}{800}$	66
less Creditors Payment Period	$= \frac{\text{Average Creditors} \times 365}{\text{Credit Purchases}} = \frac{92.5 \times 365}{300}$	-113
operating cycle Period		140 days

Q13
W12(1)

Cost Sheet

Particulars	Amount
RM Purchased	300
+ op RM	+80
- cl RM	-85
RM Consumed	295
+ Manufacturing exp. (above)	145
Prime Cost	440
+ factory O/H (Depreciation)	+20
Gross works cost	460
+ op WIP	+20
- cl WIP	-24
Net works cost	456
+ quality control cost	+60
Cost of Production	516
+ opening FG	+90
- closing FG	-100
Cost of goods sold	506

Note: we have assumed that Dep'n is not inc. included in manufacturing exp.

del ① ii Statement of operating cycle
Particulars Days

• RM holding Period	30
• WIP Conversion Period	12
• FG holding Period	45
• Debtors collection Period	30
• Creditors Advance Pay	5
- Creditor Payment Period	-50
Operating Cycle Period	72 days

$$\Rightarrow \text{WC Required} = \frac{\text{Annual Cash Operating Exp}}{365} \times \text{operating cycle period}$$

$$= \frac{600 \times 72}{365} = ₹118.36 \text{ lakhs}$$

$$+ \text{Cash for Contingency} = ₹10 \text{ lakhs.}$$

$$\text{Estimated WC} = ₹128.36$$

$$\text{(ii) WC Turnover Rate} = \frac{\text{Sales or Cost}}{\text{WC}} = \frac{600}{128.36}$$

$$= \boxed{4.67 \text{ Times}}$$

Alternate Presentation

$$\frac{\text{WC}}{\text{Sales or Cost}} \times 100 = \frac{128.36}{600} \times 100 = \boxed{21.39\%}$$

Q.6 (i) Calculation of operating cycle period.

Particulars	Days
RM Storage Period	45
WIP Conversion Period	20
FG Storage Period	25
Debt Collection Period	30
- Creditors Payment Period	-60
Operating Cycle Period	60 days

(ii) Number of operating cycles in a year = $\frac{360}{60} = 6$ Times.

(iii) Total operating expense = ₹25,00,000
 - Depreciation = - ₹2,50,000
 Cash operating expense = ₹22,50,000

WC required = $\frac{22,50,000 \times 60}{360} = ₹3,75,000$

(iv) New operating cycle period = 60 - 30 days (Debtan)
 = 30 days

New WC required = $\frac{22,50,000}{360} \times 30 = ₹1,87,500$

Thus Reduction in WC = ₹3,75,000 - ₹1,87,500
 = ₹1,87,500

Sol 9

MPBF

Method ①	Method ②	Method ③
CA 40,000	CA 40,000	CA 40,000
- CL - 10,000	- 25% Margin - 10,000	- Cost CA - 5,000
CA 30,000	Remaining CA 30,000	Other CA 35,000
- 25% Margin - 7,500	- CL - 10,000	- 25% Margin - 8,750
MPBF 22,500	MPBF 20,000	Remaining CA 26,250
		- CL - 10,000
		MPBF 16,250

Year (21-22)

Q.11 contd

Sales (60x 120,000 units) = ₹72,00,000 (at 60% capacity)

Material $40 \times \frac{SP}{60} = ₹24$ Pu

labour ₹20 Pu ✓

SP = $3 \times 20 = ₹60$

Direct Exp ₹4 Pu (B/S)

Total cost	48
Profit 25% x Total cost	12
Sale price	₹60

↗ 15

Profit = 25% on cost = $\frac{1}{4}$ on cost

Profit ⇒ $\frac{1}{5}$ on Sales

Q.12 (ii) For year 2022-23, Cost Structure

units = $\frac{120000}{60\%} \times 90\% = 1,80,000$

Amount

Raw material = 1,80,000 unit x ₹24 (Same)	₹43,20,000 ✓
labour cost = 1,80,000 unit x (₹20 + 10%)	₹29,60,000 ✓
Direct Exp = 1,80,000 unit x (₹4 + 50%)	₹10,80,000 ✓
Total cost	₹83,60,000
+ Profit margin 25% on cost	₹20,80,000
Sales	₹1,04,40,000

Statement for Estimation of WCC Particulars

	Amount (₹)
CA	
Stock of RM = $(43,20,000 \times 1/12)$	3,60,000
Stock of WIP = $\left(\begin{array}{l} \text{RM} = 43,20,000 \times 100\% \\ \text{Material Exp} = 39,60,000 \times 5\% \\ \text{+ Direct Exp} = 1,98,000 \times 5\% \end{array} \right) \times \frac{2}{12}$	11,40,000
Stock of FG = $(3,60,000 \times 2/12)$	15,60,000
Debtors =	18,52,500
Zone A = $1,17,00,000 \times 50\% \times 2/12 = 975000$	
Zone B = $1,17,00,000 \times 30\% \times 3/12 = 877500$	
Zone C = $1,17,00,000 \times 20\% \times 0/12 = 0$	
Cash Balance	1,11,000
Total CA (A)	50,23,500
CL	
creditors $(44,40,000 \times 2/12)$ <small>on purchase</small>	7,40,000
Total CL (B)	7,40,000
Net working Capital (A) - (B)	42,83,500

$$\text{opening RM} = \frac{\text{closing of 21-22}}{\text{stock by RM}} \\ (1,20,000 \times 24 \times 1/12) = ₹ 2,40,000$$

$$\text{Closing RM} = (43,20,000 \times 1/12) = ₹ 3,60,000$$

$$\text{Op RM} + \text{Pur} - \text{cl RM} = \text{RM Consumed}$$

$$2,40,000 + \text{Pur} - 3,60,000 = 43,20,000$$

$$\text{Purchase of RM} = ₹ 44,40,000$$

Note: Because Capacity is changing so,
Op RM Stock \neq Closing RM Stock.

MPBF		
Method (I)	Method (II)	Method (III)
$CA = 50,23,500$ $- CL = - 7,40,000$ <hr/> $WC =$ $- 25\% \text{ Margin}$ <hr/> $MPBF = 32,12,625$	$CA = 50,23,500$ $- 25\% \text{ Margin}$ $\text{Remain } CA =$ $- CL - 7,40,000$ <hr/> $MPBF = 30,27,625$	$CA = 50,23,500$ $- 60\% CA = 15,60,000$ $\text{Other } CA =$ $- 25\% \text{ Margin}$ <hr/> $- CL - 7,40,000$ $MPBF = 18,57,625$

Sol 12 (A)

Statement of WC (Total Approach)
Particulars

Amount (₹)

CA
Stock of RM = 1,80,000 × 2/12 = 30,000

Stock of WIP = $(\frac{1,80,000}{100\%} + \frac{90,000}{50\%}) \times \frac{1}{12}$
 RM × 100% + Profit × 50% = 18,750

Stock of FG = 2,70,000 × 3/12 = 67,500

Debtors = Sale value 3,00,000 × 3/12 = 75,000

Cash Balance 20,000
Total CA (A) = 2,11,250

CL
Creditors = 1,80,000 × 2/12 = 30,000

o/s wages = 30,000 × 1/12 = 2,500

o/s OH = 60,000 × 1/12 = 5,000

Total CL (B) = 37,500

Net working Capital (A) - (B) = 1,73,750

<u>Cost</u>	Raw material	60%	1,80,000 ✓
	labour	10%	30,000 ✓
	OH	20%	60,000 ✓
	<u>Total cost</u>	90%	2,70,000
	+ Profit (10%)	10%	30,000 (B13)
	Sales	100%	5 × 60,000 = 3,00,000

del 12 (B)

Statement for WC (Cash cost approach)
 Accumulated

Amount (£)

CA

Stock of RM

30,000

Stock of WIP

18,750

Stock of FG

67,500

Debtors $(2,700,000 \times 3/12)$

67,500

Cash in hand

20,000

CA

(A)

203,750

CL

Creditors

30,000

o/s wages

2,500

o/s OH

5,000

CL

(B)

37,500

Net working capital (A) - (B)

166,250

Q114 contd Cost Statement
Particulars

Particulars	Amount
Material	3,00,000
wages	2,40,000
Manufacturing exp (cash)	3,00,000
<u>Depreciation (B/S)</u>	<u>1,20,000</u>
<u>COGS</u>	<u>9,60,000</u>
Admin (General)	75,000
Selling exp	37,500
<u>Cost of sales</u>	<u>10,72,500</u>

$$\begin{aligned} \text{Sales} &= 12,00,000 \\ - \text{GP } 20\% &= 2,40,000 \\ \hline \text{COGS} &= 9,60,000 \end{aligned}$$



contd Cost Statement

Raw Material	3,00,000
wages	2,40,000
Man. exp (cash)	3,00,000
<u>Dep</u>	<u>1,20,000</u>
Cash Manufacturing Cost (Cost of Production)	8,40,000 ✓
+ Selling exp	37,500
+ Admin (General)	75,000
<u>Total Cash Cost</u>	<u>9,52,500</u> ✓

Sol 14 Main Selection

Statement for estimation of WC

Particulars	Amount (₹)
CA	
Stock of RM = $(3,00,000 \times 1/12)$	25,000
Stock of FG = $(8,40,000 \times 1/12)$	70,000
Debtors (cash cst) = $(9,52,500 \times 2/12)$	1,58,750
Prepaid selling exp = $(37,500 \times 3/12)$	9,375
Cash balance	40,000
Total CA (A)	3,03,125
CL	
o/s wages $(2,40,000 \times 1/12)$	20,000
creditors $(3,00,000 \times 2/12)$	50,000
o/s Man. exp $(3,00,000 \times 1/12)$	25,000
o/s Admin exp $(75,000 \times 1/12)$	6,250
Total CL (B)	1,01,250
Excess of CA over CL	201,875
+ Safety Margin 15%	30,281
Total WC required	2,32,156

Q15)

Statement of WC (Cash Cost Basis) (Zinko)
Pantrudraes

Amount (₹)

Current Assets.

Stock of Raw material = $(720 \times 1/12)$	60
Stock of WIP = $(720 \times 100\% + 360 \times 50\%) \times 1/12$	75
Stock of FG = $(1080L \times 2/12)$	180
Debtors = $(1080L \times 2/12)$	180

Total CA (A) 495

Current Liabilities

Creditors = $(720 \times 1/12)$	60
o/s wages = $(120 \times 1/12)$	10
Total CL (B)	70

Net working capital 425

Q1)

MPBF

1st Method

CA = 495
- CL = -70
WC = 425
- 25% Margin -106.25
MPBF = 318.75

2nd Method

CA = 495
- 25% Margin -123.75
Remaining CA 371.25
- CL -70
MPBF = 301.25

3rd Method

CA = 495
- 10% CL -100
Other CA = 395
- 25% Margin -98.75
Remaining CA 296.25
- CL -70
MPBF = 226.25

Raw material = $12L \times ₹60 = ₹720L$ ✓
labour = $12L \times ₹10 = ₹120L$
OH = $12L \times ₹20 = ₹240L$
Total cost = ₹1080L ✓
+ Profit (15) ₹120L
Sales $12L \times 100 = ₹1200L$

Q. 17

Cost Sheet

Material	78000×117	91,26,000 ✓
labour	78000×49	38,22,000 ✓
O/H	$78000 \times 80^*$	62,40,000
Cost of Production		1,91,88,000

(98-18)^{dep}

20% Cash Sale 80% Credit Credit
1,53,50,400

Statement for Estimation of WC

Particulars

Amount (₹)

CA Stock of RM	$(91,26,000 \times 4/52)$	70,20,000
Stock of WIP	$(91,26,000 \times 80\% + 38,22,000 \times 60\% + 62,40,000 \times 60\%) \times 2/52$	5,13,000
Stock of FG	$(1,91,88,000 \times 3/52)$	11,07,000
Debtors	$(1,53,50,400 \times 6/52)$	17,71,200
Cash		2,59,000
Total CA	(A)	43,43,200
CL Creditors	$(91,26,000 \times 8/52)$	14,04,000
O/S wages	$(38,22,000 \times 1/52)$	73,500
O/S overheads	$(62,40,000 \times 2/52)$	2,40,000
Total CL	(B)	1,71,7500
Net WC	(A) - (B)	26,25,700

Sol. (18)
W.C.

Note: we have assumed admin o/H is related to production, thus it is added before cost of production.

Cost sheet			
Particulars	past year (2008)		Next year.
Direct materials	150	+100%	300
Direct labour	30	+100%	60 ✓
+ factory o/H (V)	60	+100%	120 ✓
Wages cost	240		480
+ Admin o/H (V)	+60	+100%	120
Cost of Production	300		600
+ selling o/H	50		+150
Total cost of sales	350		750

(ii)

statement for W.C. Estimation (Cash cost Basis)

Particulars	Amount (₹)
Current Assets:	
Stock of RM $(300 \times 2.5/12)$	62.5
Stock of WIP $[300 \times 100\% + (120+50) \times 50\%] \times 1/12$	32.5
Stock of Fg $[600 \times 0.5/12]$	25
Debtors $[750 \times 1.5/12]$	93.75
Total CA (A)	213.75
Current Liability	
creditors = $(300 \times 3/12)$	75
o/s wages = $(60 \times 1/12)$	5
o/s o/H = $(120+120+150) \times 0.5/12$	16.25
Total CL (B)	96.25
Working Capital (A) - (B)	117.5

(11)

Calculation of MPBF

Method ①	Method ②	Method ③
CA		
-CL		
WC		
-25% Margin		
88.125	64.0625	41.5625

6/1/2009

Statement for estimation of WC
Particulars

Amount (₹)

Current Assets.

Stock of AM = $(39,29,000 \times 4/52)$	30,15,38 ✓
Stock of WIP (from last sheet)	1,79,000
Stock of FY (from last sheet)	6,80,000
Debtors $(74,89,000 \times 8/52)$	11,50,769
Bank/Cash.	50,000

Total CA

(A)

23,52,307

Current liability.

Creditors = $(42,21,538 \times 4/52)$	3,24,734
O/S wages = $(14,70,000 \times 10/52)$	4,24,04
O/S OH = $(29,49,000 \times 4/52)$	2,26,154

Total CL

(B)

5,93,292

Net working Capital

(A) - (B)

17,59,015

(ii)

MPBF

Method ①

Method ②

Method ③

CA = 23,52,307

- CL = 5,93,292

WC = 17,59,015

- 25% Margin = -4,39,753.75

MPBF = 13,19,261.25

CA = 23,52,307

- 25% Margin = -5,88,076.75

Remain CA = 17,64,230.25

- CL = -5,93,292

MPBF = 11,70,938.25

CA = 23,52,307

- Cost CA 25% = -5,88,076.75

Other CA = 17,64,230.25

- 25% Margin = -4,41,057.56

Remain CA = 13,23,172.69

- CL = -5,93,292

MPBF = 7,29,880.69

Sold units 88000 units

Production 96000

Sold units

CFI
96000 x 1/12

COIP
96000 x 0.5 / 12

88000 units

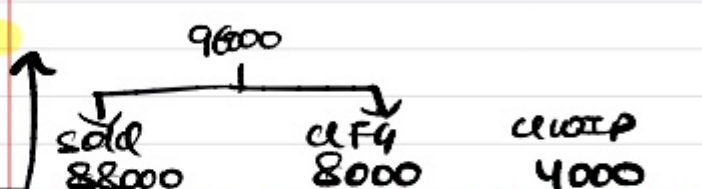
8000

4000

Cost Sheet

Particulars Amt (₹)

RM Purchased 42,21,538
+ 0
- CRM 3,01,538



RM Consumed 39,29,000

88000 x 40 = 35,29,000
8000 x 40 = 3,29,000
4000 x 40 x 50% = 80,000

Direct labour 14,79,000

88000 x 15 = 13,29,000
8000 x 15 = 1,29,000
4000 x 15 x 50% = 30,000

O/H 29,49,000

88000 x 30 = 26,49,000
8000 x 30 = 2,49,000
4000 x 30 x 50% = 60,000

Gross factory cost 83,39,000
+ op COIP 0
- COIP 1,79,000

680,000 CFI
1,79,000 COIP

Net factory cost/COF 81,60,000
+ op FI 0
- CFI 6,80,000
COGS/COS 74,80,000


Q. 22 (c)

Statement for WC estimation.

Particulars

Amount (₹)

CA


Stock of RM = $(96,600 \times 2/12)$	16,100 ✓
Stock of WIP = (from cost sheet)	16,350
Stock of FG = (from cost sheet)	14,650
Debtors = $(127,080 \times 2/12)$	21,180
Cash in hand	8,000
<u>Prepaid expenses</u>	
→ wages $(66,250 \times 1/12)$	5,521
→ Admin $(14,000 \times 1/12)$	1,167
→ Selling exp $(13,000 \times 1/12)$	1,083
→ Advance Income Tax	
Advance Tax $(10,000 \times 70\% \times 3/12)$ 	1,750

Total CA

(A)

85,801

CL

• Creditors $(112,700 \times 1.5/12)$	14,088
• Provision for Tax $(10,000 \times 30\%)$ 	3,000

Total CL

(B)

17,088

Excess of CA over CL (A) - (B)

68,713

+ 10% unprovided Contingencies Reserve

6,871

Net WC

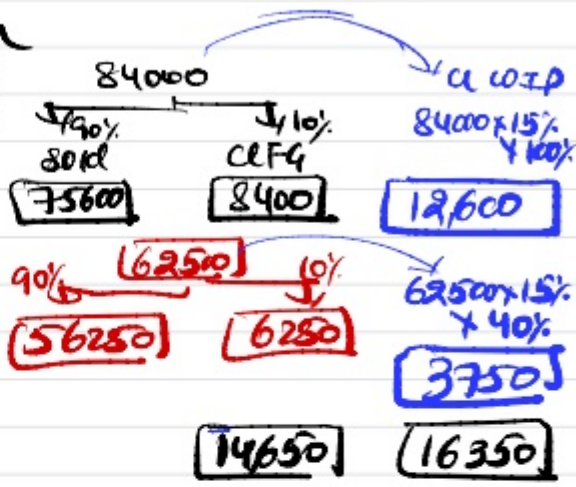
75,584

date: 20/12/22 conv's

Cost sheet

Particulars Amt.

RM Purchased	112700
+ op RM	+ 0
- cl RM	- 16100
RM Consumed	96600
Wages & exp	66250
Gross factory cost	162850
+ op WIP	+ 0
- cl WIP	- 16350
Net factory cost	146500
+ op FG	+ 0
- cl FG	- 14650
COGS	131850
+ Admin exp	14000
+ Selling exp	13000
Cost of Sales	158850



Cost of Cash Sale 20% →

Cost of Credit Sales 80% →

127080

Sol 57aStatement for estimation of WC

Particulars	Amount (₹)
<u>Current Assets</u>	
Stock of RM = $86,40,000 \times 4/52$	6,64,615
Stock of WIP = (from concis)	50,000
Stock of FG (from W.Mis)	13,60,000
Debtors = $(1,63,20,000 \times 8/52)$	25,10,769
Cash at Bank	25,000
<u>Total CA (A)</u>	<u>50,69,384</u>
<u>Current liabilities</u>	
Creditors = $(93,04,615 \times 4/52)$	7,15,740
o/s wages = $(31,80,000 \times 1.5/52)$	91,731
<u>Total CL (B)</u>	<u>8,07,471</u>
<u>Net working Capital (A) - (B)</u>	<u>42,52,913</u>

QD	MPBF	
	Method ①	Method ②
CA	50,60,384	CA 50,69,384
-CL	-8,07,471	-25% Margin -12,65,096
WC	42,52,913	Remaine CA 37,95,288
-25% Reserve	-10,63,228	-CL -8,07,471
<u>MPBF</u>	<u>31,89,685</u>	<u>MPBF 29,87,817</u>

Solved Question 1

Cost Sheet

Particulars	Amount	Produced (104000)		
Raw material Purchased	9304615	$\begin{matrix} \swarrow & & \searrow \\ \text{Sold} & & \text{cl.Fg} \\ 96000 & & 8000 \end{matrix}$		
+ Opening Stock of RM	+ 0			
- Closing Stock of RM	-664615	$\begin{matrix} \text{cl.WIP} \\ 4000 \end{matrix}$		
RM Consumed	8640000	$96000 \times 80 = 76,80,000$	$8000 \times 80 = 6,40,000$	$4000 \times 80 = 3,20,000$
+ Direct wages	31,80,000	$96000 \times 30 = 28,80,000$	$8000 \times 30 = 2,40,000$	$4000 \times 30 = 1,20,000$
+ Overheads	63,60,000	$96000 \times 60 = 57,60,000$	$8000 \times 60 = 4,80,000$	$4000 \times 60 = 2,40,000$
Gross factory cost	1,81,80,000	$\begin{matrix} \boxed{13,60,000} & \boxed{5,00,000} \\ \text{cl.Fg} & \text{cl.WIP} \end{matrix}$		
+ cl.WIP	+ 0			
- cl.WIP	-50,000			
Net factory cost	1,76,80,000			
+ Opening FG	+ 0			
- Closing FG	-13,60,000			
COGS or COS	1,63,20,000			

<u>debt</u>	<u>Statement for WC Estimation</u> <u>particulars</u>	<u>Amount (₹)</u>
<u>C.A</u>		
Stock of RM	(9,00,000 × 1/12)	75,000
Stock of FG	(29,40,000 × 1/12)	2,45,000
Debtors - Domestic	(20,23,448 × 1/12)	168,621
• Exports	(10,06,552 × 3/12)	2,51,638
Prepaid selling exp	(1,50,000 × 3/12)	37,500
Cash	(2,50,000 - 75,000)	1,75,000
<u>Total CA</u>	<u>(A)</u>	<u>9,52,759</u>
<u>CL</u>		
Creditors	(9,00,000 × 2/12)	1,50,000
o/s wages	(72,000 × 0.5/12)	39,000
o/s Man. exp	(10,80,000 × 1/12)	90,000
o/s Admin exp	(24,000 × 1/12)	20,000
Income Tax payable	(22,50,000 × 1/4)	56,250
<u>Total CL</u>	<u>(B)</u>	<u>3,46,250</u>
<u>Excess of CA over CL</u>		
+ Reserves for Contingency	12%	
<u>Total WC requirement.</u>		

CON

Cost Sheet

		Particular	Domestic	Export	Total
RM	9,00,000	Actual sales	24,00,000	10,80,000	
Labour	7,20,000				
Man exp	10,80,000				
work cost					
+ Admin exp	2,40,000	- 4% 20%	- 4,80,000	- 24,000	
Cost of Prod ⁿ	29,40,000	COGS	19,20,000	9,60,000	
+ selling exp	1,50,000	+ selling exp	+ 103448	+ 46552	
Cost of sales	30,90,000	Cost of Sale	20,23,448	10,06,552	

Regular = 12,00,000
Exp

Selling exp = ₹ 1,50,000



$1,50,000 \times \frac{24,00,000}{34,80,000}$

$\times \frac{1,50,000 \times 10,80,000}{34,80,000}$

₹ 1,03,448

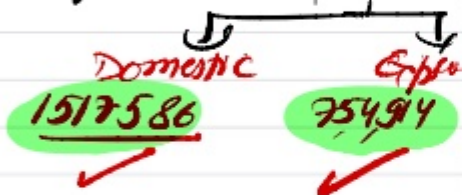
₹ 46,552

Sol 27Statement for estimation of WC

Particulars	Amount (₹)
<u>Current Asset</u>	
Stock of RM $(675000 \times 1/12)$	56,250
Stock of FG $(21,60,000 \times 1/12)$	1,80,000
<u>Debtors</u>	
• Domestic $(1517586 \times 1/12)$	126,466
• Export $(754914 \times 3/12)$	188,729
Prepaid Selling Exp. $(1,12,500 \times 3/12)$	28,125
Cash $(259,000 - 75,000)$ ^{old}	175,000
Total CA (A)	7,54,570
<u>Current Liabilities</u>	
Creditors. $(675000 \times 2/12)$	1,12,500
o/s wages $(54,000 \times 5/12)$	22,500
o/s Manufc exp $(765000 \times 1/12)$	63,750
o/s Admin exp $(1,80,000 \times 1/12)$	15,000
Income tax Payable $(1,68,000 \times 1/4)$	42,000
Total CL (B)	2,55,750
Excess of CA over CL	4,98,820
+ 10% Contingency Reserve	+ 49,882
Total working capital requirement.	5,48,702

Thought 1
Cost Sheet

Material	675000
labour	540000
Manu. exp	765000
works cost	1980000
+ Admin exp	180000
Cost of Prod ⁿ	2160000
+ Selling exp	112500
Cost of Sales	2272500



Thought 2

	Domestic	Export	Total
Sales	18,00,000	8,10,000	26,10,000
- GP 20%	-3,60,000	-1,80,000	4,50,000
COGS	14,40,000	7,20,000	21,60,000
+ Selling Exp in Sales Ratio	+77586	+34914	1,12,500
Cost of Sales	1517586	754914	2272500

* Here GP is 20% of Regular Selling Price not discounted Price.

Low selling exp = 1,12,500



$$1,12,500 \times \frac{18,00,000}{26,10,000}$$

77586

$$1,12,500 \times \frac{8,10,000}{26,10,000}$$

34914

Q.128

COST STATEMENT

Particulars	Single Shift (24000 units)		Double Shift (48000 units)	
	Per unit	Total	P. Unit	Total
Raw Material	₹6	₹1,44,000	₹6-10% = 5.4	₹2,59,200
Labour				
• Variable	₹3	₹72,000	₹3	₹1,44,000
• Fixed	₹2	₹48,000	₹1*	₹48,000
Prime Cost	₹11	₹2,64,000	₹9.4	₹4,51,200
+ OH				
• Variable	₹1	₹24,000	₹1	₹48,000
• Fixed	₹4	₹96,000	₹2*	₹96,000
Total Cost	₹16	₹3,84,000	₹12.4	₹5,95,200
+ Profit (25%)	₹2		₹5.6	
Sale Price	₹18	4,32,000	₹18	

CON(I) Stock of RM = $RM \text{ consumed} \times \frac{n_1}{12}$

$36000 = 144000 \times \frac{n_1}{12}$, $n_1 = 3m$

CON(ii) Stock of WIP = $2,64,000 \times \frac{n_2}{12}$

$22000 = 264000 \times \frac{n_2}{12}$, $n_2 = 1m$

CON(iii) Stock of FG = $\text{Total Cost} \times \frac{n_3}{12}$

$72000 = 384000 \times \frac{n_3}{12}$

$n_3 = 2.25m$

CON(iv) Debtors = $\text{Sales} \times \frac{n_4}{12}$

$108000 = 432000 \times \frac{n_4}{12}$

$n_4 = 3m$

old's
Main selection

Statement for estimation of WC (Cash Cost Basis)

Particulars

Single Shift

Double Shift

CA

Stock of RM $(144000 \times 3/12) = ₹36,000$ $(259200 \times 3/12) = 64,800$

Stock of WIP $(264000 \times 1/12) = ₹22,000$ $(451200 \times 1/12 \times \frac{1}{2}) = 18,800$

Stock of FG $(3,84,000 \times \frac{2.25}{12}) = ₹72,000$ $(595200 \times 2.25/12) = 1,11,600$

Debtors (Cost) $(384000 \times 3/12) = ₹96,000$ $(595200 \times 3/12) = 1,48,800$

Total CA (A) ₹2,26,000 ₹3,44,000

CL

Creditors $(144000 \times 2/12) = 24000$ $(259200 \times 2/12) = 43200$

o/s wages $(72000 + 48000) \times 0.5/12 = 5000$ $(144000 + 48000) \times 0.5/12 = 8000$

o/s expenses $(24000 + 96000) \times 0.5/12 = 5000$ $(48000 + 96000) \times 0.5/12 = 6000$

CL (B) 34000 57200

WC (A) - (B) 192000 ₹86800

Additional WC required = ₹86800 - 192000
= ₹94,800.

Self
Note ①

we should remember that stock of WIP should not double even if we work in double shift.

So, while calculating WIP stock, we have to reduce WIP to half else it will double because of double cost.

(Yani jab hum WIP calculate kar rahi hai, jab humne WIP ko half kiya hai at end in double shift working)

Note ② we have calculated Debtors on cost basis.

(However the question gave us Debtors on sales basis)

WCM - Introduction to Working Capital

Solution 2:

(a) Calculation of Net Operating Cycle period of XYZ Ltd.

$$\begin{aligned} \text{Raw Material storage period (R)} &= \frac{\text{Average stock of raw material}}{\text{Average Cost of Raw Material Consumption per day}} \\ &= \frac{₹50,000}{₹6,00,000 \div 360 \text{ days}} = \frac{₹50,000}{1,667} = 30 \text{ days} \end{aligned}$$

Work-in-progress inventory holding period (W)

$$\begin{aligned} &= \frac{\text{Average Work-in-progress inventory}}{\text{Average Cost of production per day}} \\ &= \frac{₹30,000}{₹5,00,000 \div 360 \text{ days}} = \frac{₹30,000}{1,389} = 22 \text{ days} \end{aligned}$$

Finished Goods storage period (F)

$$\begin{aligned} &= \frac{\text{Average stock of finished goods}}{\text{Average cost of Goods sold per day}} \\ &= \frac{₹40,000}{₹8,00,000 \div 360 \text{ days}} = \frac{₹40,000}{2,222} = 18 \text{ days} \end{aligned}$$

Receivables (Debtors) collection period (D) = 45 days

Credit Period allowed by creditors (C) = 30 days

Net Operating Cycle = R + W + F + D – C = 30 + 22 + 18 + 45 – 30 = 85 days

$$\begin{aligned} \text{(b) Number of Operating Cycles in a year} &= \frac{\text{No. of days in a year}}{\text{Operating Cycle period}} \\ &= \frac{360 \text{ days}}{85 \text{ days}} = 4.23 \text{ times} \end{aligned}$$

Solution 5:

Computation of Operating Cycle

(1) Raw Material Storage Period (R)

$$\begin{aligned} \text{Raw Material Storage Period (R)} &= \frac{\text{Average Stock of Raw Material}}{\text{Daily Average Consumption of Raw material}} \\ &= \frac{(14,40,000 + 16,00,000) / 2}{86,40,000 / 365} = 64.21 \text{ Days} \end{aligned}$$

Raw Material Consumed = Opening Stock + Purchases – Closing Stock

$$= ₹ 14,40,000 + ₹ 88,00,000 - ₹ 16,00,000 = ₹ 86,40,000$$

(2) Conversion/Work-in-Process Period (W)

$$\begin{aligned} \text{Conversion/Processing Period} &= \frac{\text{Average Stock of WIP}}{\text{Daily Average Production Cost}} \\ &= \frac{(4,80,000 + 8,00,000) / 2}{1,23,20,000 / 365} = 18.96 \text{ days} \end{aligned}$$

Production Cost:	₹
Opening Stock of WIP	4,80,000
Add: Raw Material Consumed	86,40,000
Add: Wages	24,00,000
Add: Production Expenses	<u>16,00,000</u>
	1,31,20,000
Less: Closing Stock of WIP	<u>8,00,000</u>
Production Cost	<u>1,23,20,000</u>

(3) Finished Goods Storage Period (F)

$$\text{Finished Goods Storage Period} = \frac{\text{Average Stock of finished Goods}}{\text{Daily Average Cost of Good Sold}}$$

	=	$\frac{(20,80,000 + 24,00,000) / 2}{1,20,00,000 / 365}$
Cost of Goods Sold		₹
Opening Stock of Finished Goods		20,80,000
Add: Production Cost		<u>1,23,20,000</u>
		1,44,00,000
Less: Closing Stock of Finished Goods		<u>(24,00,000)</u>
		<u>1,20,00,000</u>

(4) Receivables Collection Period (D)

$$\begin{aligned} \text{Receivables Collection Period} &= \frac{\text{Average Receivables}}{\text{Daily average credit sales}} \\ &= \frac{(12,00,000 + 16,00,000) / 2}{1,60,00,000 / 365} = 31.94 \text{ Days} \end{aligned}$$

(5) Payables Payment Period (C)

$$\begin{aligned} \text{Payables Payment Period} &= \frac{\text{Average Payables}}{\text{Daily average credit purchase}} \\ &= \frac{(16,00,000 + 19,20,000) / 2}{88,00,000 / 365} = 73 \text{ days} \end{aligned}$$

(6) Duration of Operating Cycle (O)

$$\begin{aligned} O &= R + W + F + D - C \\ &= 64.21 + 18.96 + 68.13 + 31.94 - 73 \\ &= 110.24 \text{ days} \end{aligned}$$

Computation of Working Capital

$$\text{(i) Number of Operating Cycles per Year} = 365 / \text{Duration Operating Cycle} = 365 / 110.24 = 3.311$$

(ii) Total Operating Expenses	₹
Total Cost of Goods sold	1,20,00,000
Add: Administration Expenses	14,00,000
Add: Selling Expenses	<u>6,00,000</u>
	<u>1,40,00,000</u>

(iii) Working Capital Required

$$\begin{aligned} \text{Working Capital Required} &= \frac{\text{Total Operating Expenses}}{\text{Number of Operating Cycles per year}} \\ &= \frac{1,40,00,000}{3.311} = ₹ 42,28,329.81 \end{aligned}$$

Solution 7:

Working Notes :

1. Raw material Storage Period (R)

$$\begin{aligned} &= \frac{\text{Average stock of Raw Material}}{\text{Annual Consumption of Raw material}} \times 365 \\ &= \frac{\frac{₹ 45 + ₹ 65}{2}}{₹ 380} \times 365 = 52.83 \text{ or } 53 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Annual consumption of raw materials} &= \text{Opening Stock} + \text{Purchases} - \text{Closing Stock} \\ &= ₹ 45 + ₹ 400 - ₹ 65 = ₹ 380 \text{ Lakh} \end{aligned}$$

2. Work – in – progress (WIP) Conversion Period (W)

$$\begin{aligned} \text{WIP Conversion Period} &= \frac{\text{Average Stock of WIP}}{\text{Annual Cost of Production}} \times 365 \\ &= \frac{\frac{₹ 35 + ₹ 51}{2}}{₹ 450} \times 365 = 34.87 \text{ or } 35 \text{ days} \end{aligned}$$

3. Finished Stock Storage Period (F)

$$\begin{aligned} &= \frac{\text{Average Stock of Finished goods}}{\text{Cost of Goods Sold}} \times 365 \\ &= \frac{\frac{₹ 60 + ₹ 70}{2}}{₹ 525} \times 365 = 45.19 \text{ or } 45 \text{ days.} \end{aligned}$$

4. Receivable (Debtors) Collection Period (D)

$$= \frac{\text{Average Receivables}}{\text{Annual Credit Sales}} \times 365$$

$$= \frac{\frac{\text{₹ 112} + \text{₹ 135}}{2}}{\text{₹ 585}} \times 365 = 77.05 \text{ or } 77 \text{ days —}$$

5. Payable (Creditors) Payment Period (C)

$$= \frac{\text{Average payables for materials}}{\text{Annual Credit Purchases}} \times 365$$

$$= \frac{\frac{\text{₹ 68} + \text{₹ 71}}{2}}{\text{₹ 400}} \times 365 = 63.41 \text{ or } 64 \text{ days}$$

(i) Net Operating Cycle Period

$$= R + W + F + D - C$$

$$= 53 + 35 + 45 + 77 - 64$$

$$= 146 \text{ days}$$

(ii) Number of Operating Cycles in the Year

$$= \frac{365}{\text{Operating Cycle Period}} = \frac{365}{146} = 2.5 \text{ times}$$

(iii) Amount of Working Capital Required

$$= \frac{\text{Annual Operating Cost}}{\text{No. of Operating cycles}} = \frac{\text{₹ 325}}{2.48} = \text{₹ 130 Lakh}$$

Solution 8:**Maximum Permissible Bank Finance as per Tandon Committee Norms (Amounts In ₹ Lakhs)****1st Method**

Total Current Assets required	1,480
Less: Current Liabilities	(600)
Working Capital	880
Less: 25% of Long Term Sources	(220)
MPBF	660

2nd Method

Current Assets required	1,480
Less: 25% to be provided	(370)
Long term funds	1,110
Less: Current Liabilities	(600)
MPBF	510

3rd Method

Current Assets	1,480
Less: Core Current Assets required	(380)
Less: 25% provided for	(275)
Long Term Funds	825
Less: Current Liabilities	(600)
MPBF	225

Solution 10:**Statement showing the Working Capital Requirement of the Company**

Current Assets:		₹
Stock of Raw materials	$(\frac{\text{₹}64,80,000}{12 \text{ months}} \times 2 \text{ months})$	= 10,80,000
Stock of Work-in-progress	$(\frac{\text{₹}1,51,20,000 \times 4}{52 \text{ months}} \times 50\%)$	= 5,81,538
Stock of Finished goods	$(\frac{\text{₹}1,51,20,000}{12 \text{ months}})$	= 12,60,000
Debtors	$(\text{₹ } 1,72,80,000 \times 80\% \times \frac{2}{12})$	= 23,04,000

Cash balance		= 1,00,000
Total Current Assets	(A)	= 53,25,538
Current Liabilities:		
Creditors for Purchases	$(\frac{₹64,80,000}{12 \text{ months}})$	= 5,40,000
Outstanding Wages & Overheads	$(\frac{₹86,40,000}{52 \text{ weeks}} \times 1.5 \text{ weeks})$	= 2,49,231
Total Current Liabilities	(B)	= 7,89,231
Net working Capital	[(A) – (B)]	= 45,36,307

Working Notes:

		₹
1. Annual Raw Materials Requirements [1,44,000 units × ₹ 45]		= 64,80,000
Annual Direct Labour Cost [1,44,000 units × ₹ 20]		= 28,80,000
Annual Overhead Cost [1,44,000 units × ₹ 40]		= 57,60,000
Total Cost		= 1,51,20,000

Solution 13:**Statement showing the requirements of Working Capital (Cash Cost basis)**

Particulars	(₹)	(₹)
A. Current Assets:		
Inventory:		
Stock of Raw material (₹ 27,00,000 × 3/12)	6,75,000	
Stock of Finished goods (₹ 77,40,000 × 3/12)	19,35,000	
Receivables (₹ 88,20,000 × 3/12)	22,05,000	
Administrative and Selling Overhead (₹ 10,80,000 × 1/12)	90,000	
Cash in Hand	3,00,000	
Gross Working Capital	52,05,000	52,05,000
B. Current Liabilities:		
Payables for Raw materials* (₹ 27,00,000 × 3/12)	6,75,000	
Outstanding Expenses:		
Wages Expenses (₹ 21,60,000 × 1/12)	1,80,000	
Manufacturing Overhead (₹ 28,80,000 × 1/12)	2,40,000	
Total Current Liabilities	10,95,000	10,95,000
Net Working Capital (A-B)		41,10,000
Add: Safety margin @ 10%		4,11,000
Total Working Capital requirements		45,21,000

Working Notes:

(i)

(A) Computation of Annual Cash Cost of Production	(₹)
Raw Material consumed	27,00,000
Wages (Labour paid)	21,60,000
Manufacturing overhead (₹ 32,40,000 - ₹ 3,60,000)	28,80,000
Total cash cost of production	77,40,000
(B) Computation of Annual Cash Cost of Sales	(₹)
Cash cost of production as in (A) above	77,40,000
Administrative & Selling overhead	10,80,000
Total cash cost of sales	88,20,000

*Purchase of Raw material can also be calculated by adjusting Closing Stock and Opening Stock (assumed nil). In that case Purchase will be Raw material consumed + Closing Stock - Opening Stock i.e ₹ 27,00,000 + ₹ 6,75,000 - Nil = ₹ 33,75,000. Accordingly, Total Working Capital requirements (₹ 43,35,375) can be calculated.

Solution 16:**Working Notes:**

- Raw material inventory: The cost of materials for the whole year is 60% of the Sales value.

$$= \frac{54,000 \text{ units} \times (60\% \text{ of } ₹ 200)}{12 \text{ months}} \times 2 \text{ months} = ₹ 10,80,000$$

2) Work-in-process (Each unit of production is expected to be in process for one month):

	(₹)
(a) Raw materials in work-in-process (being one month's raw material requirements)	5,40,000
(b) Labour costs in work-in-process $(54,000 \text{ units} \times (10\% \text{ of } ₹ 200) \times 1 \text{ month}) \div 12 \text{ months} \times 0.5$	45,000
(c) Overheads $(54,000 \text{ units} \times (20\% \text{ of } ₹ 200) \times 1 \text{ month}) \div 12 \text{ months} \times 0.5$	90,000
	6,75,000

3) Finished goods inventory = $\frac{54,000 \text{ units} \times (90\% \text{ of } ₹ 200)}{12 \text{ months}} \times 1 \text{ month} = ₹ 8,10,000$

4) Receivables = $\frac{54,000 \text{ units} \times (90\% \text{ of } ₹ 200)}{12 \text{ months}} \times 1.5 \text{ months} = ₹ 12,15,000$

5) Payable to suppliers = $\frac{54,000 \text{ units} \times (60\% \text{ of } ₹ 200)}{12 \text{ months}} \times 1 \text{ month} = ₹ 5,40,000$

6) Direct Wages payable = $\frac{54,000 \text{ units} \times (10\% \text{ of } ₹ 200)}{12 \text{ months}} \times 1 \text{ month} = ₹ 90,000$

Calculation of Working Capital Requirement on cash cost basis

Particulars	(₹)	(₹)
A. Current Assets		
(i) Inventories:		
- Raw Materials	10,80,000	
- Work-in-process	6,75,000	
- Finished goods	8,10,000	25,65,000
(ii) Receivables		12,15,000
(iii) Cash in hand (40% of ₹ 6,30,000)		2,52,000
Total Current Assets		40,32,000
B. Current Liabilities:		
(i) Payables for raw materials		5,40,000
(ii) Direct wages payables		90,000
Total Current Liabilities		6,30,000
Net Working Capital (A - B)		34,02,000
Add: Safety margin (15% of Net Working Capital)		5,10,300
Working capital requirement		39,12,300

Solution 19:

Statement of Working Capital requirements (Cash Cost Basis)

Particulars	Amount (₹)
Current Assets:	
Stock of Raw Materials (₹ 4,50,000 ÷ 12)	37,500
Stock of Finished Goods (₹ 12,90,000 ÷ 12)	1,07,500
Debtors (₹ 14,70,000 ÷ 6)	2,45,000
Cash in hand	1,00,000
Advance payment: Sales promotion expenses (₹ 60,000 × 3/12)	15,000
Total Current Assets (A)	5,05,000
Current Liabilities:	
Creditors for Materials (₹ 4,50,000/12 months × 2 months)	75,000
Wages outstanding (₹ 3,60,000 ÷ 12)	30,000
Manufacturing expenses outstanding	40,000
Administrative expenses outstanding (₹ 1,20,000 ÷ 12)	10,000
Total Current Liabilities (B)	1,55,000
Net Working Capital (A) - (B)	3,50,000
Add: 15% Safety Margin	52,500

Working Capital Requirement	4,02,500
------------------------------------	-----------------

Working Notes -

Raw Materials	₹ 4,50,000
Wages	₹ 3,60,000
Manufacturing expenses (40,000 x 12)	₹ 4,80,000
Cost Of Production	₹ 12,90,000

Solution 21:**Statement showing the requirements of Working Capital**

Particulars	₹	₹
A. Current Assets:		
Inventory:		
Stock of raw materials (₹ 2,31,840 x 2/12)	38,640	
Stock of Work-in-progress (As per Working Note)	39,240	
Stock of Finished goods (₹ 3,51,600 x 10/100)	35,160	
Receivables (Debtors) (₹ 3,04,992 x 2/12)	50,832	
Cash in Hand	19,200	
Prepaid Expenses:		
Wages & Mfg. expense (₹ 1,59,000 x 1/12)	13,250	
Administrative expenses (₹ 33,600 x 1/12)	2,800	
Selling & Distribution Expenses (₹ 31,200 x 1/12)	2,600	
Advance taxes paid {(70% of 24,000) x 3/12}	4,200	
Gross Working Capital	2,05,922	2,05,922
B. Current Liabilities:		
Payable for Raw materials (₹ 2,70,480 x 1.5/12)	33,810	
Provision for Taxation (Net of Advance Tax) (₹ 24,000 x 30/100)	7,200	
Total Current Liabilities	41,010	41,010
C. Excess of CA over CL		1,64,912
Add: 10% for unforeseen contingencies		16,491
Net Working Capital requirements		1,81,403

Working Notes:**(i) Calculation of Stock of Work-in-progress**

Particulars	₹
Raw material (₹ 2,01,600 x 15%)	30,240
Wages & Mfg. Expenses (₹ 1,50,000 x 15% x 40%)	9,000
Total	39,240

(ii) Calculation of stock of finished goods and cost of sales

	₹
Direct material cost [₹ 2,01,600 + ₹ 30,240]	2,31,840
Wages & Mfg. expenses [₹ 1,50,000 + ₹ 9,000]	1,59,000
Depreciation	0
Gross Factory Cost	3,90,840
Less: Closing W.I.P.	(39,240)
Cost of goods produced	3,51,600
Add: Administrative Expenses	33,600
	3,85,200
Less: Closing stock	(35,160)
Cost of goods sold	3,50,040
Add: Selling and Distribution expenses	31,200
Total Cash Cost of sales	3,81,240
Debtors (80% of cash cost of sales)	3,04,992

(iii) Calculation of Credit Purchase

Particulars	₹
Raw material consumed	2,31,840
Add: Closing Stock	38,640
Less: Opening Stock	-
Purchases	2,70,480

Solution 23:

(i) **Projected Statement of Profit / Loss**
(Ignoring Taxation)

	Year 1	Year 2
Production (Units)	12,000	18,000
Sales (Units)	10,000	17,000
	(Rs)	(Rs)
Sales revenue (A) (Sales unit × Rs 192)	19,20,000	32,64,000
Cost of production:		
Materials cost (Units produced × Rs 80)	9,60,000	14,40,000
Direct labour and variable expenses (Units produced × Rs 40)	4,80,000	7,20,000
Fixed manufacturing expenses (Production Capacity: 24,000 units × Rs 12)	2,88,000	2,88,000
Depreciation (Production Capacity : 24,000 units × Rs 20)	4,80,000	4,80,000
Fixed administration expenses (Production Capacity : 24,000 units × Rs 8)	1,92,000	1,92,000
Total Costs of Production	24,00,000	31,20,000
Add: Opening stock of finished goods (Year 1 : Nil; Year 2 : 2,000 units)	—	4,00,000
Cost of Goods available for sale (Year 1: 12,000 units; Year 2: 20,000 units)	24,00,000	35,20,000
Less: Closing stock of finished goods at average cost (year 1: 2000 units, year 2 : 3000 units) (Cost of Production × Closing stock/ units produced)	(4,00,000)	(5,28,000)
Cost of Goods Sold	20,00,000	29,92,000
Add: Selling expenses – Variable (Sales unit × Rs 8)	80,000	1,36,000
Add: Selling expenses -Fixed (24,000 units × Rs 2)	48,000	48,000
Cost of Sales : (B)	21,28,000	31,76,000
Profit (+) / Loss (-): (A - B)	(-) 2,08,000	(+) 88,000

Working Notes:1. **Calculation of creditors for supply of materials:**

	Year 1 (Rs)	Year 2 (Rs)
Materials consumed during the year	9,60,000	14,40,000
Add: Closing stock (2 month's average consumption)	1,60,000	2,40,000
	11,20,000	16,80,000
Less: Opening Stock	—	1,60,000
Purchases during the year	11,20,000	15,20,000
Average purchases per month (Creditors)	93,333	1,26,667

2. **Creditors for expenses:**

	Year 1 (Rs)	Year 2 (Rs)
Direct labour and variable expenses	4,80,000	7,20,000
Fixed manufacturing expenses	2,88,000	2,88,000
Fixed administration expenses	1,92,000	1,92,000

Selling expenses (variable + fixed)	1,28,000	1,84,000
Total	10,88,000	13,84,000
Average per month	90,667	1,15,333

(ii) **Projected Statement of Working Capital requirements**

	Year 1 (Rs)	Year 2 (Rs)
Current Assets:		
Inventories:		
-Stock of materials (2 month's average consumption)	1,60,000	2,40,000
-Finished goods	4,00,000	5,28,000
Debtors (2 month's average sales) (including profit)	3,20,000	5,44,000
Cash	1,00,000	1,00,000
Total Current Assets/ Gross working capital (A)	9,80,000	14,12,000
Current Liabilities:		
Creditors for supply of materials (Refer to working note 1)	93,333	1,26,667
Creditors for expenses (Refer to working note 2)	90,667	1,15,333
Total Current Liabilities: (B)	1,84,000	2,42,000
Estimated Working Capital Requirements: (A-B)	7,96,000	11,70,000

Solution 24:(i) **M.A. Limited**
Projected Statement of Profit / Loss
(Ignoring Taxation)

	Year 1	Year 2
Production (Units)	6,000	9,000
Sales (Units)	5,000	8,500
	(₹)	(₹)
Sales revenue (A) (Sales unit × ₹ 96)	4,80,000	8,16,000
Cost of production:		
Materials cost (Units produced × ₹ 40)	2,40,000	3,60,000
Direct labour and variable expenses (Units produced × ₹ 20)	1,20,000	1,80,000
Fixed manufacturing expenses (Production Capacity: 12,000 units × ₹ 6)	72,000	72,000
Depreciation (Production Capacity : 12,000 units × ₹ 10)	1,20,000	1,20,000
Fixed administration expenses (Production Capacity : 12,000 units × ₹ 4)	48,000	48,000
Total Costs of Production	6,00,000	7,80,000
Add: Opening stock of finished goods (Year 1 : Nil; Year 2 : 1,000 units)	—	1,00,000
Cost of Goods available for sale (Year 1: 6,000 units; Year 2: 10,000 units)	6,00,000	8,80,000
Less: Closing stock of finished goods at average cost (year 1: 1000 units, year 2 : 1500 units) (Cost of Production × Closing stock/ units produced)	(1,00,000)	(1,32,000)
Cost of Goods Sold	5,00,000	7,48,000
Add: Selling expenses – Variable (Sales unit × ₹ 4)	20,000	34,000

Add: Selling expenses -Fixed (12,000 units × ₹ 1)	12,000	12,000
Cost of Sales : (B)	5,32,000	7,94,000
Profit (+) / Loss (-): (A - B)	(-) 52,000	(+) 22,000

Working Notes:**1. Calculation of creditors for supply of materials:**

	Year 1 (₹)	Year 2 (₹)
Materials consumed during the year	2,40,000	3,60,000
Add: Closing stock (2.25 month's average consumption)	45,000	67,500
	2,85,000	4,27,500
Less: Opening Stock	---	45,000
Purchases during the year	2,85,000	3,82,500
Average purchases per month (Creditors)	23,750	31,875

2. Creditors for expenses:

	Year 1 (₹)	Year 2 (₹)
Direct labour and variable expenses	1,20,000	1,80,000
Fixed manufacturing expenses	72,000	72,000
Fixed administration expenses	48,000	48,000
Selling expenses (variable + fixed)	32,000	46,000
Total (including	2,72,000	3,46,000
Average per month	22,667	28,833

(ii) Projected Statement of Working Capital requirements

	Year 1 (₹)	Year 2 (₹)
Current Assets:		
Inventories:		
- Stock of materials (2.25 month's average consumption)	45,000	67,500
- Finished goods	1,00,000	1,32,000
Debtors (1 month's average sales) (including profit)	40,000	68,000
Cash	10,000	10,000
Total Current Assets/ Gross working capital (A)	1,95,000	2,77,500
Current Liabilities:		
Creditors for supply of materials (Refer to working note 1)	23,750	31,875
Creditors for expenses (Refer to working note 2)	22,667	28,833
Total Current Liabilities: (B)	46,417	60,708
Estimated Working Capital Requirements: (A-B)	1,48,583	2,16,792

**Projected Statement of Working Capital Requirement
(Cash Cost Basis)**

	Year 1 (₹)	Year 2 (₹)
(A) Current Assets		
Inventories:		
- Stock of Raw Material (6,000 units × ₹ 40 × 2.25/12); (9,000 units × ₹ 40 × 2.25/12)	45,000	67,500
- Finished Goods (Refer working note 3)	80,000	1,11,000

Receivables (Debtors) (Refer working note 4)	36,000	56,250
Minimum Cash balance	10,000	10,000
Total Current Assets/ Gross working capital (A)	1,71,000	2,44,750
(B) Current Liabilities		
Creditors for raw material (Refer working note 1)	23,750	31,875
Creditors for Expenses (Refer working note 2)	22,667	28,833
Total Current Liabilities	46,417	60,708
Net Working Capital (A – B)	1,24,583	1,84,042

Working Note:**3. Cash Cost of Production:**

	Year 1 (₹)	Year 2 (₹)
Cost of Production as per projected Statement of P&L	6,00,000	7,80,000
Less: Depreciation	1,20,000	1,20,000
Cash Cost of Production	4,80,000	6,60,000
Add: Opening Stock at Average Cost:	--	80,000
Cash Cost of Goods Available for sale	4,80,000	7,40,000
Less : Closing Stock at Avg. Cost $\left(\frac{₹4,80,000 \times 1,000}{6,000}\right) \left(\frac{₹7,40,000 \times 1,500}{10,000}\right)$	(80,000)	(1,11,000)
Cash Cost of Goods Sold	4,00,000	6,29,000

4. Receivables (Debtors)

	Year 1 (₹)	Year 2 (₹)
Cash Cost of Goods Sold	4,00,000	6,29,000
Add : Variable Expenses @ ₹ 4	20,000	34,000
Add : Total Fixed Selling expenses (12,000 units × ₹1)	12,000	12,000
Cash Cost of Debtors	4,32,000	6,75,000
Average Debtors	36,000	56,250

Solution 29:**Workings:****(1) Statement of cost at single shift and double shift working**

	24,000 units		48,000 Units	
	Per unit (Rs)	Total (Rs)	Per unit (Rs)	Total (Rs)
Raw materials	24	5,76,000	21.6	10,36,000
Wages:				
Variable	12	2,88,000	12	5,76,000
Fixed	8	1,92,000	4	1,92,000
Overheads:				
Variable	4	96,000	4	1,92,000
Fixed	16	3,84,000	8	3,84,000
Total cost	64	15,36,000	49.6	23,80,800
Profit	8	1,92,000	22.4	10,75,200
Sales	72	17,28,000	72	34,56,000

$$(2) \text{ Sales in units 2020-21} = \frac{\text{Sales}}{\text{Unit Selling Price}} = \frac{\text{Rs } 17,28,000}{\text{Rs } 72} = 24,000 \text{ units}$$

(3) Stock of Raw Materials in units on 31.3.2021

$$\frac{\text{Value of Stock}}{\text{Cost per unit}} = \frac{\text{Rs } 1,44,000}{\text{Rs } 24} = 6,000 \text{ units}$$

(4) Stock of work-in-progress in units on 31.3.2021

$$\frac{\text{Value of work-in-progress}}{\text{Prime cost per unit}} = \frac{\text{Rs } 88,000}{\text{Rs } (24+20)} = 2,000 \text{ units}$$

(5) Stock of finished goods in units 2020-21

$$\frac{\text{Value of stock}}{\text{Total cost per unit}} = \frac{\text{Rs } 2,88,000}{\text{Rs } 64} = 4,500 \text{ units}$$

Comparative Statement of Working Capital Requirement

	Single Shift (24,000 units)			Double Shift (48,000 units)		
	Units	Rate (Rs)	Amount (Rs)	Units	Rate (Rs)	Amount(Rs)
Current Assets						
Inventories:						
Raw Materials	6,000	24	1,44,000	12,000	21.6	2,59,200
Work-in-Progress	2,000	44	88,000	2,000	37.6	75,200
Finished Goods	4,500	64	2,88,000	9,000	49.6	4,46,400
Sundry Debtors	6,000	64	3,84,000	12,000	49.6	5,95,200
Total Current Assets (A)			9,04,000			13,76,000
Current Liabilities						
Creditors for Materials	4,000	24	96,000	8,000	21.6	1,72,800
Creditors for Wages	2,000	20	40,000	4,000	16	64,000
Creditors for Overheads	2,000	20	40,000	4,000	12	48,000
Total Current Liabilities (B)			1,76,000			2,84,800
Working Capital (A) – (B)			7,28,000			10,91,200

Analysis: Additional Working Capital requirement = Rs 10,91,200 – Rs 7,28,000 = Rs 3,63,200, if the policy to increase output is implemented.