N Solutions- Difficult Test

Solutions for question ١ to ٤:

Udupi (Spinning yarn)

Number of spindles= ٢٠٠٠٠ Production per spindle per year = ١٥٠٠ metres Total satin cloth production = ٢٠٠٠٠ × ١٥٠٠ = ٣٠،٠٠٠،٠٠٠ metres Out of the total ٣٠٪ is exported i.e. ٩،٠٠٠،٠٠٠ metres is exported and rest ٢١،٠٠٠،٠٠٠ is sold domestically.

Also the selling price in domestic market is Rs. ٢٠ and in export market its ٢٠٠٪ more than the domestic
market i.e. Rs. ٦٠ in the export market. The table below sums us the scenario.

Market	Cloth Sold (metres)	Selling Price (Rs.)	Revenue (Rs.)
Do mestic	٢١٠٠٠٠٠٠	٢٠	٤٢٠،٠٠٠،٠٠٠
Export	٩٠٠٠٠٠٠	٦٠	٥٤٠،٠٠٠،٠٠٠
Total	٣٠٠٠٠٠٠٠		٩٦٠،٠٠٠،٠٠٠

Latur (Wool garments)

Quantity of wool procured = ١٥٠٠٠٠٠ pounds
Cost of wool = Rs. ٩٠ per pound
Total cost of wool = Rs. ١٣٥،٠٠٠،٠٠٠
Wool used for one garment = ١.٥ pounds
Number of woolen garments that can be manufactured = ١٠٠٠٠٠٠
Selling price of one garment = Rs. ٢٠٠
Total revenue earned = Rs. ٢٠٠،٠٠٠،٠٠٠
Profit earned = Rs. ٢٠٠٠٠٠٠٠٠ – ١٣٥٠٠٠٠٠٠ = Rs. ٦٥٠٠٠٠٠٠

Waluj (Jeans Shop)

Cost of ١ kilogram of raw material = Rs. ١٠٠٠
Raw material gets waste = ٢٠٪ = ٢٠٠gms.
Raw material available for jeans = ٨٠٠gms.
Number of jeans that can be made = ٤.
Cost of tailoring of ١ jeans = Rs. ١٠٠
Cost of tailoring for ٤ jeans = Rs. ٤٠٠.
Total cost = Rs. ١٠٠٠ + Rs. ٤٠٠ = Rs. ١٤٠٠
Total selling price = Rs. ٣٥٠ × ٤ = Rs. ١٤٠٠

١. (b) Revenue will be ٩٦ crore

٢. (d) As cost is not known، hence profit cannot be calculated.

٣. (a): Profit earned at present = Rs. ٦٥،٠٠٠،٠٠٠
New cost of wool = Rs. ١٢٠ per pound. So the total cost is now Rs. ١٨٠،٠٠٠،٠٠٠. As the revenue is same
hence the new profit will be Rs. ٢٠،٠٠٠،٠٠٠. So there is decrease of Rs. ٤٥،٠٠٠،٠٠٠ which is a ٧٠٪
decrease approx.

٤. (a): Total satin cloth production = ٢٠٠٠٠ × ١٥٠٠ = ٣٠،٠٠٠،٠٠٠ metres
If only ٨٠٪ production is then satin cloth = ٢٤،٠٠٠،٠٠٠ metres
Out of this ٣٠٪ production is exported = ٧،٢٠٠،٠٠٠ metres.
So، total revenue will be now = Rs. ٤٣٢،٠٠٠،٠٠٠
The revenue with full production is Rs. ٥٤٠،٠٠٠،٠٠٠
Hence، there is a decrease of ٢٠٪.

Short cut method: If production decreases by x% then be it domestic or export the quantity will decrease by ٢٠% as the both are a part of total production. And as price is constant so revenue change will be same as the production change.

Solutions for question ٥ to ٨:

٥. (b): We need to find the total trade by P٣ Total trade by P٣ = total exports by P٣ + total imports by P٣. To find the total exports we will see the row of P٣, those will be the total exports. While the imports will be the exports of others to P٣, so if we see all the values of row of P٣ then that will total up to his imports.

Total trade by P٣ = (total exports) + (total imports)

= (١٧ + ٩ + ١٥ + ٧ + ٢٤) + (٤٠ + ٣٥ + ٢٨ + ٥٣ + ٥٧)

= ٢٨٥

Now to find the total trade between P٣ and P٢ we will add the exports of P٣ to P٢ and exports of P٢ to P٣ (imports of P٣ from P٢). The value comes out to be = ٩ + ٣٥ = ٤٤

As we know in a pie total angle is ٣٦٠ degree. So total trade of ٢٨٥ it ٣٦٠ degrees. So the angle subtended

٦. at center by total trade of P٣ and P٢ is

(d).

Player ١	Player ٢	Export of Player ١ to ٢	Export of Player ٢ to ١	Winner
P١	P٢	٥٠	٣٥	P١
P١	P٤	٤٠	١٧	P١
P١	P٤	٤٤	٧٠	P٤
P١	P٥	٥٧	٩٨	P٥
P١	P٦	٦٨	٣٥	P١
P٢	P٣	٣٥	٩	P٢
P٢	P٤	٥٨	٣٢	P٢
P٢	P٥	٤٣	٦٤	P٥
P٢	P٦	٥٩	٢٥	P٢
P٣	P٤	١٥	٢٨	P٤
P٣	P٥	٧	٥٣	P٥
P٣	P٦	٢٤	٥٧	P٦
P٣	P٥	٦٨	٤٥	P٤
P١	P٦	٣٥	٦٢	P١
P٥	P٦	٥٢	٣٥	P٥

Rank	Player	Number of times Winner	Points
١	P٥	٤	٨
٢	P١	٣	٦

٢	P٢	٣	٦
٢	P٤	٣	٦
٤	P٦	٢	٤
٥	P٣	٠	٠

We cannot determine the answer as there is a tie between٣ players and we do not know how to break that tie.

٧. ٨(d) : From the table above.

Solution for questions ٨ to ١٢:

(a) : From the table above.

According to the information given let us first see few formulas and then we can draw a table for revenues، profits، cash surplus and cumulative stock at end of each year.

Total production cost = Fixed Cost + (Cost of each unit of body × ٢ × production) + (Cost of each unit of engine × ٣ × production)

Total revenues = Selling Price × Sales

Cumulative Stock = (Cumulative Stock of previous year + Production – Sales)

Cash Surplus = (Cash Surplus of previous year + Revenue – Cost)

Also they have a cash surplus of ١٠ million and there is no cumulative stock at the starting of year ٢٠٠١.

Note:

CS Cumulative Stock (year end)

TPC Total Production Cost (in millions)

TSR Total Selling Revenues (in millions)

TP Total Profit at end of year (in millions)

CSP Case Surplus (in millions)

Years	CS	TPC	TSR	TP	CSP
٢٠١١	٣٠٠٠	١٩٥	٢٤٠	٤٥	٥٥
٢٠١٢	٦٠٠٠	٢٣٤	٢٠٠	−٣٤	٢١
٢٠١٣	٤٠٠٠	٤٢٥	٤٨٤	٥٩	٨٠
٢٠١٤	٧٠٠٠	٤٢٣.٤	٣٤٥	−٧٨.٤	١.٦
٢٠١٥	٨٠٠٠	٥٧١.٢٥	٥٧٦	٤.٧٥	٦.٣٥
٢٠١٦	١٠٠٠	٤٦٦	٥٧٠	١٠٤	١١٠.٣٥
٢٠١٧	٣٠٠٠	٤٦٤	٤٢٠	−٤٤	٦٦.٣٥
٢٠١٨	٦٠٠٠	٤٨٠	٤٢٠	−٦٠	٦.٣٥
٢٠١٩	٧٠٠٠	٤٢٢.٢	٤٢٠	−٢.٢	٤.١٥
٢٠٢٠	٣٠٠٠	٣٥٣.٧٥	٥٣٢	١٧٨.٢٥	١٨٢.٤

٩. (b):

١٠. (a)

١١. (c):

Years	Cumulative Stock (year end)	Percentage Change
٢٠١١	٣٠٠٠	NA
٢٠١٢	٦٠٠٠	١٠٠.٠٠٪
٢٠١٣	٤٠٠٠	−٣٣.٣٣٪
٢٠١٤	٧٠٠٠	٧٥.٠٠٪
٢٠١٥	٨٠٠٠	١٤.٢٩٪
٢٠١٦	١٠٠٠	−٨٧.٥٠٪
٢٠١٧	٣٠٠٠	٢٠٠.٠٠٪
٢٠١٨	٦٠٠٠	١٠٠.٠٠٪
٢٠١٩	٧٠٠٠	١٦.٦٧٪
٢٠٢٠	٣٠٠٠	−٥٧.١٤٪

١٢. (b):

Years	Cash Balance Status	Percentage Change
٢٠١١	٥٥	٤٥٠.٠٠٪
٢٠١٢	٢١	−٦١.٨٢٪
٢٠١٣	٨٠	٢٨٠.٩٥٪
٢٠١٤	١.٦	−٩٨.٠٠٪
٢٠١٥	٦.٣٥	٢٩٦.٨٨٪
٢٠١٦	١١٠.٣٥	١٦٢٧.٨٠٪
٢٠١٧	٦٦.٣٥	−٣٩.٨٧٪
٢٠١٨	٦.٣٥	−٩٠.٤٣٪
٢٠١٩	٤.١٥	−٣٤.٦٥٪
٢٠٢٠	١٨٢.٤	٤٢٩٥.١٨٥

Solution for question ١٣ to ١٦:

١٣. (d):

	Day ١	Day ٢	Day ٣	Day ٤	Day ٥
Start Price	١٠٠	٩٠	١٠٠	١١٠	١٢٠
End Price	٩٠	٨٠	١١٠	١٢٠	١١٠

Let initial amount with T١ and T٢ is Y.
Total money with T١ = Y – ٩٠٠ + ١٠٠٠ + ١١٠٠ + ١٢٠٠ – ١١٠٠ = Y + ١٣٠٠
Total money with T٢ = Y + ١٢٠٠
Therefore difference between T١ and T٢ is Rs. ١٠٠ and Number of shares with T٢ and T١ is same.

١٤. (b):

	Day ١	Day ٢	Day ٣	Day ٤	Day ٥
Start Price	١٠٠	٩٠	١٠٠	١١٠	١٠٠
End Price	٩٠	١٠٠	١١٠	١٠٠	١٠٠

Let initial amount with T١ and T٢ is Y.
Total Money with T١ = Y – ٩٠٠ + ١٠٠٠ + ١١٠٠ + ١٢٠٠ – ١١٠٠ = Y + ١٣٠٠
Total money with T٢ = Y
Therefore, T١ ended up with Rs. ١٣٠٠ more cash than T٢.
Therefore at the end of day ٤ the price of share is Rs. ١٠٠.

١٥. (d):

	Day ١	Day ٢	Day ٣	Day ٤	Day ٥
Start Price	١٠٠	١١٠	١٢٠	١٣٠	١٢٠
End Price	١١٠	١٢٠	١٣٠	١٢٠	١١٠

Let initial amount with T١ and Michal is .
T١ sold shares on Day ١, Day ٢, Day ٣, whereas buys shares on Day ٤ and Day ٥.
Total money with T١ is = Y + ١١٠ × ١٠ + ١٢٠ × ١٠ + ١٣٠ × ١٠ – ١٢٠ × ١٠ – ١١٠ × ١٠ = Y + ١٣٠٠
Total money with T٢ = Y + ١٢٠٠
Total money with T٢ = Y + ١٢٠ × ١٠ + ١٣٠ × ١٠ + ١٢٠ × ١٠ = Y + ٣٧٠٠
Total money with T٢ & T١ = ٢Y + ٥٠٠٠.
Therefore maximum possible increase is ٥٠٠٠.

١٦. (a):

	Day ١	Day ٢	Day ٣	Day ٤	Day ٥
Start Price	١٠٠	٩٠	٨٠	٩٠	١٠٠
End Price	٩٠	٨٠	٩٠	١٠٠	١١٠

Assume initial numberofsharewithT١ and T٢ is XIn the above table T١ by ١٠ share each on day ١، day ٢ and sold ١٠ sharesandday٣، day٤and day ٥.
Total share with T١isX–١٠.
In the above T٢ buyshareonlyonday٢.
Total shares with T٢isX+١٠.
T٢ had ٢٠ shares morethanT١.

Therefore at the end of day٣thepriceofshare is Rs. ٩٠.

Solutions for questions١٦to٢٠:

States	Firm – A	Firm – B	Firm – C	Firm – D
S١	٤٩	٨٢	٨٠	٥٥
S٢	٦٩	٧٢	٧٠	٦٥
S٣	٧٢	٦٣	٧٢	٦٥
Total	١٩٠	٢١٧	٢٢٢	١٨٥

١٧. (b) : As F٣. has highest market share hence Truthful Ltd. can be A or C. From neutral statement either B and C are aggressive and honest or A and D are aggressive and honest. According to statement (I)، B is profitable،then A and D are aggressive and honest. Then honest total revenue cannot be more than that of profitable، hence statement (II) is false.

١٨. (c) : According to statement (I) aggressive is (B). Then F١. has to be C (as given in neutral statement). Then statement (II) is also true، F١'s lowest revenue is from Bihar.

١٩. (c) : B is honest according to Statement (I) Atmost only one statement can be true as both give Aggressive and Honest as firm B. Firm B cannot have two names.

٢٠. (c): Profitable can be either A or D. Then aggressive and honest has to be B and C. Hence، truthful is A or D. And for both A and D lowest revenue is from S١

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