

AS 28 IMPAIRMENT OF ASSETS

Illustration 1

Ergo Industries Ltd. gives the following estimates of cash flows relating to Property, Plant and Equipment on 31-12-20X1. The discount rate is 15%.

Year Cash	Flow (₹ in lakhs)
20X2	4000
20X3	6000
20X4	6000
20X5	8000
20X6	4000

Residual value at the end of 20X6 = ₹ 1000 lakhs

Property, Plant and Equipment purchased on 1-1-20XX = ₹ 40,000 lakhs

Useful life = 8 years

Net selling price on 31-12-20X1 = ₹ 20,000 lakhs

Calculate on 31-12-20X1:

- Carrying amount at the end of 20X1
- Value in use on 31-12-20X1
- Recoverable amount on 31-12-20X1
- Impairment loss to be recognized for the year ended 31-12-20X1
- Revised carrying amount
- Depreciation charge for 20X2.

Note: The year 20XX is the immediate preceding year before the year 20X0.

Solution

Calculation of value in use

Year	Cash Flow	Discount as per 15%	Discounted cash flow
20X2	4,000	0.870	3,480
20X3	6,000	0.756	4,536
20X4	6,000	0.658	3,948
20X5	8,000	0.572	4,576
20X6	4,000	0.497	1,988
20X6	(residual) 1,000	0.497	<u>497</u>
			<u>19,025</u>

(a) Calculation of carrying amount:

Original cost = ₹ 40,000 lakhs

Depreciation for 3 years = $[(40,000 - 1000) \div 8] = ₹ 14,625$ lakhs

Carrying amount on 31-12-20X1 = $[40,000 - 14,625] = ₹ 25,375$ lakhs

(b) Value in use = ₹ 19,025 lakhs

(c) Recoverable amount = higher of value in use and net selling price i.e.

₹ 20,000 lakhs.

Recoverable amount = ₹ 20,000 lakhs

(d) Impairment Loss = ₹ (25,375-20,000) = ₹ 5,375 lakhs

(e) Revised carrying amount = ₹ (25,375-5,375) = ₹ 20,000 lakhs

(f) Depreciation charge for 20X2 = (20,000-1000)/5 = ₹ 3,800 lakhs

Illustration 2

X Ltd. is having a plant (asset) carrying amount of which is ₹ 100 lakhs on 31.3.20X1. Its balance useful life is 5 years and residual value at the end of 5 years is ₹ 5 lakhs. Estimated future cash flow from using the plant in next 5 years are:

For the year ended on	Estimated cash flow (₹ in lakhs)
31.3.20X2	50
31.3.20X3	30
31.3.20X4	30
31.3.20X5	20
31.3.20X6	20

Calculate “value in use” for plant if the discount rate is 10% and also calculate the recoverable amount if net selling price of plant on 31.3.20X1 is ₹ 60 lakhs.

Solution

Present value of future cash flow

Year ended	Future Cash Flow	Discount @ 10% Rate	Discounted cash flow
31.3.20X2	50	0.909	45.45
31.3.20X3	30	0.826	24.78
31.3.20X4	30	0.751	22.53
31.3.20X5	20	0.683	13.66
31.3.20X6	20	0.620	<u>12.40</u>
			118.82
Present value of residual price on 31.3.20X6 = 5 x 0.620			<u>3.10</u>
Present value of estimated cash flow by use of an asset and residual value, which is called “value in use”.			<u>121.92</u>

If net selling price of plant on 31.3.20X1 is ₹ 60 lakhs, the recoverable amount will be higher of ₹ 121.92 lakhs (value in use) and ₹ 60 lakhs (net selling price), hence recoverable amount is ₹ 121.92 lakhs.

Illustration 3 (Past Exam May'18)

G Ltd., acquired a machine on 1st April, 20X0 for ₹ 7 crore that had an estimated useful life of 7 years. The machine is depreciated on straight line basis and does not carry any residual value. On 1st April, 20X4, the carrying value of the machine was reassessed at ₹ 5.10 crore and the surplus arising out of the revaluation being credited to revaluation reserve. For the year ended March, 20X6, conditions indicating an impairment of the machine existed and the amount recoverable ascertained to be only ₹ 79 lakhs. You are required to calculate the loss on impairment of the machine and show how this loss is to be treated in the books of G Ltd. G Ltd., had followed the policy of writing down the revaluation surplus by the increased charge of depreciation resulting from the revaluation.

(5 Marks)

Solution

Statement Showing Impairment Loss

	(₹ in crores)
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Carrying amount of the machine as on 1st April, 20X0	7.00
Depreciation for 4 years i.e. 20X0-20X1 to 20X3-20X4	
$\frac{7 \text{ crores}}{7 \text{ years}} \times 4 \text{ years}$	(4.00)
Carrying amount as on 31.03.20X4	3.00
Add: Upward Revaluation (credited to Revaluation Reserve account)	2.10
Carrying amount of the machine as on 1st April, 20X4 (revalued)	5.10
Less: Depreciation for 2 years i.e. 20X4-20X5 & 20X5-20X6	
$\frac{5.10 \text{ crores}}{3 \text{ years}} \times 2 \text{ years}$	(3.40)
Carrying amount as on 31.03.20X6	1.70
Less: Recoverable amount	(0.79)
Impairment loss	0.91
Less: Balance in revaluation reserve as on 31.03.20X6:	
Balance in revaluation reserve as on 31.03.20X4	2.10
Less: Enhanced depreciation met from revaluation reserve	
20X4-20X5 & 20X5-20X6 = [(1.70 – 1.00) x 2 years]	(1.40)
Impairment loss set off against revaluation reserve balance as per para 58 of AS 28 "Impairment of Assets"	(0.70)
Impairment Loss to be debited to profit and loss account	0.21

Illustration 4 (MTP Mar'24)

X Ltd. purchased a Property, Plant and Equipment four years ago for ₹ 150 lakhs and depreciates it at 10% p.a. on straight line method. At the end of the fourth year, it has revalued the asset at ₹ 75 lakhs and has written off the loss on revaluation to the profit and loss account. However, on the date of revaluation, the market price is ₹ 67.50 lakhs and expected disposal costs are ₹ 3 lakhs. What will be the treatment in respect of impairment loss on the basis that fair value for revaluation purpose is determined by market value and the value in use is estimated at ₹ 60 lakhs? **(4 Marks)**

Solution**Treatment of Impairment Loss**

As per para 57 of AS 28 "Impairment of assets", if the recoverable amount (higher of net selling price and its value in use) of an asset is less than its carrying amount, the carrying amount of the asset should be reduced to its recoverable amount. In the given case, net selling price is ₹ 64.50 lakhs (₹ 67.50 lakhs – ₹ 3 lakhs) and value in use is ₹ 60 lakhs. Therefore, recoverable amount will be ₹ 64.50 lakhs. Impairment loss will be calculated as ₹ 10.50 lakhs [₹ 75 lakhs (Carrying Amount after revaluation - Refer Working Note) less ₹ 64.50 lakhs (Recoverable Amount)].

Thus impairment loss of ₹ 10.50 lakhs should be recognised as an expense in the Statement of Profit and Loss immediately since there was downward revaluation of asset which was already charged to Statement of Profit and Loss.

Working Note:

Calculation of carrying amount of the Property, Plant and Equipment at the end of the fourth year on revaluation

	(₹ in lakhs)
Purchase price of a Property, Plant and Equipment	150.00
Less: Depreciation for four years [(150 lakhs / 10 years) x 4 years]	(60.00)

Carrying value at the end of fourth year	90.00
Less: Downward revaluation charged to profit and loss account	(15.00)
Revalued carrying amount	75.00

Illustration 5

Write short note on impairment of asset and its application to inventory.

Solution:

The objective of AS 28 'Impairment of Assets' is to prescribe the procedures that an enterprise applies to ensure that its assets are carried at no more than their recoverable amount. An asset is carried at more than its recoverable amount if its carrying amount exceeds the amount to be recovered through use or sale of the asset. If this is the case, the asset is described as impaired and this Standard requires the enterprise to recognize an impairment loss.

- If carrying amount $\leq$ Recoverable amount : Asset is not impaired
- If carrying amount $>$ Recoverable amount : Asset is impaired

Impairment Loss = Carrying Amount – Recoverable Amount

Recoverable amount is the higher of net selling price and its value in use

This standard should be applied in accounting for the impairment of all assets, other than (i) inventories (AS 2, Valuation of Inventories); (ii) assets arising from construction contracts (AS 7, Accounting for Construction Contracts); (iii) financial assets, including investments that are included in the scope of AS 13, Accounting for Investments; and (iv) deferred tax assets (AS 22, Accounting for Taxes on Income). AS 28 does not apply to inventories, assets arising from construction contracts, deferred tax assets or investments because other accounting standards applicable to these assets already contain specific requirements for recognizing and measuring the impairment related to these assets.

Illustration 6 (RTP May'20, Sep'24)

A publisher owns 150 magazine titles of which 70 were purchased and 80 were self-created. The price paid for a purchased magazine title is recognized as an intangible asset. The costs of creating magazine titles and maintaining the existing titles are recognized as an expense when incurred. Cash inflows from direct sales and advertising are identifiable for each magazine title.

Titles are managed by customer segments. The level of advertising income for a magazine title depends on the range of titles in the customer segment to which the magazine title relates. Management has a policy to abandon old titles before the end of their economic lives and replace them immediately with new titles for the same customer segment. What is the cash-generating unit for an individual magazine title?

Solution:

It is likely that the recoverable amount of an individual magazine title can be assessed. Even though the level of advertising income for a title is influenced, to a certain extent, by the other titles in the customer segment, cash inflows from direct sales and advertising are identifiable for each title.

In addition, although titles are managed by customer segments, decisions to abandon titles are made on an individual title basis.

Therefore, it is likely that individual magazine titles generate cash inflows that are largely independent of each other and that each magazine title is a separate cash-generating unit.

Illustration 7

An asset does not meet the requirements of environment laws which have been recently enacted. The asset has to be destroyed as per the law. The asset is carried in the Balance Sheet at the year end at ₹ 6,00,000. The estimated cost of destroying the asset is ₹ 70,000. How is the asset to be accounted for?

Solution:

As per AS 28 "Impairment of Assets", impairment loss is the amount by which the carrying amount of an asset exceeds its recoverable amount, where recoverable amount is the higher of an asset's net selling price and its value in use. In the given case, recoverable amount will be nil [higher of value in use (nil) and net selling price (negative ₹ 70,000)]. Thus impairment loss will be calculated as ₹ 6,00,000 [carrying amount (₹ 6,00,000) – recoverable amount (nil)]. Therefore, asset is to be fully impaired and impairment loss of ₹ 6,00,000 has to be recognized as an expense immediately in the statement of Profit and Loss as per para 58 of AS 28.

Further, as per para 60 of AS 28, When the amount estimated for an impairment loss is greater than the carrying amount of the asset to which it relates, an enterprise should recognise a liability if, and only if, that is required by another Accounting Standard. Hence, the entity should recognize liability for cost of disposal of ₹ 70,000 as per AS 10 & 29.

Illustration 8

Venus Ltd. has a fixed asset, which is carried in the Balance Sheet on 31.3.20X1 at ₹ 500 lakhs. As at that date the value in use is ₹ 400 lakhs and the net selling price is ₹ 375 lakhs.

From the above data:

- (i) Calculate impairment loss.
- (ii) Prepare journal entries for adjustment of impairment loss.
- (iii) Show, how impairment loss will be shown in the Balance Sheet.

Solution:

- (i) Recoverable amount is higher of value in use ₹ 400 lakhs and net selling price ₹ 375 lakhs.

Recoverable amount = ₹ 400 lakhs

Impairment loss = Carried Amount – Recoverable amount

= ₹ 500 lakhs – ₹ 400 lakhs = ₹ 100 lakhs.

(ii) Journal Entries

Particulars	Dr. Amount (₹ in lakhs)	Cr. Amount (₹ in lakhs)
(i) Impairment loss account Dr. To Provision for Accumulated Impairment Loss Account (Being the entry for accounting impairment loss)	100	100
(ii) Profit and loss account Dr. To Impairment loss (Being the entry to transfer impairment loss to profit and loss account)	100	100

(iii) Balance Sheet of Venus Ltd. as on 31.3.20X1

	(₹ in lakhs)
Fixed Asset	
Asset less depreciation	500
Less: Impairment loss	(100)
	<u>400</u>

Illustration 9

Good Drugs and Pharmaceuticals Ltd. acquired a sachet filling machine on 1st April, 20X1 for ₹ 60 lakhs. The machine was expected to have a productive life of 6 years. At the end of financial year 20X1-20X2 the carrying amount was ₹ 41 lakhs. A short circuit occurred in this financial year but luckily the machine did

not get badly damaged and was still in working order at the close of the financial year. The machine was expected to fetch ₹ 36 lakhs, if sold in the market. The machine by itself is not capable of generating cash flows. However, the smallest group of assets comprising of this machine also, is capable of generating cash flows of ₹ 54 crore per annum and has a carrying amount of ₹ 3.46 crore. All such machines put together could fetch a sum of ₹ 4.44 crore if disposed. Discuss the applicability of Impairment loss.

Solution:

As per provisions of AS 28 "Impairment of Assets", impairment loss is not to be recognized for a given asset if its cash generating unit (CGU) is not impaired. In the given question, the related cash generating unit which is group of asset to which the damaged machine belongs is not impaired; and the recoverable amount is more than the carrying amount of group of assets. Hence there is no need to provide for impairment loss on the damaged sachet filling machine.

Illustration 10

From the following details of an asset

- (i) Find out impairment loss
- (ii) Treatment of impairment loss
- (iii) Current year depreciation

Particulars of asset:

Cost of asset	₹ 56 lakhs
Useful life period	10 years
Salvage value	Nil
Current carrying value	₹ 27.30 lakhs
Useful life remaining	3 years
Recoverable amount	₹ 12 lakhs
Upward revaluation done in last year	₹ 14 lakhs

Solution:

According to AS 28 "Impairment of Assets", an impairment loss on a revalued asset is recognised as an expense in the statement of profit and loss. However, an impairment loss on a revalued asset is recognised directly against any revaluation surplus for the asset to the extent that the impairment loss does not exceed the amount held in the revaluation surplus for that same asset.

Impairment Loss and its treatment	₹
Current carrying amount (including revaluation amount of ₹ 14 lakhs)	27,30,000
Less: Current recoverable amount	(12,00,000)
Impairment Loss	15,30,000
Impairment loss charged to revaluation reserve	14,00,000
Impairment loss charged to profit and loss account	1,30,000

After the recognition of an impairment loss, the depreciation (amortization)

charge for the asset should be adjusted in future periods to allocate the asset's revised carrying amount, less its residual value (if any), on a systematic basis over its remaining useful life.

In the given case, the carrying amount of the asset will be reduced to ₹ 12,00,000 after impairment. This amount is required to be depreciated over remaining useful life of 3 years (including current year). Therefore, the depreciation for the current year will be ₹ 4,00,000.

Illustration 11

A plant was acquired 15 years ago at a cost of ₹ 5 crores. Its accumulated depreciation as at 31st March, 20X1 was ₹ 4.15 crores. Depreciation estimated for the financial year 20X1-20X2 is ₹ 25 lakhs. Estimated

Net Selling Price as on 31st March, 20X1 was ₹ 30 lakhs, which is expected to decline by 20 per cent by the end of the next financial year.

Its value in use has been computed at ₹ 35 lakhs as on 1st April, 20X1, which is expected to decrease by 30 per cent by the end of the financial year.

- (i) Assuming that other conditions for applicability of the impairment Accounting Standard are satisfied, what should be the carrying amount of this plant as at 31st March, 20X2?
- (ii) How much will be the amount of write off for the financial year ended 31st March, 20X2?
- (iii) If the plant had been revalued ten years ago and the current revaluation reserves against this plant were to be ₹ 12 lakhs, how would you answer: to questions (i) and (ii) above?
- (iv) If the value in use was zero and the enterprise were required to incur a cost of ₹ 2 lakhs to dispose of the plant, what would be your response to questions (i) and (ii) above?

Solution:

As per AS 28 "Impairment of Assets", if the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset should be reduced to its recoverable amount and that reduction is an impairment loss.

An impairment loss on a revalued asset is recognized as an expense in the statement of profit and loss. However, an impairment loss on a revalued asset is recognised directly against any revaluation surplus for the asset to the extent that the impairment loss does not exceed the amount held in the revaluation surplus for that same asset.

In the given case, recoverable amount (higher of asset's net selling price and value in use) will be ₹ 24.5 lakhs on 31.3.20X2 according to the provisions of AS 28 [Refer working note].

		(₹ in lakhs)
(i)	Carrying amount of plant (after impairment) as on 31 st March, 20X2	24.50
(ii)	Amount of write off (impairment loss) for the financial year ended 31st March, 20X2 [₹ 60 lakhs – ₹ 24.5 lakhs]	35.50
(iii)	If the plant had been revalued ten years ago	
	Debit to revaluation reserve	12.00
	Amount charged to profit and loss account	23.50
	(₹ 35.50 lakhs – ₹ 12 lakhs)	
(iv)	If Value in use is zero	
	Value in use (a)	Nil
	Net selling price (b)	(-)2.00
	Recoverable amount [higher of (a) and (b)]	Nil
	Carrying amount (closing book value)	Nil
	Amount of write off (impairment loss) (₹ 60 lakhs – Nil)	60.00
	Entire book value of plant will be written off and charged to profit and loss account.	

Working Note:

Calculation of Closing Book Value, Estimated Net Selling Value and Estimated Value in Use of Plant at 31st March, 20X2

	(₹ in lakhs)
Opening book value as on 1.4.20X1 (₹ 500 lakhs – ₹ 415 lakhs)	85
Less: Depreciation for financial year 20X1–20X2	(25)
Closing book value as on 31.3.20X2	60
Estimated net selling price as on 1.4.20X1	30

Less: Estimated decrease during the year (20% of ₹ 30 lakhs)	(6)
Estimated net selling price as on 31.3.20X2	<u>24</u>
Estimated value in use as on 1.4.20X1	35.0
Less: Estimated decrease during the year (30% of ₹ 35 lakhs)	<u>(10.5)</u>
Estimated value in use as on 31.3.20X2	<u>24.5</u>

MTP / RTP / Past Exam**Question 1 (MTP Oct'18)**

Wow Ltd. is developing a new production process. During the financial year ending 31st March, 2018, the total expenditure incurred was Rs. 50 lakhs. This process met the criteria for recognition as an intangible asset on 1st December, 2017. Expenditure incurred till this date was Rs.22 lakhs. Further expenditure incurred on the process for the financial year ending 31st March, 2019 was Rs. 80 lakhs.

As at 31st March, 2019, the recoverable amount of know-how embodied in the process is estimated to be Rs. 72 lakhs. This includes estimates of future cash outflows as well as inflows.

You are required to calculate:

- (i) Amount to be charged to Profit and Loss A/c for the year ending 31st March, 2018 and carrying value of intangible as on that date.
- (ii) Amount to be charged to Profit and Loss A/c and carrying value of intangible as on 31st March, 2019.

Ignore depreciation.

(4 Marks)

Solution:**As per AS 26 'Intangible Assets'**

- (i) For the year ending 31.03.2018

- 1) Carrying value of intangible as on 31.03.2018:

At the end of financial year 31st March 2018, the production process will be recognized (i.e. carrying amount) as an intangible asset at a cost of Rs. 28 lakhs (expenditure incurred since the date the recognition criteria were met, i.e., from 1st December 2017).

- 2) Expenditure to be charged to Profit and Loss account:

The Rs. 22 lakhs is recognized as an expense because the recognition criteria were not met until 1st December 2018. This expenditure will not form part of the cost of the production process recognized in the balance sheet.

- (ii) For the year ending 31.03.2019

- 1) **Expenditure to be charged to Profit and Loss account:**

	(Rs. in lakhs)
Carrying Amount as on 31.03.2018	28
Expenditure during 2018 –2019	80
Total book cost	108
Recoverable Amount	(72)
Impairment loss	36

Rs. 36 lakhs to be charged to Profit and loss account for the year ending 31.03.2019.

- 2) **Carrying value of intangible as on 31.03.2019:**

	(Rs.in lakhs)
Total Book Cost	108
Less: Impairment loss	(36)
Carrying amount as on 31.03.2019	72

Question 2 (RTP Nov 20)

H Ltd. which is in a business of manufacturing and export of its product. Sometimes, back in 2018, the Government put restriction on export of goods exported by H Ltd. and due to that restriction H Ltd. impaired its assets. H Ltd. acquired identifiable assets worth of Rs. 4,000 lakh for Rs. 6,000 lakh at the end of the year 2014. The difference is treated as goodwill. The useful life of identifiable assets is 15 years and depreciated on straight line basis. When Government put the restriction at the end of 2018, the company recognised the impairment loss by determining the recoverable amount of assets for Rs. 2,720 lakh. In 2020 Government lifted the restriction imposed on the export and due to this favourable change, H Ltd. re-estimate recoverable amount, which was estimated at Rs. 3,420 lakh.

Required:

- (i) Calculation and allocation of impairment loss in 2018.
- (ii) Reversal of impairment loss and its allocation as per AS 28 in 2020.

Solution:

(i) Calculation and allocation of impairment loss in 2018(Amount in Rs. lakh)

	Goodwill	Identifiable assets	Total
Historical cost	2,000	4,000	6,000
Accumulated depreciation/amortization (4 yrs.)	(1,600)	(1,067)	(2,667)
Carrying amount before impairment	400	2,933	3,333
Impairment loss*	(400)	(213)	(613)
Carrying amount after impairment loss	0	2,720	2,720

Notes:

- 1) As per para 87 of AS 28, an impairment loss should be allocated to reduce the carrying amount of the assets of the unit in the following order:
 - (a) first, to goodwill allocated to the cash-generating unit (if any); and
 - (b) then, to the other assets of the unit on a pro-rata basis based on the carrying amount of each asset in the unit. Hence, first goodwill is impaired at full value and then identifiable assets are impaired to arrive at recoverable value.
- 2) Since the goodwill has arisen on acquisition of assets, AS 14 comes into the picture. As per para 19 of AS 14, goodwill shall amortise over a period not exceeding five years unless a somewhat longer period can be justified. Therefore, the amortization period of goodwill is considered as 5 years.

(ii) Carrying amount of the assets at the end of 2020 (Amount in Rs. lakh)

End of 2020	Goodwill	Identifiable assets	Total
Carrying amount in 2020	0	2,225	2,225
Add: Reversal of impairment loss (W.N.2)	-	175	175
Carrying amount after reversal of impairment loss	-	2,400	2,400

Working Note:

1. Calculation of depreciation after impairment till 2020 and reversal of impairment loss in 2020

(Amount in Rs. lakh)

	Goodwill	Identifiable assets	Total
Carrying amount after impairment loss in 2018	0	2,720	2,720
Additional depreciation (i.e. $(2,720/11) \times 2$)	–	(495)	(495)
Carrying amount	0	2,225	2,225
Recoverable amount			3,420
Excess of recoverable amount over carrying amount			1,195

Note: It is assumed that the restriction by the Government has been lifted at the end of the year 2020.

2. Determination of the amount to be impaired by calculating depreciated historical cost of the identifiable assets without impairment at the end of 2020

(Amount in Rs. lakh)

End of 2020	Identifiable assets
Historical cost	4,000
Accumulated depreciation	$(266.67 \times 6 \text{ years}) = (1,600)$
Depreciated historical cost	2,400
Carrying amount (in W.N.1)	2,225
Amount of reversal of impairment loss	175

Notes:

- As per para 107 of AS 28, in allocating a reversal of an impairment loss for a cash-generating unit, the carrying amount of an asset should not be increased above the lower of:
 - its recoverable amount (if determinable); and
 - the carrying amount that would have been determined (net of amortisation or depreciation) had no impairment loss been recognised for the asset in prior accounting periods.

Hence impairment loss reversal is restricted to Rs. 175 lakh only.
- The reversal of impairment loss took place in the 6th year. However, goodwill is amortised in 5 years. Therefore, there would be no balance in the goodwill account in the 6th year even without impairment loss. Hence in W.N. 2 above there is no column for recalculation of goodwill.

Question 3 (RTP Nov 18)

M Ltd. has three cash-generating units: A, B and C. Due to adverse changes in the technological environment, M Ltd. conducted impairment tests of each of its cash-generating units. On 31st March, 2018, the carrying amounts of A, B and C are Rs. 100 lakhs, Rs. 150 lakhs and Rs. 200 lakhs respectively.

The operations are conducted from a headquarter. The carrying amount of the headquarter assets is Rs. 200 lakhs: a headquarter building of Rs. 150 lakhs and a research centre of Rs. 50 lakhs. The relative carrying amounts of the cash-generating units are a reasonable indication of the proportion of the headquarter building devoted to each cash-generating unit. The carrying amount of the research centre cannot be allocated on a reasonable basis to the individual cash-generating units.

Following is the remaining estimated useful life of:

	A	B	C	Head quarter assets
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Remaining estimated useful life	10	20	20	20
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The headquarter assets are depreciated on a straight-line basis.

The recoverable amount of each cash generating unit is based on its value in use since net selling price for each CGU cannot be calculated. Therefore, Value in use is equal to

	A	B	C	M Ltd. as a whole
Recoverable amount	199	164	271	720*

*The research centre generates additional future cash flows for the enterprise as a whole. Therefore, the sum of the value in use of each individual CGU is less than the value in use of the business as a whole. The additional cash flows are not attributable to the headquarter building.

Calculate and show allocation of impairment loss as per AS 28. Ignore tax effects.

Solution:

1. Identification of Corporate Assets of M Ltd.

Here, the corporate assets are the headquarter building and the research centre.

For corporate building

Since, the carrying amount of the headquarter building can be allocated on a reasonable and consistent basis to the cash-generating units under review. Therefore, only a ₹bottom-up₹ test is necessary.

For research centre

Since the carrying amount of the research centre cannot be allocated on a reasonable and consistent basis to the individual CGU under review. Therefore, a ₹top-down₹ test will be applied in addition to the ₹bottom-up₹ test.

2. Allocation of Corporate Assets

Since the estimated remaining useful life of A's CGU is 10 years, whereas the estimated remaining useful lives of B and C's CGU are 20 years, the carrying amount of the headquarter building is allocated to the carrying amount of each individual cash-generating unit on weight basis.

3. Calculation of a weighted allocation of the carrying amount of the headquarter building

(Amount in Rs. lakhs)

On 31st March, 2018	A	B	C	Total
Carrying amount (A)	100	150	200	450
Useful life	10 years	20 years	20 years	
Weight based on useful life	1	2	2	
Carrying amount after weight	100	300	400	800
Pro-rata allocation of the building	12.5%	37.5%	50%	100%
	(100/800)	(300/800)	(400/800)	
Allocation of the carrying amount of the building (based on pro-rata above) (B)	18.75	56.25	75	150
Carrying amount (after allocation of the building)	118.75	206.25	275	600

4. Calculation of Impairment Losses

a. Application of ₹bottom-up₹ test

(Amount in Rs. lakhs)

31st March, 2018	A	B	C
Carrying amount (after allocation of the building) (Refer point 3 above)	118.75	206.25	275
Recoverable amount (given in the question)	199	164	271
Impairment loss	0	(42)	(4)

Allocation of the impairment losses for cash-generating units B and C (Amount in Rs. lakhs)

Cash-generating unit	B	C
To headquarter building	(12) (42*56/206)	(1) (4*75/275)
To assets in cash-generating unit	(30) (42*150/206)	(3) (4*200/275)
	(42)	(4)

Since the research centre could not be allocated on a reasonable and consistent basis to A, B and C's CGU, M Ltd. compares the carrying amount of the smallest CGU to which the carrying amount of the research centre can be allocated (i.e., M as a whole) to its recoverable amount, in accordance with the ₹top-down₹ test.

Application of the ₹top-down₹ test (Amount in Rs. lakhs)

31st March, 2018	A	B	C	Building	Research Centre	M Ltd.
Carrying amount	100	150	200	150	50	650
Impairment loss arising from the ₹bottom-up₹ test	–	(30)	(3)	(13)	–	(46)
Carrying amount after the ₹bottom-up₹ test	100	120	197	137	50	604
Recoverable amount						720

Since recoverable amount is more than the carrying amount of M Ltd., no additional impairment loss has been resulted from the application of the top- down test. Only an impairment loss of Rs. 46 lakhs will be recognized as a result of the application of the ₹bottom-up₹ test.

Question 4 (RTP May 18)

M Ltd. produces a single product and owns plants A, B and C. Each plant is located in a different continent. Plant A produces a component that is assembled in either plant B or plant C. The combined capacity of plants B and C is not fully utilised. M Ltd's products are sold world-wide from either plants B or C i.e. plant Bs production can be sold in plant Cs continent if the products can be delivered faster from plant B than from plant C. Utilisation levels of plant B and plant C depend on the allocation of sales between the two sites.

For each of the following cases, what are the cash-generating units for plants A, B and C?

Case 1: There is an active market for plant A's products.

Case 2: There is no active market for plant A's products.

Solution:

(a) Case 1: It is likely that A is a separate cash-generating unit because there is an active market for its products.

Although there is an active market for the products assembled by B and C, cash inflows for B and C depend on the allocation of production across the two sites. It is unlikely that the future cash inflows for B

and C can be determined individually. Therefore, it is likely that B and C together is the smallest identifiable group of assets that generates cash inflows from continuing use that are largely independent.

In determining the value in use of A and B plus C, M Ltd. adjusts financial budgets/forecasts to reflect its best estimate of future market prices for A's products.

Case 2: It is likely that the recoverable amount of each plant cannot be assessed independently because:

- there is no active market for A's products. Therefore, A's cash inflows depend on sales of the final product by B and C; and
- although there is an active market for the products assembled by B and C, cash inflows for B and C depend on the allocation of production across the two sites. It is unlikely that the future cash inflows for B and C can be determined individually.

As a consequence, it is likely that A, B and C together (i.e., M Ltd. as a whole) is the smallest identifiable group of assets that generates cash inflows from continuing use that are largely independent.

Question 5 (Past Exam Nov'18)

C Ltd. acquired S Ltd. business (a cash generating unit) on 31-3-2016 for ₹ 8,000 Lakhs. The details of acquisition are as under: -

Fair value of identifiable asset	6000 Lakhs
Goodwill	2000 Lakhs

The anticipated useful life of acquired assets is 5 years. Goodwill is to be amortised in 4 years. C Ltd. uses straight-line method of depreciation with no residual values anticipated. On 31-3-2018, C Ltd. estimated the significant decline in production due to change in Government policies. The net selling price of identifiable asset is not determinable. The cash flow forecast based on recent financial budget for next 7 years after considering change in Govt. policies are as follows. Incremental financing cost is 8% which represents current market assessment of the time value of money.

		₹ in Crore	
Year	Cash flow	Year	Cash flow
2019	800	2022	600
2020	800	2023	600
2021	800	2024	500
		2025	400

You are required to calculate:

- Value in use
- Impairment loss
- Revised carrying amount on 31-3-2018

(5 Marks)

Solution:

(i) Value in Use

Year ended on 31st March	Cash flow (₹ in lakh)	Discounting factor @ 8%	Present Value (₹ in lakh)
2019	800	0.926	740.80
2020	800	0.857	685.60

2021	800	0.794	635.20
2022	600	0.735	441.00
2023	600	0.681	408.60
2024	500	0.630	315.00
2025	400	0.583	233.20
			3459.40

(ii) Impairment loss

Impairment loss = Carrying amount of the asset - Recoverable Amount

= ₹ 4,600 lakhs - ₹ 3,459.40 lakhs (Refer W.N.)

= ₹ 1,140.60 lakhs

(iii) Revised Carrying Amount on 31.3.2018

As per para 87 of AS 28 'Impairment of Assets', an impairment loss should be allocated to reduce the carrying amount of the assets of CGU in the following order:

(a) first, to goodwill allocated to the cash-generating unit (if any); and

(b) then, to the other assets of the unit on a pro-rata basis based on the carrying amount of each asset in the unit.

Hence, first goodwill is impaired at full value and then identifiable assets are impaired to arrive at recoverable value. (₹ in lakh)

	Goodwill	Identifiable assets	Total
Useful life	4 years	5 years	
Historical cost	2,000	6,000	8,000
Accumulated depreciation/amortization (for 2 years)	(1,000)	(2,400)	(3,400)
Carrying amount before impairment	1,000	3,600	4,600
Impairment loss	(1,000)	(140.60)	(1,140.60)
Revised carrying amount after impairment loss	0	3,459.40	3,459.40

Working Note:

Calculation of Recoverable Amount

Recoverable amount = Higher of Asset's Net Selling Price or Value in Use

Where, Asset's net selling price is not determinable

Recoverable Amount of the asset will be equal to the Value in use ie. ₹ 3,459.40 lakh.

MCQs

1. If there is indication that an asset may be impaired but the recoverable amount of the asset is more than the carrying amount of the asset, the following are true:
 - a) No further action is required and the company can continue the asset in the books at the book value itself.
 - b) The entity should review the remaining useful life, scrap value and method of depreciation and amortization for the purposes of AS 10.
 - c) The entity can follow either (a) or (b).
 - d) The entity should review the scrap value and method of depreciation and amortization for the purposes of AS 10.
2. In case Goodwill appears in the Balance Sheet of an entity, the following is true:
 - a) Apply Bottom up test if goodwill cannot be allocated to CGU (cash generating unit) under review.
 - b) Apply Top down test if goodwill cannot be allocated to CGU (cash generating unit) under review.
 - c) Apply both Bottom up test and Top down test if goodwill cannot be allocated to CGU (cash generating unit) under review.
 - d) Apply either Bottom up test or Top down test if goodwill cannot be allocated to CGU (cash generating unit) under review.
3. In case of Corporate assets in the Balance Sheet of an entity, the following is true:
 - a) Apply Bottom up test if corporate assets cannot be allocated to CGU (cash generating unit) under review.
 - b) Apply Top down test if corporate assets cannot be allocated to CGU (cash generating unit) under review.
 - c) Apply both Bottom up test and Top down test if corporate assets cannot be allocated to CGU (cash generating unit) under review.
 - d) Apply either Bottom up test or Top down test if corporate assets cannot be allocated to CGU (cash generating unit) under review.
4. In case of reversal of impairment loss, which statement is true:
 - a) Goodwill written off can never be reversed.
 - b) Goodwill written off can be reversed without any conditions to be met.
 - c) Goodwill written off can be reversed only if certain conditions are met.
 - d) Goodwill written off can be reversed.

ANSWERS/HINTS**MCQs**

1. (b) 2. (c) 3. (c) 4. (c)

SOLVED EXAMPLE**Example: 1**

At the end of 20X0, enterprise M acquired 100% of enterprise Z for ₹ 3,000 lakhs. Z has 3 cash-generating units A, B and C with net fair values of ₹ 1,200 lakhs, ₹ 800 lakhs and ₹ 400 lakhs respectively. M recognises goodwill of ₹ 600 lakhs (₹ 3,000 lakhs less ₹ 2,400 lakhs) that relates to Z.

At the end of 20X4, A makes significant losses. Its recoverable amount is estimated to be ₹ 1,350 lakhs. Carrying amounts are detailed below (₹ In Lakh).

End of 20X4	A	B	C	Goodwill	Total
Net carrying amount	1300	1200	800	120	3420

Scenario A - Goodwill Can be Allocated on a Reasonable and Consistent Basis

On the date of acquisition of Z, the net fair values of A, B and C are considered a reasonable basis for a pro-rata allocation of the goodwill to A, B and C.

Allocation of goodwill at the end of 20X4:

	A	B	C	Goodwill
End of 20X0				
Net fair values	1200	800	400	2400
Pro-Rata	50%	33%	17%	100%
End of 20X4				
Net carrying amount	1300	1200	800	3300
Allocation of goodwill	60	40	20	120
(Using pro rate above)				
Net carrying amount (After goodwill)	1360	1240	820	3420

In accordance with the 'bottom-up' test in paragraph 78(a) of AS 28, M compares A's recoverable amount to its carrying amount after the allocation of the carrying amount of goodwill:

End of 20X4 A	(Rs. In Lakh)
Carrying amount after allocation of goodwill	1360
Recoverable amount	1350
Impairment loss	10

M recognises an impairment loss of ₹ 10 lakhs for A. The impairment loss is fully allocated to the goodwill in accordance with paragraph 87 of AS 28.

Scenario B - Goodwill Cannot be Allocated on a Reasonable and Consistent Basis

There is no reasonable way to allocate the goodwill that arose on the acquisition of Z to A, B and C. At the end of 20X4, Z's recoverable amount is estimated to be ₹ 3,400 lakhs.

At the end of 20X4, M first applies the 'bottom-up' test in accordance with paragraph 78(a) of this Statement. It compares A's recoverable amount to its carrying amount excluding the goodwill.

End of 20X4	A (Rs. In Lakh)
Carrying amount	1300
Recoverable amount	1350
Impairment loss	0

Therefore, no impairment loss is recognised for A as a result of the 'bottom-up' test.

Since the goodwill could not be allocated on a reasonable and consistent basis to A, M also performs a 'top-down' test in accordance with paragraph 78(b) of AS 28. It compares the carrying amount of Z as a whole to its recoverable amount (Z as a whole is the smallest cash-generating unit that includes A and to which goodwill can be allocated on a reasonable and consistent basis).

Application of the 'top-down' test (Amount in ₹ lakhs)

End of 20X4	A	B	C	Goodwill	Total
Carrying amount	1300	1200	800	120	3420
Impairment loss arising from the 'bottom-up' test	0	-	-	-	0
Carrying amount after the 'bottom-up' test	1300	1200	800	120	3420
Recoverable amount	-	-	-	-	3400
Impairment loss arising from 'topdown' test	-	-	-	-	20

Therefore, M recognises an impairment loss of ₹ 20 lakhs that it allocates fully to goodwill in accordance with AS 28.

Example 2

A machine has suffered physical damage but is still working, although not as well as it used to. The net selling price of the machine is less than its carrying amount.

The machine does not generate independent cash inflows from continuing use.

The smallest identifiable group of assets that includes the machine and generates cash inflows from continuing use that are largely independent of the cash inflows from other assets is the production line to which the machine belongs. There coverable amount of the production line shows that the production line taken as a whole is not impaired.

Assumption 1: Budgets/forecasts approved by management reflect no commitment of management to replace the machine.

The recoverable amount of the machine alone cannot be estimated since the machine's value in use:

(a) may differ from its net selling price; and

(b) can be determined only for the cash-generating unit to which the machine belongs (the production line).

The production line is not impaired, therefore, no impairment loss is recognized for the machine. Nevertheless, the enterprise may need to reassess the depreciation period or the depreciation method for the machine. Perhaps, a shorter depreciation period or a faster depreciation method is required to reflect the expected remaining useful life of the machine or the pattern in which economic benefits are consumed by the enterprise.

Assumption 2: Budgets/forecasts approved by management reflect a commitment of management to replace the machine and sell it in the near future.

Cash flows from continuing use of the machine until its disposal are estimated to be negligible.

The machine's value in use can be estimated to be close to its net selling price.

Therefore, the recoverable amount of the machine can be determined and no consideration is given to the cash-generating unit to which the machine belongs (the production line). Since the machine's net selling price is less than its carrying amount, an impairment loss is recognised for the machine.