CAT 2024 Slot 3 DILR Question Paper with Solution

Read the Passage carefully and Answer the following qusestions.
An air conditioner (AC) unit has three operating modes: Eco, Normal, and Turbo. The power consumption in each mode is as follows: Eco mode consumes 1000 watts, Normal mode consumes 1200 watts, and Turbo mode consumes 1500 watts. Yesterday, the AC was in operation from 2 PM to 10 PM. From 2 PM to 6 PM it ran in Eco mode. From 6 PM to 8 PM, it ran in Normal mode. From 8 PM to 10 PM it ran in Turbo mode.

Questions:
1. What is the total energy consumed by the AC in Eco mode (in kilowatt-hours)?
(1) 4 kWh
(2) 0.4 kWh
(3) 40 kWh
(4) 0.04 kWh

Correct Answer: (1) 4 kWh

Solution:
Time in Eco mode = 6 PM - 2 PM = 4 hours.
Energy consumed in Eco mode = Power $\times$ Time = 1 kW $\times$ 4 h = 4 kWh

2. What is the total energy consumed by the AC in Normal mode (in kilowatt-hours)?
(1) 2.4 kWh
(2) 24 kWh
(3) 0.24 kWh
(4) 240 kWh

Correct Answer: (1) 2.4 kWh

Solution:
Time in Normal mode = 8 PM - 6 PM = 2 hours.
Energy consumed in Normal mode = 1.2 kW $\times$ 2 h = 2.4 kWh

3. What is the total energy consumed by the AC in Turbo mode (in kilowatt-hours)?
(1) 5 kWh
(2) 0.5 kWh
(3) 50 kWh

(4) 0.05 kWh

Correct Answer: (2) 0.5 kWh

Solution:
Time in Turbo mode = 10 PM - 8 PM = 2 hours.
Energy consumed in Turbo mode = 1.5 kW × 2 h = 3 kWh = 0.5 kWh

4. What is the total energy consumption for the entire 8 hours of operation (in kilowatt-hours)?
(1) 6.9 kWh
(2) 69 kWh
(3) 0.69 kWh
(4) 690 kWh
Correct Answer: (1) 6.9 kWh

Solution:
Total energy consumption = 4 kWh + 2.4 kWh + 0.5 kWh = 6.9 kWh

5. If the cost of electricity is 8 per kilowatt-hour, what was the total cost of running the AC yesterday?
(1) 55.20
(2) 552
(3) 5.52
(4) 5520
Correct Answer: (1) 55.20

Solution: Total cost = Total energy consumption × Cost per kWh = 6.9 kWh × 8/kWh = 55.20

Read the Passage carefully and Answer the following qusestions

A health food store specializing in dietary supplements and whole grains recorded the following sales figures (in kilograms) for various food categories last month: Millets (M) = 500 kg at a cost price of 40/kg and selling price of 50/kg; Protein supplements (P) = 300 kg at a cost price of 80/kg and selling price of 100/kg; Vitamin supplements (V) = 200 kg at a cost price of 60/kg and selling price of 80/kg; Carbohydrates (C) = 600 kg at a cost price of 80/kg and selling price of 100/kg; Fats (F) = 100 kg at a cost price of 120/kg and selling price of 150/kg. Additionally, they sold 50 kg of mixed nuts (N) at a cost price of 100/kg and a selling price of 130/kg.

Questions:
6. What is the total weight (in kg) of Millets and Carbohydrates sold last month?
(1) 700 kg
(2) 1100 kg
(3) 500 kg
(4) 600 kg

Correct Answer: (2) 1100 kg

Solution: Total weight of Millets and Carbohydrates = 500 kg + 600 kg = 1100 kg

7. What was the total revenue (in) from the sales of Millets and Protein supplements?
(1) 25000
(2) 80000
(3) 55000
(4) 35000
Correct Answer: (3) 55000

Solution: Revenue from Millets = 500 kg × 50/kg = 25000.
Revenue from Protein supplements = 300 kg × 100/kg = 30000.
Total revenue = 25000 + 30000 = 55000

8. What was the total profit (in) earned from the sale of Vitamin supplements?
(1) 2000
(2) 4000
(3) 6000
(4) 8000
Correct Answer: (2) 4000

Solution: Profit per kg of Vitamin supplements = 80/kg - 60/kg = 20/kg.
Total profit = 200 kg × 20/kg = 4000

9. What was the total cost (in) of the Carbohydrates and Fats purchased by the store?
(1) 60000
(2) 72000
(3) 48000
(4) 12000
Correct Answer: (2) 72000

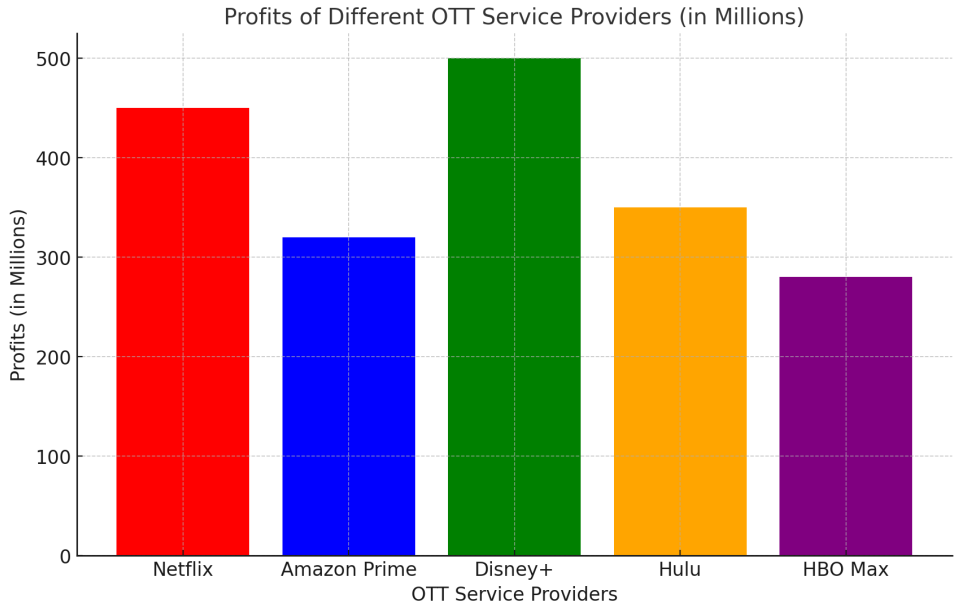
Solution: Cost of Carbohydrates = 600 kg × 80/kg = 48000. Cost of Fats = 100 kg × 120/kg = 12000.
Total cost = 48000 + 12000 = 60000

10. What percentage of the total revenue was generated by the sale of Mixed Nuts?
(1) 7%
(2) 5%
(3) 9%
(4) 10%
Correct Answer: (2) 5%

Solution: Revenue from Mixed Nuts = 50 kg × 130/kg = 6500.
Total Revenue = 25000 + 30000 + 4000 + 60000 + 15000 + 6500 = 136500.

Percentage from Mixed Nuts = (6500 / 136500) × 100% = 4.76%
= 5%

Analyse the bar graph carefully and Answer the following qusestions.



11. Which OTT service provider has the highest profit?
A) Netflix
B) Amazon Prime
C) Disney+
D) Hulu

Answer: (C) Disney+
Solution: From the bar graph, Disney+ has the highest profit at 500 million.

12. What is the total profit of Netflix and Amazon Prime combined?
A) 750 million
B) 770 million
C) 780 million
D) 800 million

Answer: (B) 770 million
Solution: Total profit of Netflix and Amazon Prime = 450 million + 320 million = 770 million.

13. How much more profit did Netflix make compared to Hulu?
A) 100 million
B) 120 million
C) 150 million
D) 170 million

Answer: (B) 120 million

Solution: Profit difference between Netflix and Hulu = 450 million - 350 million = 120 million.

14. Which OTT service provider has the least profit?
A) Netflix
B) Amazon Prime
C) Hulu
D) HBO Max

Answer: (D) HBO Max
Solution: From the bar graph, HBO Max has the least profit at 280 million.

15. What is the average profit of all the OTT service providers?
A) 370 million
B) 380 million
C) 390 million
D) 400 million
Answer: (A) 370 million
Solution: Average profit = (450 + 320 + 500 + 350 + 280) / 5 = 1900 / 5 = 370 million.