Humital Problem Solving Set-1

1. What is the formula to calculate total infant mortality in the year?

   Infant death rate = No of deaths of infants per 1000 births
   Infant birth rate = No of births per 1000 people

   a. Total infant mortality = (Infant death rate) * (population at start of year)
   b. Total infant mortality = (Infant death rate) * (population at start of year) * (Infant death rate)
   c. Total infant mortality = (Infant death rate) * (Infant birth rate) * (population at start of year)
   d. None of the above

2. Which metric best defines profitability?
   a. Profits in the period
   b. Profit per unit of product sold
   c. Revenues – Cost for the period
   d. Rate of increase in sales for the period

3. Which defines probability of occurrence an event best?
   a. Number of favorable outcomes / Number of unfavorable outcomes
   b. Number of un-favorable outcomes / Number of favorable outcomes
   c. Number of favorable outcomes / Number of total outcomes
   d. Number of un-favorable outcomes / Number of total outcomes

4. To calculate the profits generated for a company what all information is required at the minimum:
   a. Product Mix,
      Geography in which each SKU sold
      Cost of production of each SKU,
      Unit Sales Price of each SKU,
      Total quantity sold,
      Units Sold of each SKU,

   b. Cost of production of each SKU,
      Unit Sales Price of each SKU,
      Units Sold of each SKU,

   c. Product Mix,
      Geography in which each SKU sold
      Cost of production of each SKU,
      Unit Sales Price of each SKU,
      Total quantity sold,

d. Product Mix,
   Cost of production of each SKU,
   Unit Sales Price of each SKU,
   Total quantity sold,

5. Calculate the GMV for Clipdart:

   No of units sold: 10,000

   Sourcing Cost of each unit: Rs 200

   MRP of each unit: Rs 500

   Sales price of each unit: Rs 210

   Transportation cost (Delivery to customer):

% of total units sold	15%	20%	20%	25%	20%
Transportation Cost per unit	Rs 200	Rs 250	Rs 300	Rs 90	Rs 5

Assume there are no other costs.

a. Rs 500
b. Rs 5,000,000
c. Rs 3,000,000
d. Rs 1,365,000

6. Calculate the Revenues for Clipdart:

   No of units sold: 10,000

   Sourcing Cost of each unit: Rs 200

   MRP of each unit: Rs 500

   Sales price of each unit: Rs 210

   Transportation cost (Delivery to customer):

% of total units sold	15%	20%	20%	25%	20%
Transportation Cost per unit	Rs 200	Rs 250	Rs 300	Rs 90	Rs 5

Assume there are no other costs.

a. Rs 210
b. Rs 5,000,000
c. Rs 100,000
d. Rs -1,535,000

7. Calculate the Profits for Clipdart:

No of units sold: 10,000

Sourcing Cost of each unit: Rs 200

Sales price of each unit: Rs 500

Transportation cost (Delivery to customer):

% of total units sold	15%	20%	20%	25%	20%
Transportation Cost per unit	Rs 200	Rs 250	Rs 300	Rs 90	Rs 5

Assume there are no other costs.

a. Rs – 1,535,000
b. Rs 100,000
c. Rs 3,000,000
d. Rs 1,365,000

8. Calculate the Lifetime value of the customer A:

Acquisition cost: Rs 100

Annual purchase done by the customer: Rs 40

Number of years the customer remains loyal to you: 3 years

Use simple CLV formula

a. Rs. 20
b. Rs. 120
c. Rs. 100
d. Rs. 220

9. What is the change in costs for the business:

For 1000 units sold	Year 2017	Year 2018
Revenues	Rs 50,000	Rs 65,000
Marketing Cost	Rs 10,000	Rs 15,000
Sales & service cost	Rs 5,000	Rs 7,000
Interest paid on loans	Rs 30,000	Rs 20,000
R&D Cost	Rs 10,000	Rs 10,000

a. -10%
b. 15%
c. -5%
d. 5%

10. Which is the major contributor for improvement in business profits in 2018:

For 1000 units sold	Year 2017	Year 2018

Revenues	Rs 50,000	Rs 65,000
Marketing Cost	Rs 10,000	Rs 15,000
Sales & service cost	Rs 5,000	Rs 7,000
Interest paid on loans	Rs 30,000	Rs 20,000
R&D Cost	Rs 10,000	Rs 15,000

a. Loans
b. Sales price
c. R&D cost
d. Sales & Service Cost

11. To calculate the customer retention rate, what all data is required at the minimum:
    a. No of customers acquired during the period, lost during the period & total customers at the start of period
    b. No of customers acquired during the period, revenue per customer, lost during the period & total customers at the start of period
    c. No of customers acquired during the period, profits per customer, lost during the period & total customers at the start of period
    d. No of customers lost in the period & total customers at the start of period
12. What is the relationship between churn rate & retention rate:
    a. Churn rate = 1 – Retention rate
    b. Churn rate 1/retention rate
    c. Churn rate = (retention rate – acquisition rate)
    d. Churn rate = acquisition rate
13. What are the revenues for the company Y with the following product Mix:

Product	Shoes	Shirts	Trousers	Socks	Wrist-Bands
Unit Sales Price (Rs)	4000	1000	1200	300	200
Direct Manufacturing cost (Rs)	2000	600	800	200	150
Units Produced	10,000	5000	4000	6000	2000
Units Sold	6000	6000	4000	7000	2000
Opening Stock	5000	1000	1000	2500	0
Damaged Stock	500	0	100	300	0
Damaged stock sale value	500	200	400	100	10
Damage Stock sold	100%	0%	100%	100%	0%
Excess stock holding cost	100	40	40	40	10
Fixed Overheads (Rs)	100,000				

a. 36,900,000
b. 37,300,000
c. 52,000,000
d. 37,620,000

14. What is the amount of excess stock for shoes:

Product	Shoes	Shirts	Trousers	Socks	Wrist-Bands

Unit Sales Price (Rs)	4000	1000	1200	300	200
Direct Manufacturing cost (Rs)	2000	600	800	200	150
Units Produced	10,000	5000	4000	6000	2000
Units Sold	6000	6000	4000	7000	2000
Opening Stock	5000	1000	1000	2500	0
Damaged Stock	500	0	100	300	0
Damaged stock sale value	500	200	400	100	10
Damage Stock sold	100%	0%	100%	100%	0%
Excess stock holding cost	100	40	40	40	10
Fixed Overheads (Rs)	100,000				

a. 1200
b. 9000
c. 8500
d. 11000

15. What are the profits for the company Y with the following product Mix:

Product	Shoes	Shirts	Trousers	Socks	Wrist-Bands
Unit Sales Price (Rs)	4000	1000	1200	300	200
Direct Manufacturing cost (Rs)	2000	600	800	200	150
Units Produced	10,000	5000	4000	6000	2000
Units Sold	6000	6000	4000	7000	2000
Opening Stock (units)	5000	1000	1000	2500	0
Damaged Stock (units)	500	0	100	300	0
Damaged stock sale value per unit	500	200	400	100	10
Damage Stock sold	100%	0%	100%	100%	0%
Excess stock holding cost per unit	100	40	40	40	10
Fixed Overheads (Rs)	100,000				

For the question, calculate the accounting profits (i.e. manufacturing cost of goods that are sold in the period is only recognized)

a. 15,880,000
b. 14,946,000
c. 37,300,000
d. 52,000,000