

①

24468

Q.1.A) ① marks each (1x8 = 8 marks)

1) (i)

2) (i)

3) (i)

4) (ii)

5) (i)

6) (i)

7) (ii)

8) (i)

9) (ii)

10) (iv)

Q.1.B) ① marks each (1x7 = 7 marks)

1) False

2) True

3) False

4) True

5) True

6) True

7) True

8) True

9) False

10) True

Receipts			Issues			Balance		
Qty	Rate	Amnt	Qty	Rate	Amnt	Qty	Rate	Amnt
Mar. 1						5000	25	125000
Mar. 3			700	25	17500	4300	25	107500
Mar. 4			1000	25	25000	3300	25	82500
Mar. 8			800	25	20000	2500	25	62500
Mar. 13	2000	24.50	49000			2500	25	62500
						2000	24.50	49000
Mar. 14	150	24	3600			2500	25	62500
	(Return)					2000	24.50	49000
						150	24	3600
Mar. 15			50	25	1250	2450	25	61250
			(Shortage)			2000	24.50	49000
						150	24	3600
Mar. 16			1800	25	45000	650	25	16250
						2000	24.50	49000
						150	24	3600
			Closing Stock			2800	-	68850

Q.2 B) Reordering level =  $\frac{\text{Maximum Consumption} \times \text{Maximum Reorder period}}{2}$

$$= \frac{12000 \times 6}{2}$$

$$= 72000 \text{ units} \quad \left( \frac{1}{2} \text{ marks} \right)$$

2) Minimum stock level =  $\text{Reorder level} - \left( \frac{\text{Normal Consumption} \times \text{Average Reorder period}}{2} \right)$

$$= 72000 - (8000 \times 5)$$

$$= 32000 \text{ units} \quad \left( \frac{1}{2} \text{ marks} \right)$$

3) Maximum stock level =  $\text{Reorder level} + \text{Reorder quantity} - \left( \frac{\text{Minimum Consumption} \times \text{Minimum Reorder period}}{2} \right)$

$$= 72000 + 48000 - (4000 \times 4)$$

$$= 104000 \text{ units} \quad \left( \frac{1}{2} \text{ marks} \right)$$

3

$$4) \text{ Average Stock level} = \frac{\text{Minimum level} + \text{Maximum level}}{2}$$

$$= \frac{32000 + 104000}{2}$$

$$= 68000 \text{ units}$$

2 marks

$$5) \text{ Danger level} = \text{Normal consumption} \times \text{Emergency period}$$

$$= 8000 \times 2$$

$$= 16000 \text{ units}$$

1 1/2 marks

(OR)

$$Q.2.A) \text{ Materials Consumed} = \text{Opening Stock} + \text{Purchases} - \text{Closing Stock}$$

$$\text{Material A} = 700 + 11500 - 200 = 12000$$

$$\text{Material B} = 200 + 11000 - 1200 = 10,000$$

$$\text{Material C} = 1000 + 1800 - 1200 = 1600$$

1 1/2

$$\text{Average Inventory} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

$$\text{Material A} = \frac{700 + 200}{2} = 450$$

$$\text{Material B} = \frac{200 + 1200}{2} = 700$$

$$\text{Material C} = \frac{1000 + 1200}{2} = 1100$$

1 1/2

$$\text{Material turnover ratio} = \frac{\text{Materials Consumed}}{\text{Average Inventory}}$$

$$\text{Material A} = \frac{12000}{450} = 26.67$$

$$\text{Material B} = \frac{10,000}{700} = 14.29$$

3

Material turnover ratio in days =  $\frac{\text{days of the period}}{\text{Inventory turnover ratio}}$

$$\text{material A} = \frac{365}{26.6} = 14 \text{ days}$$

$$\text{material B} = \frac{365}{14.29} = 26 \text{ days}$$

$$\text{material C} = \frac{365}{1.46} = 250 \text{ days}$$

Q.2.B)  $EOQ = \sqrt{\frac{2CP}{Z}}$

C = Annual Consumption

P = Cost of placing an order

Z = Inventory carrying cost

$$EOQ = \sqrt{\frac{2 \times 10,000 \times 50}{8\% \text{ of } 2}}$$

$$= \sqrt{\frac{10,00,000}{0.16}}$$

$$= 2500 \text{ kg}$$

$$\text{No. of order} = \frac{\text{Total consumption p.a.}}{EOQ}$$

$$= \frac{10,000}{2500}$$

$$= 4 \text{ orders}$$

Q.3.A) Primary Overheads Distribution summary

Particulars	Basis	Total	A	B	C	D
Rent	Floor space	2000	750	550	450	250
Maintenance	Cost of machinery	1200	480	360	240	120
Depreciation	Cost of machinery	900	360	270	180	90
Lighting	Floor space	200	75	55	45	25
Insurance	Stock of goods	1000	500	300	200	-
Employers Contribution to PF	D. wages	300	120	90	60	30
Energy	Cost of machinery	1800	720	540	360	180
Supervision	No. of workers	3000	1200	800	600	400
		10400	4205	2965	2135	1095

① marks for each entry (1x8 = 8 marks)

Q.3B) Halsey Plan =  $\text{Time taken} \times \text{Rate per hour} + 50\% \text{ of Time saved}$

Basic wages @ 25 paise per hour for 60 hours =	15
Bonus 50% of time saved	1.87
Dearness allowance @ ₹1 for 8 hours for 60 hours =	7.50
	24.37

3 1/2 marks

Rowan plan =  $\text{Time taken} \times \text{Rate per hour} + \frac{\text{Time saved}}{\text{Time allowed}} \times \text{Time taken} \times \text{Rate per hour}$

Basic wages	15
Bonus	3
Dearness allowance	7.50
	25.50

Q.3.A) Secondary overhead distribution summary

Particulars	Production Departments			Service Departments	
	A	B	C	X	Y
Department overhead as per primary distribution	16000	13000	14000	4000	6000
Department X (4:5:7:4)	800	1000	1400	(4000)	800
Department Y (5:5:8:2)	1700	1700	2720	680	(6800)
Department X (4:5:7:4)	136	170	238	(680)	136
Department Y (5:5:8:2)	34	34	54	14	(136)
Department X (4:5:7:4)	4	4	6	(14)	-
<b>Total</b>	<b>18674</b>	<b>15908</b>	<b>18418</b>	<b>-</b>	<b>-</b>

- ① marks for each entry (1x6 = 6marks)
- ② marks for total

7

Q.3.B) Straight Piece Rate System

$$\text{Earnings} = \text{No. of units} \times \text{Rate per unit}$$

$$\text{Rate} = \frac{\text{₹ } 4}{8} = 50 \text{ paise}$$

$$\begin{aligned} \text{Mr. A} &= 54 \text{ units} \times 0.50 \\ &= \text{₹ } 27 \end{aligned}$$

$$\begin{aligned} \text{Mr. B} &= 75 \text{ units} \times 0.50 \\ &= \text{₹ } 37.50 \end{aligned}$$

Taylor's Differential Piece Rate System

$$\begin{aligned} \text{Standard production in a 9 hours day} &= 8 \times 9 \\ &= 72 \text{ units} \end{aligned}$$

$$\begin{aligned} \text{Low piece rate} &= 0.50 \times \frac{80}{100} \\ &= 0.40 \end{aligned}$$

$$\begin{aligned} \text{High piece rate} &= 0.50 \times \frac{120}{100} \\ &= 0.60 \end{aligned}$$

$$\begin{aligned} \text{Mr. A} &= 54 \text{ units} \times 0.40 \\ &= \text{₹ } 21.60 \end{aligned}$$

$$\begin{aligned} \text{Mr. B} &= 75 \text{ units} \times 0.60 \\ &= \text{₹ } 45 \end{aligned}$$

Q.4) Statement showing particulars of machine hour rate per hour

Fixed Expenses:

Particulars	P.a	Per hour
Rent (780 x 1/5)	156	
Lighting (288 x 2/12)	48	
Insurance	36	
Cotton, waste, oil etc	60	
Foreman's Salary (6000 x 1/4)	1500	
	<u>1800</u>	

Rate per hour  $\left( \frac{\text{₹ } 1800}{1800 \text{ hours}} \right) = \text{₹ } 1$

Variable expenses:

Depreciation  $\left( \frac{9200 - 200}{10} \right) \times \frac{1}{1800} = 0.50$

Repairs  $\left( \frac{1125}{1800 \times 10} \right) = 0.06$

Power (5 units x 0.06) = 0.30

1.86  
③ marks

Q.4.B) 1. Direct labour hour rate =  $\frac{\text{Overheads of Dept}}{\text{labour hours}}$

$$= \frac{62000}{155000} \quad \text{②}$$

= ₹ 0.40 per hour

2 - Direct labour cost =  $\frac{\text{Overheads of the Dept} \times 100}{\text{Direct labour cost}}$

$$= \frac{62000}{100,000} \times 100 \quad \text{②}$$

= 62%



9

$$3. \text{ Machine Hour rate} = \frac{\text{Overheads of the Dept}}{\text{Machine hours}}$$

$$= \frac{62000}{50,000}$$

$$= \text{₹ } 1.24 \text{ per hour}$$

$$4. \% \text{ Prime Cost} = \frac{\text{Overheads of the Dept} \times 100}{\text{Prime Cost}}$$

$$= \frac{62000 \times 100}{300,000}$$

$$= 20.66\%$$

(OR)

$$\% \text{ of Direct Material Cost} = \frac{\text{Overheads}}{\text{D. material}} \times 100$$

$$= \frac{36000}{54000} \times 100$$

$$= 66.67\%$$

$$2) \% \text{ D. wages} = \frac{\text{Overheads}}{\text{Direct wages}} \times 100$$

$$= \frac{36000}{45000} \times 100$$

$$= 80\%$$

3. Labour hour rate =  $\frac{\text{Overheads}}{\text{Labour hours}}$

$$= \frac{36000}{36000}$$

$$= \text{£ } 1 \text{ per hour}$$

4. Machine Hour rate =  $\frac{\text{Overheads}}{\text{Machine Hours}}$  (2)

$$= \frac{36000}{30000}$$

$$= \text{£ } 1.20 \text{ per hour}$$

Comparative Statement of Cost of order (7)

	D. material	D. wages	labour hour rate	machine hour rate
Material	12000	12000	12000	12000
(+) Direct wages	6400	6400	6400	6400
Prime cost	18400	18400	18400	18400
(+) Overheads	8000	5120	6400	5760
Work cost	26400	23520	24800	24160