Tutorial 7 (Week 8): Understanding FS – Inventories

(a) What types of inventories does SBS Transit hold, and what costing method does it use in determining the cost of inventories? For the year 2024, how much inventory expense did SBS Transit record in its Income Statement, and under what type of expense classification was it reported?

SBS Transit uses the weighted average method for its costs of its inventories (Note 2.7).

It recorded $140,337,000 of inventory expense in its Income Statement for the year 2024, which is recorded as part of its Repairs and Maintenance Costs (Note 21).

21. OPERATING PROFIT

	Group	
	2024	2023
	$'000	$'000
Directors' fees	998	995
Cost of inventories recognised in repairs and maintenance costs	140,337	139,042
Net loss on disposal of vehicles, premises and equipment	188	93
Allowance for inventory obsolescence	7,371	8,363
Allowance for expected credit losses	108	5
Provision for accident claims	3,781	2,641
Provision/(Write-back) for service benefits	747	(136)
Provision for reinstatement and maintenance costs	1,423	1,745
Audit fees:		
Auditor of the Company	266	253
Non-audit fees:		
Auditor of the Company	13	8

(b) Assume that at the start of 2024, SBS Transit had 6,250 units of spare part Z in beginning inventory valued at $10 million. During the year, the company made monthly purchases of 500 units (total 6,000 units). Purchase prices of spare part Z had declined steadily over the year, and by the year end they were about 30% lower than at the beginning of the year. During 2024, 5,700 units of spare part Z were consumed.

    (i)   Assuming SBS Transit is on the ***periodic*** inventory system, estimate and compare the effect on ending inventory and reported profit under (1) FIFO, and (2) weighted average cost.

    (ii)   Assuming SBS Transit is on the ***perpetual*** inventory system, estimate and compare the effect on ending inventory and reported profit under (1) FIFO, and (2) weighted average cost.

Clearly state all assumptions you make.

Assumptions:

- *Prices decline steadily over the year at a linear rate, such that prices in December is 30% lower than that of January. Refer to table below on purchase cost per month:*

	Units	Cost	Total
Beg Inventory	6,250	$1,600	$10,000,000
Purchases:			
January	500	$1,560	$780,000
February	500	$1,520	$760,000
March	500	$1,480	$740,000
April	500	$1,440	$720,000
May	500	$1,400	$700,000
June	500	$1,360	$680,000
July	500	$1,320	$660,000
August	500	$1,280	$640,000
September	500	$1,240	$620,000
October	500	$1,200	$600,000
November	500	$1,160	$580,000
December	500	$1,120	$560,000

- *For periodic system, COGS is calculated at the end of the year.*
- *Purchases are made at the beginning of each month.*
- *Sales are made at the end of each month. The 5,700 units sold in 2024 are assumed to be sold equally over the year (i.e. 475 units sold every month)*

(i) Periodic System

(1) FIFO

	Units	Cost	Total
Goods Available for Sale	12,250		$18,040,000
Cost of Goods Sold	(5,700)	$1,600	(9,120,000)
Ending Inventory	6,550		$8,920,000

(2) Weighted Average

	Units	Cost	Total
Average cost of Inventory	12,250	$1,473	$18,040,000
Cost of Goods Sold	(5,700)	$1,473	(8,394,122)
Ending Inventory	6,550		$9,645,878

Under the periodic system, in periods of declining cost, FIFO will yield a much higher COGS than the weighted-average method. Net profit under FIFO will be lower as a result.

(ii) Perpetual System

(1) FIFO

	Units	Cost	Total
Goods Available for Sale	12,250		$18,040,000
Cost of Goods Sold	(5,700)	$1,600	(9,120,000)
Ending Inventory	6,550		$8,920,000

(2) Weighted Average

Date	Beginning Inventory and Goods Purchased			(Inventory Sold) COGS			Inventory Balance		
	Unit	Price	Amount	Unit	Price	Amount	Unit	Price	Amount
Beg Bal	6,250	1,600	10,000,000				6,250	1,600.00	10,000,000.00
January	500	1,560	780,000				500	1,560.00	780,000.00
							6750	*1,597.04*	*10,780,000.00*
				475	1,597.04	758,592.58	6,275	1,597.04	10,021,407.43
February	500	1,520	760,000				500	1,520.00	760,000.00
							6775	*1,591.35*	*10,781,407.43*
				475	1,591.35	755,892.03	6,300	1,591.35	10,025,515.39
March	500	1,480	740,000				500	1,480.00	740,000.00
							6800	*1,583.16*	*10,765,515.39*
				475	1,583.16	752,002.90	6,325	1,583.16	10,013,512.49
April	500	1,440	720,000				500	1,440.00	720,000.00
							6825	*1,572.68*	*10,733,512.49*
				475	1,572.68	747,021.02	6,350	1,572.68	9,986,491.48
May	500	1,400	700,000				500	1,400.00	700,000.00
							6850	*1,560.07*	*10,686,491.48*
				475	1,560.07	741,034.20	6,375	1,560.07	9,945,457.28
June	500	1,360	680,000				500	1,360.00	680,000.00
							6875	*1,545.52*	*10,625,457.28*
				475	1,545.52	734,122.50	6,400	1,545.52	9,891,334.77
July	500	1,320	660,000				500	1,320.00	660,000.00
							6900	*1,529.18*	*10,551,334.77*
				475	1,529.18	726,360.03	6,425	1,529.18	9,824,974.75
August	500	1,280	640,000				500	1,280.00	640,000.00
							6925	*1,511.19*	*10,464,974.75*
				475	1,511.19	717,814.15	6,450	1,511.19	9,747,160.60
September	500	1,240	620,000				500	1,240.00	620,000.00
							6950	*1,491.68*	*10,367,160.60*
				475	1,491.68	708,547.05	6,475	1,491.68	9,658,613.55
October	500	1,200	600,000				500	1,200.00	600,000.00
							6975	*1,470.77*	*10,258,613.55*
				475	1,470.77	698,615.26	6,500	1,470.77	9,559,998.29
November	500	1,160	580,000				500	1,160.00	580,000.00
							7000	*1,448.57*	*10,139,998.29*
				475	1,448.57	688,071.23	6,525	1,448.57	9,451,927.06
December	500	1,120	560,000				500	1,120.00	560,000.00
							7025	*1,425.19*	*10,011,927.06*
				475	1,425.19	676,963.04	6,550	1,425.19	9,334,964.02
Total	**12,250**		**18,040,000**	**5700**		**8,705,035.98**	**6,550**		**9,334,964.02**

(c) Did SBS Transit record a write down of inventories due to obsolescence in the year 2024? If so, what journal entry would SBS Transit have recorded for the write-down? How does SBS Transit determine inventory obsolescence?

It recorded a write down of inventories due to obsolescence in the amount of $7,371,000 in 2024 (Note 21).

Journal entry for write down:

Dr.   Write down of Inventory Obsolescence $7,371,000

      Cr.   Allowance for Inventory obsolescence $7,371,000

Refer to Note 3.2 (b) for SBS Transit method of determining inventory obsolescence:

(b)   Allowance for inventory obsolescence

The Group's inventories comprised mainly parts, accessories and consumable stock required for the operation and maintenance of vehicles and equipment used in the Group's Public Transport Services segment.

Management identifies and provides for obsolete inventories based on considerations such as phasing out of vehicle models and inventories purchased for specific projects which have ended. For inventories that are still held for operations, Management considers economic obsolescence risk due to the limited timeframe for cost recovery from the related train or bus service revenues, which is expected to end by the expiry of the current licence agreement or the useful of the buses respectively. Consequently, Management has estimated the obsolescence allowance by adopting a systematic straight-line write-down for spares that are aged 2 years and above till the end of the licence period or useful life of the buses.

(d) If you are an auditor reviewing SBS Transit's inventory obsolescence allowance, what types of evidence would you request to assess whether the allowance is reasonable? If you suspect management has overstated the allowance, what possible motives might they have for doing so, and how would it affect reported profits?

An auditor reviewing SBS Transit's inventory obsolescence allowance might request the following (but not limited to) evidence:

- License agreements
- Historical data (both forecasted and actual consumption) of inventory items
- Physical inspection of inventory items

If management overstates the allowance, the motive might be to create a "cookie-jar" reserve in order to smooth profits in the future. Overstating allowance would cause a reduction in reported profits in the year of overstatement, and may subsequently inflate future profits in the year the unused provisions are reversed.

~ End of Tutorial 7 ~