

Q1 to Q5:

Q1. a

Total requirement of cloth = Total number of shirts × Cloth required per shirt
 = (20 + 30 + 30 + 10 + 10) 1000 × 1.5 = 1,50,000 m.

Q2. b

Total low quality cloth consumed = 1.5 (30% of 30000 + 30% of 30000 + 40% of 10000 + 90% of 10000) = 46,500 m.

Q3. c

Total quantity of high quality cloth consumed by A-type shirts = (80% of 20000) × 1.5 = 24,000 m.

Q4. d

We only know the relationship between the type of shirt and cloth used and type of shirt and dye used. We cannot find any relationship between type of cloth and dye used.

Q5. b

Amount of low quality dye used for C-type shirts = (40% of 30000) = 12,000 units.

Amount of low quality dye consumed by D-type shirts = (60% of 10000) = 6,000 units.

Q6 to Q10 :

Q6.

163.b* Profit = Revenue – Variable Cost – Fixed Cost = Revenue – (Variable Cost + Fixed Cost). If we consider (Fixed Cost + Variable cost) as total cost, then as long as the revenue is higher than the total cost, there is a profit. In case the revenue is less than the total cost there would be a loss. If we are to compile the data given in the question it would be as follows:

Production	Fixed cost (Rs.)	Variable cost (Rs.)	Total cost (Rs.)	Revenue (Rs.)	Profit /loss (Rs.)
9	70	126	196	180	-16
10	70	140	210	200	-10
12	70	168	238	240	+2
20	70	280	350	400	+50
30	70	420	490	600	+110
40	100	560	660	800	+140
50	100	700	800	1,000	+200

Thus, we can say that at a production of 12 units, there is a profit of Rs. 2. Above 12 units there is always a profit and below 12 units there is loss.

Hence, to make sure there is no loss, one has to manufacture a minimum of 12 units.

* The answer is clearly not indeterminate, it should be 12 units, but among the options given the one closest to it is 10 units.

Q7. a

It can be seen that at 20 units there is a profit of Rs. 50. Below this the profit will reduce. Hence, to ensure that the profit is at least Rs. 50, then 20 units have to be manufactured.

Q8. b

Let us verify for the given options.

Production	Fixed cost (Rs.)	Variable cost (Rs.)	Total cost (Rs.)	Revenue (Rs.)	Profit/loss (Rs.)	Profit/unit (Rs.)
25	70	350	420	500	+80	3.20
34	70	476	546	680	+134	3.94
35	100	490	590	700	+110	3.14
40	100	560	660	800	+140	3.50

Hence, we can see that to maximise profit per unit, we need to manufacture 34 units.

Q9 .b

Extending the above table for 45 units, we get

Production	Fixed cost (Rs.)	Variable cost (Rs.)	Total cost (Rs.)	Revenue (Rs.)	Profit/loss (Rs.)	Profit/unit (Rs.)
45	100	630	730	900	+170	3.77

Thus, it can be figured out that still he has to manufacture 34 units.

Q10. b

Referring to the table in question 6, we can see that if the fixed cost increases by Rs. 40, the profit will reduce by Rs. 40. Hence, we can see that at 10 units she will make a loss of Rs. 30 and at 20 units he will make a profit of Rs. 10. Hence, the answer has to be between (b) and (c). Let us verify for them:

Production	Fixed cost (Rs.)	Variable cost (Rs.)	Total cost (Rs.)	Revenue (Rs.)	Profit/loss (Rs.)
15	110	210	320	300	-20
19	110	266	376	380	+4

Thus, we see that to make sure there is no loss, he has to manufacture 19 units.

Solutions Q11 to Q14:

Q11. a

The price changes for each commodity are as follows.

	Ending	Beginning	Difference	Percentage
Arhar	2125	1700	425	25
Pepper	19275	18525	750	4
Sugar	1435	1440	5	-0.3
Gold	3820	4250	330	7.8

The highest price change from the graph and the above is definitely for Arhar.

Q12 C

The price volatility for each individual.

	Highest price	Lowest price	Difference	Average price	PV
Arhar	2300	1500	800	1900	0.42
Pepper	19500	17350	2250	18425	0.12
Sugar	1500	1410	90	1455	0.062
Gold	4300	3800	480	4050	0.12

The price volatility for sugar is least, hence answer choice is (c).

Note: Average price can be calculated by highest price, lowest price, ending and beginning price.

Q13 d

Let us assume Mr X invested Rs. 100 in each commodity.

	Price increase percentage	Income on Rs. 100
Arhar	25	25
Pepper	4	4.0
Sugar	-0.3	-0.3
Gold	-7.8	-7.8
		21.5

∴ His income is Rs. 21.5 on Rs. 400.

$$\therefore \frac{21.5}{400} \times 100 = 5.4\% \text{ profit}$$

Q14 b

As per the table in question 12, the maximum PV is around 40%.