

# Case Studies – 20 marks

SK AGRAWAL

# Case 1

- A Lathe Machine has been purchased at the cost of INR 50,000 in the year of 2016. New similar lathe machine is available at INR 60,000 as on date of valuation.
- The **Valuer's** findings are as below.
- As per companies Act, 2013 the useful life of such machinery is 10 years.
- Salvage Value is 5% of Replacement Cost New
- Other cost/charges/taxes/duties/loadings are included.
- The date of valuation is 31st March 2018

# Questions

1. Acquisition Cost is ....
2. Current Replacement Cost is....
3. Salvage Value is.....
4. Balance Useful Life of the machine as per Companies Act 2013...
5. Accumulated depreciation as per SLM.
6. What is the DRC ....

# Answers

1. Rs 50,000/-
2. Rs 60,000/-
3. 5% of Replace Cost New =  $5 * 60,000 / 100 = 3000$
4. Date of valuation = 2018
  1. Total life = 10 years
  2. Purchase 2016
  3. Life left = 8 years. 2018-2016 = 2 years is over
5. Accumulated depreciation as on Mar-18
  1. Total 2 years
  2. Life – 10 years
  3. Method – SLM
  4. Residual value – 5%
  5. So= Depreciation as per RCN =  $(60,000-3000) * 2 / 10 = 11,400$
6. DRC =  $60,000 - 11,400 = 48,600/-$

## Case 2

Company ABC has established a Ceramic Production Unit in the year 2014. In 2014, the company purchased new Kiln, manufactured in the year of 2014. The said asset has been capitalized in the assets register at the Acquisition cost of 1.5 Crore. The company has started commercial production in the year of 2016.

- The Valuer's findings are as below.
- Index for Ceramic Production Line in 2014=100.3, in 2016=79.9, in 2018=79.2
- As per companies Act, 2013 the useful life of such machinery is 15 years.
- Salvage Value is 5% of Replacement Cost New
- Other cost/charges/taxes/duties/loadings are included.
- The date of valuation is 31st March 2018.

# Questions

1. What is Gross Block of the Kiln in INR?
2. What is Current Replacement Cost as New of the Asset?
3. What is the Salvage Value of the asset?
4. What is the balance useful life of the asset in books of the company?
5. What is the amount of depreciation considering straight line method of depreciation as per Companies Act, 2013? (Salvage Value = Residual Value)
6. What is the Net book value as per Companies Act, 2013?

# Answers

1. Rs 1.5 crs
2. Replacement Cost = Acquisition Cost X Index Factor  
 $= 1.5 \times 79.2/100.3 = 1,18,45,000/-$
3. Salvage Value = 5% of 1184500 = 5,92,250/-
4. Balance Economic Life = Total life – used life = 15- 2 (2018-2016)=13 yrs
5. Depreciation = (Acquisition cost – scrap value) X used life / total life  
 $= (1,50,00,000 - 5\% \text{ of } 1,50,00,000) \times 2 / 15 = 19,00,000/-$
6. Net Book Value = Acquisition cost – Depreciation = 1.5 cr – 19 lakh = 1.31 cr

## Case 3

- Car has been purchased at the cost of INR 6,00,000 in the year of 2015. New similar car is available at INR 8,00,000 as on date of valuation (2018). Currently, the car is in non-working condition and required cost to cure is INR 40,000.
- The Valuer's findings are as below.
- As per companies Act, 2013 the useful life of such machinery is 10 years.
- Salvage Value is 5% of Replacement cost new
- Other cost/charges/taxes/duties/loadings are included



# Questions

1. What is the historic cost of the car.
2. What is the current replacement cost
3. What is the salvage value of the car.
4. What is the balance useful life of the car as per companies act?
5. What is the DRC – depreciated replacement cost of the car
6. What is the Re-instatement cost of the car for purpose of insurance.

# Answers

1. Acquisition Cost = Rs 6 lakh
  2. Current replacement cost = Rs 8 lakh
  3. Salvage Value = 5% of 8 lakh = Rs 40K
  4. Balance useful life = total life – used life = 10-3 = 7 years
  5. DEPRECIATION = (Current replacement cost – scrap value ) X used life / total life  
$$= (800000-40000) \times 3 / 10 = 2,28,000/-$$
- DRC = present cost – depreciation – cost to cure  
$$800000-228000-40000 = 532000/-$$
6. Reinstatement cost = 800000

# Case 4

- A CNC Turning Centre Machine purchased from Italy in the year of 2014. As per the copy of Invoice, CIF Value of the said machine is 25,000 EURO. Other charges at the time of purchase are capitalized as INR 2,50,000 in the Assets Register for the said asset.
- The **Valuer's** findings are as below.
- The same machine from same supplier is available after negotiation at the CIF value of 28,000 EURO as on date of valuation.
- Transport Charges from Manufacturing Unit of CNC Machine to the port of export is 200 EURO. Sea Freight is INR 1,00,000. Transport charges from Port of Discharge to the factory location is INR 20,000
- Applicable Taxes and Duties are 26.85% on CIF Value.
- Loading and Unloading Charges at the port is INR 10,000.
- Installation & Commissioning cost of Machinery is INR 1,00,000.
- Exchange Rate: in 2014 1 EURO = 60 INR and 1 EURO = 81 INR as on date of valuation
- Other cost is included if any.
- The date of valuation is 31st March, 2018.

# Questions

1. What is the Acquisition Cost of the machine in INR?
2. What is the payable taxes & duties on the date of valuation.
3. What amount the buyer pays as freight in INR to import the machine at CIF value as on date of valuation.
4. What is the cost of replacement of machine in INR
5. If the plant is in SEZ, where is a NIL Taxes and duties, what will be the replacement cost?

# Answers

1. Acquisition Cost = TOTAL Cost = Purchase price + transport + taxes  
=  $25000 \times 60 + 2,50,000 = 17,50,000/-$

2. Taxes is put on – CIF Value.

CIF = cost of goods + all transport till port of destination + insurance.

In this case = cost of good =  $28000 \times 81 = 22,68,000$

Taxes & Duties =  $26.85\% \times 22,68,000 = 608,958/-$

3. Transport charges till port of discharge. This is taken as all the transport that is put in the invoice.

ZERO.

4. Cost of replacement = CIF+Taxes+ Unloading+Local transport +Installation  
=  $22,68,000 + 6,08,958 + 10,000 + 20,000 + 1,00,000 = 30,06,958/-$

5. SEZ will give advantage of taxes ONLY

So that will be =  $30,06,958 - 6,08,958 = 23,98,000/-$

## Case 5.

- Company X has purchased a Corn Flex Production Line in year of 1995 at INR 2,00,000.
- The Valuer's findings are as below.
- As per Companies Act, 2013 the useful life of such machinery is 15 years.
- The machinery is in good working condition and well-maintained
- Machinery is capable to work economically for further 5 years.
- Quotation Received for Corn Flex Production Line of INR 6,12,969 including all
  - Salvage Value is 5% of Replacement Cost New
- Other cost/charges/taxes/duties/loadings are included.
- The date of valuation is 31st March, 2018

# Questions

1. What is the useful life of the asset.
2. What is the replacement cost new of the asset.
3. What is the amount of depreciation considering a SLM.
4. What is the depreciated replacement cost?
5. What is the salvage value?
6. What is the book value as per companies Act?

# Answers

1. Useful life = Age + balance life = (2018-1995)+5 = 28 years.
2. Current replacement cost = Rs 6,12,969/-
3. Depreciation = (current replacement cost – scrap value ) X used life / total life  
= ((612969-5% X 612969) X 23 / 28 = 4,78,335/-
4. Depreciated replacement value = new cost – depreciation  
= 612969-478335=1,34,634
5. Salvage value = 5% = 5% X 612969 = 30648/-
6. Book Value= acquisition cost X5%  
=2,00,000 X 5% = 10,000



# Case 6

- The company XYZ has commissioned the integrated automated plant to produce refined Soya Oil in 2011. Acquisition cost of the said asset is INR 8.0 Crore. The plant is in closed condition since last 5 years. Oil extraction unit, a section of integrated line, is not functioning economically due to higher cost of extraction which leads to higher cost of refined Oil than market price. The integrated plant cannot be redesigned/ modified to run economically.
- The Valuer's findings are as below.
- As per companies Act, 2013 the useful life of such machinery is 15 years.
- The total estimated cost of new plant is INR 10 Crore as on date of valuation.
- Salvage Value is 5% of Replacement Cost New
- Other cost/charges/taxes/duties/loadings are included.
- The date of valuation is 31st March, 2018.

# Questions

1. What is the historic cost of the asset?
2. What is the replace cost of the asset?
3. What is the balance economic life?
4. What is the depreciation as per SLM?
5. What is the depreciated replacement cost using SLM.
6. What is the salvage value?

# Answers

1. Historic cost of acquisition = Rs 8 cr

2. Replace cost new = Rs 10 cr

3. As the plant cannot be run economically = balance economic life is ZERO.

4. Asset is fully depreciated as it has no economic life.

= so depreciation = 95% of replacement cost new =  $95\% \times 10 \text{ cr} = 9.5 \text{ Cr}$

5. Depreciated Replacement cost = new cost – depreciation

=  $10 - 9.5 = 0.5 \text{ cr}$

6. Salvage value = 5% of 10 cr = 0.5 cr

# Case 7

- Mr. X has purchased a new car in the year of 2010. The Acquisition Cost is INR 4 Lakhs. The valuer has inspected the car to derive the market value. Car is in working condition and well maintained. Four similar instances which he observed in similar working condition and well maintained are mentioned below.
  - (1) Car with Year of Manufacturing (YoM) of 2010 is available for sale at INR 2.5 Lakhs.
  - (2) Car with YoM of 2008 has been sold a month before the date of valuation at INR 1.8 Lakhs.
  - (3) Car with YoM of 2008 is available for sale at INR 2.1 Lakhs.
  - (4) Car with YoM of 2010 has been sold a month before the date of valuation at INR 2 Lakhs.
- The **Valuer's** findings are as below.
  - As per companies Act, 2013 the useful life of such machinery is 10 years.
  - Salvage Value is 5% of replacement cost new
  - Other cost/charges/taxes/duties/loadings are included.
  - The instances are most relevant to the asset and no other specific issues are found in them.
  - The date of valuation is 31st March 2018.

# Questions

1. What is the best approach to get the market value with the available data.
2. Which is the most suitable instance of deriving the market value?
3. What is the order of suitability?
4. Which is the least important factor of analysis of comparable?
  1. Make and model
  2. Year of manufacturing
  3. Usage in time and kms
  4. Alloy wheels
5. What is the gross block of the asset?

# Answers

1. Market approach as there is a regular market for the same.
2. 4<sup>th</sup> instance is the best.
3. 4-1-2-3. YOM, sold instances, are the first priorities.
4. ...
5. Gross Block = Acquisition cost = Rs 4 lakh

# Case 8

- A new Gantry Crane has been purchased in the year of 2013. Similar Crane is available at an Ex Work cost of INR 10,00,000 as on date of valuation. Total Insurance & Freight to the factory premise is INR 20,000. Applicable Taxes are INR 50,000 (assume that no rebate on tax is available). Loading & unloading charges at the premise is INR 5,000. Installation & commissioning cost is INR 30,000. Foundation cost is INR 10,000. Preoperative Expenses are 2.5% of Ex Work and applicable expense/ taxes/ insurance / charges etc. as mentioned above. Interest Cost is 9.8% applicable on total cost.
- The **Valuer's** findings are as below.
- As per companies Act, 2013 the useful life of such machinery is 15 years.
- Salvage Value is 5% of replacement cost new
- Other cost/charges/taxes/duties/loadings are included.
- The date of valuation is 31st March 2018.

# Questions

1. What is the percentage loading on ex works. (Include freight, insurance, taxes etc only)
2. What is the preoperative expenses.
3. What is the cost of interest?
4. What is the current replacement cost?
5. What is the amount of depreciation considering SLM.
6. What is depreciated cost of replacement.



# Answers

1. Loading = Insurance + taxes + loading un loading + foundation + installation = 20K+50K+5K+10K+30K=115K

Loading = 115K/10 lkh = 11.5%

2. Preoperative expenses = 2.5% of total = (10lakh+1.15Lakh)= 27,875/-

3. Interest cost = TOTAL Cost X interest = (11.15 lakh X 9.8%)=1,09,270/-

4. Current replacement cost = total cost including interest  
=11.15+1.09= 12,24,270

5. Depreciation = (Current replacement cost – scrap value) X used life / total life = ( 12.24 -5%of 12.24) X5/15= 3,87,685

6. Depreciated replacement cost = Current replacement cost – depreciation = 12.24 – 3.88 = 8,36.584

# Case 9

- Company ABC has purchased a Vertical Machining Centre (VMC) at the FOB cost of USD 60,000 from China in 2015.
- The **Valuer's** findings are as below.
- Total Insurance & freight to the factory location is INR 2,00,000 from port of loading.
- Applicable Taxes & Duties and Other Incidental Expenses are INR 10,00,000
- Useful life of machine is 15 years as per companies Act, 2013.
- Salvage Value is 5% of replacement cost new
- Exchange Rate: in 2015 1 USD = 60 INR, in 2018 1 USD = 65 INR
- Negotiated FOB price of VMC is USD 65,000 as per Quotation received.
- The date of valuation is 31st March 2018.

# Questions

1. What is the historic FOB price in INR
2. What is the current replacement cost in INR?
3. What is the ratio of current replacement cost over historic FOB.
4. What is the salvage value in INR.
5. What is the depreciation by SLM.
6. What is the depreciated Replacement Cost in INR.

# Answers...

1. FOB = USD 60K X 60 = Rs 36 lakh
2. Current Replacement Cost = Cost of good + transport + taxes  
= 65K X 65 + 2 lakh + 10 lakh = 54,25,000
3. Ratio = current replace cost / FOB = 54,25,000/36,00,000=1.51
4. Salvage Value = replacement cost X 5% = 54.25 X 5% =2,71,250
5. Depreciation = (Current replacement cost – scrap value) X Used life / total life  
= ( 54.25 – 54.25 X 5%) X 3/15 = 10.30,750/-
6. DRC = depreciated Replacement Cost = Current replacement cost – depreciation  
= 54.25 – 10.3075 = 43,94,250/-

# Case 10

- A Valuer has been appointed to carry out the liquidation valuation of the assets of a Ship Building Company as per the Insolvency and Bankruptcy Code, 2016. The company was involved in construction of Merchant & Defense vessels and offshore Rigs. The tangible assets comprise Plant & Machinery of Capital Assets, Capital Work in Progress, Raw Material, Stocks & Spares and Work in Progress. Valuer has followed 'Ex –situ' approach after appropriate study of Industry outlook and purpose of exercise.

# Q&A

1. A list of Steel Plates (to be used as Raw Material) has been provided which comprises the specifications/details like qty. size, weight, material grade which covers around 35,000 Metric Ton of Steel Plates.

- Which information/data is least important/ not required for the said Asset?

(a) Steel Grade

(b) Level of corrosion

(c) Loss of asset

(d) Cost of Dismantling

2. A list of Plant & Machinery has been provided which contains details of year of manufacturing, make, model, capacity, condition of asset and qty. Which data/factor is least important/not required for the said purpose?

(a) Cost of Dismantling

(b) Plant Layout showing process flow /machinery at each stage

(c) Obsolescence

(d) Bargaining power of Buyer

(3) A list of Consumable items for auxiliary supply (like Lubricants, Special Purpose Gases, Paints, Coolants etc.) has been provided. Which factor is least / not important while deriving the liquidation value?

- (a) Quantity of each item
- (b) Expiry Date of Material
- (c) Material Storing Capacity and Preservative Condition
- (d) Required quantity per Annum

(4) A list of store items has been provided which comprises imported items like winch, Propeller, Gen Sets. Which information is/are required to carry out the Valuation of said assets?

- (a) Asset specific liabilities towards Custom Duty
- (b) Application / Functionality
- (c) Cost of maintenance
- (d) All of above

(5) A list of Capital Work in Progress is provided which comprises the assets which are turnkey project items like Jetty, Ship Lift Facility, Fabrication Line etc. Which is the most critical/ important details for the said Valuation Exercise?

- (a) Progress Report of CWIP Project
- (b) CWIP as a Percentage of Gross Block
- (c) Expected Date of Completion of Project
- (d) None of the above

(6) A list of Work in Progress assets which comprises the under-construction vessels/Rigs etc. Which information is least /not important to carry out the Liquidation Value?

- (a) Progress Report of WIP Project
- (b) Demand of Specific Rig/ Ship
- (c) Facility in the shipyard to complete the under-construction Ship/ Rig
- (d) Facility in the shipyard to take out the under-construction Ship/Rig al.



# Case 11

- Company PQR is in the manufacturing of Switchgear Units has provided the Fixed Asset Register (FAR) as on date of Valuation. FAR comprises the assets since 1967 which covers around one Lakh line entries. No other documents have been provided pertaining to the Plant & Machinery. A Valuer has to carry out the valuation based on the Asset Register for a going concern on “as is where is basis” in ‘in Situ’ condition. Further, the company wants a valuer to rework on FAR and provide the grouping of the assets as per IndAS 16.

(1) Considering the complexity of FAR, valuer wanted to categorise it to apply/calculate various factors like Depreciation, Cost to cure, Obsolescence etc. What is/are relevant details to Categories the line entry?

(a) Variety of Class of Assets e.g. Land, Building, Plant & Machinery, Vehicles etc.

(b) Description of Asset

(c) Different site location

(d) All of the above

(2) Set the priority to derive the Market Value for following information with an assumption that available market information/data is accurate enough for the consideration.

1. Resale Market Instance

2. Quotation, Open Source of Information etc.

3. Use Capacity Benchmarking Method based on available Quotation, Open Source of Information etc.

4. Indexing on Acquisition Cost

(a) 1,3,2,4

(b) 1,2,3,4

(c) 1,4,2,3

(d) None of the above

(3) Which factor is not to be considered to derive the market value using Cost Approach for the said valuation exercise?

- (a) Bargaining power of Buyer
- (b) Cost of Dismantling
- (c) Obsolescence
- (d) Depreciation

(4) What should be the most suitable consideration for the balance economic life (balance useful life) of an asset where the age of the machinery exceeds the useful life defined by companies Act,2013?

- (a) Zero
- (b) Can be given 1 year
- (c) Zero value should be given for such assets
- (d) Should be given based on the condition and capability to function economically

(5) Grouping of the line entries can be done for the assets which must have following characteristics as per IndAS 16.

(a) Same useful life, Age and Salvage Value

(b) Same Balance Life

(c) Part of same Section/ Plant

(d) Same Functionality

(6) Assets/ entries with following description can be grouped together

(a) Economizer & De-aerator

(b) “3 Nos. Cooling Tower” & “2 Nos. of Cooling Tower” with same year of installation, used in same departments

(c) Condenser & Draft Fan

(d) Condenser & Supercharger

## Case 12

- A coal based thermal power plant was established in the year of 2002. The plant has been functioned successfully till 2015. Since 2015, the plant is in nonworking condition due to non- availability of Coal. Company management has decided to sell their assets in the market considering numerous issues with the plant. Answer following question based on the said facts

(1) For which unused store item buyer will ask for highest discount?

(a) Steel Plates

(b) Transformer

(c) DG Sets

(d) Instrumentation Items

(2) For which store item buyer will ask for lowest discount in terms of Market Rate of new items which has been kept in store?

(a) Steel Plates

(b) Transformer

(c) Wire Rope

(d) Instrumentation Items

(3) Power Plant is having higher unit cost of power generation due to higher coal consumption per unit power generation which makes plant unviable to function? Which type of obsolescence is this?

- (a) Economical Obsolescence
- (b) Functional Obsolescence
- (c) Technological Obsolescence
- (d) None of the above

(4) Power Plant is having higher value per unit cost of power generation due to higher cost of coal which makes plant unviable to function? Which type of obsolescence is this?

- (a) Economical Obsolescence
- (b) Functional Obsolescence
- (c) Technological Obsolescence
- (d) None of the above

# Case 13

- Valuation has been requested of a paper mill in 2018. Plant is closed for last 5 years. Equipment in good condition. Purchase of plant in 2000 & Installed in 2001. Replacement Cost new = Rs 50 cr. New plant is 5% more efficient. Restarting expense is Rs 5 crs.
- After the start up – life is increased by 15 years. Scrap value is 10%



# Q&A

1. What is the replacement cost of this plant

1. Rs 50
2. Rs 45
3. Rs 57.5
4. Rs 47.5

2. Scrap value of this plant

1. Rs 4.75
2. Rs 45
3. Rs 2.5
4. Rs 5

3. Age of plant for depreciation o SLM

1. 15 yrs
2. 19 yrs
3. 17 yrs
4. 15.75 yrs

#### 4. Depreciation of this plant by SLM

1. Rs 19
2. Rs 24.79
3. Rs 22.71
4. Rs 45

#### 5. Market Value of such plant?

1. Rs 19
2. Rs 24.79
3. Rs 22.71
4. Rs 45

#### 6. Paper mill will always have

1. Pastuerization
2. Vacuum forming
3. Boiler
4. Autoclaves.

# Case 14

- For a Pharma unit, quotes are from 4 parties and the comparison chart is below

Plant	Equipment Different	Age difference	Condition Difference	Capacity Advantage	Value
A	20%	10%	-10%	-10%	400K
B	10%	-20%	20%	-50%	450K
C	10%	40%	20%	50%	300K
D	-30%	60%	-15%	70%	500K

Positive figures = better.

1. What is the value of the plant considering sale price of A

1. Rs 440K
2. Rs 270K
3. Rs 660K
4. Rs 925K

2. What will be the considering Plant B

1. Rs 440K
2. Rs 270K
3. Rs 660K
4. Rs 925K

3. What will be the considering Plant C

1. Rs 440K
2. Rs 270K
3. Rs 660K
4. Rs 925K

4. What will be the considering Plant D

1. Rs 440K
2. Rs 270K
3. Rs 660K
4. Rs 925K

5. Which equipment is most likely available in Pharma Industry.

1. Heat treatment plant
2. Autoclave
3. Carding machine
4. Curing press

6. Which plant is the minimum valued plant?

1. Plant A
2. Plant B
3. Plant C
4. Plant D

# Case 15

- A motorcycle company has asked you to value the plant as per company act 2013. Assets are welding robots, working in one shift of 8 hours, Painting robots – working in 2 shifts, Paint shop working in 3 shifts.
- Life is 15 years.

1. Useful life of welding robots for depreciation in years

1. 20
2. 10
3. 7.5
4. 15

2. Useful life of painting robots for depreciation in years

1. 20
2. 10
3. 7.5
4. 15

3. Useful life of paint shop for depreciation in years

1. 20
2. 10
3. 7.5
4. 15

4. What will be the net value of painting robots, by WDV method, after 2 years. Cost now Rs 10,000. Scrap Value 5%.

1. Rs 8190
2. Rs 9050
3. Rs 8100
4. Rs 7330

5. . What will be the net value of paint shop, by WDV method, after 2 years. Cost now Rs 10,000. Scrap Value 5%.

1. Rs 7627
2. Rs 8733
3. Rs 7467
4. Rs 6521

6. What will be the net value of paint shop, by SLM method, after 2 years. Cost now Rs 10,000. Scrap Value 5%.

1. Rs 7627
2. Rs 8733
3. Rs 7467
4. Rs 6521



# Case 16

- Please value a plant – in 2018.
- purchased in 2011 & installed in 2012.
- Gross Book Value = 150 cr
- Depreciation = 60 cr
- Net Book Value = 90 cr
- Replacement cost new = 225 cr
- Depreciation as per Company Act 2013 – 80 cr
- Depreciated replacement cost = 145Cr
- Year wise efficiency
  - 2012 = 25%
  - 2013 = 35%
  - 2014 = 45%
  - 2015 = 50%

1. What is the minimum plant efficiency

1. 50%
2. 15%
3. 25%
4. 55%

2. What is the maximum plant efficiency

1. 50%
2. 15%
3. 25%
4. 55%

3. What is the age of plant in years for calculating depreciation?

1. 5
2. 6
3. 7
4. 8

4. What is the age of plant, for calculating reproduction cost new using price index.

1. 5
2. 6
3. 7
4. 8

5. What will be the replacement cost new ?

1. 150
2. 145
3. 225
4. 90

6. What is the Depreciated Replacement Cost

1. 150
2. 145
3. 225
4. 90

# Case 17

- A sugar mill was purchased in 2010, for Rs 65 crs and started commercial production in 2012.

It is to be valued in 2020 for bank loan purposes. The valuer evaluates the life to be 25 years.

The Income Tax depreciation is 15%.

Company law life is 15 years

Residual value is 5%

Q1. What is the total depreciation as per income tax.

Q2. What is the value for bank loan.

Q3. What is the value as per company law.

Q4. If an additional boiler of Rs 100 lakh was installed in 2018. What will be the new value as per income tax?

# Answers

- A1. Income Tax depreciation is on WDV method.
  - Time gone = 2020-2012 = 8 years
  - Depreciated value =  $A \times (1 - \text{dep. Rate})^{\text{Years}} = 65 \times (1 - 15\%)^8 = \text{Rs } 17.71 \text{ cr}$
  - Depreciation =  $\text{Rs } 65 - 17.71 = \text{Rs } 47.29 \text{ crs}$
- A2 Value for bank loan = fair value.
  - Life = 25 years. Residual value = 5%. Used life = 8 years
  - SLM depreciation =  $\text{Rs } 65 \times (1 - 5\%) \times \frac{8}{25} = \text{Rs } 19.76 \text{ crs}$
  - Value =  $\text{Rs } 65 - 19.76 = \text{Rs } 45.24 \text{ crs}$
- A3 Value as per company law.
  - Life = 15 yrs, Residual value = 5%, used life = 8 years
  - SLM depreciation =  $\text{Rs } 65 \times (1 - 5\%) \times \frac{8}{15} = \text{Rs } 32.93 \text{ crs}$
  - Value =  $\text{Rs } 65 - 32.93 = \text{Rs } 32.07 \text{ crs}$
- A4. Depreciation till 2018
  - Time = 6 years rest is same
  - Depreciated value =  $A \times (1 - \text{dep. Rate})^{\text{Years}} = 65 \times (1 - 15\%)^6 = \text{Rs } 24.51 \text{ cr}$
  - Rs 1 crs is added = so the value becomes  $24.51 + 1.00 = 25.51 \text{ crs}$
  - Depreciation for remaining 2 years =  $25.52 \times (1 - 15\%)^2 = \text{Rs } 18.44 \text{ crs}$

# Case 18

Purchase value of machinery – Rs. 5,20,000 in the year 1996

Index in 1996 – 115, Index in 2020 – 219

Life of machinery is 30 years,

Physical obsolescence is 80%

Functional obsolescence is 20%

Economic Obsolescence is 30%

Scrap value is 10%

Q1. What is the RCN of the machine.

Q2. How much is the physical obsolescence?

Q3. How much is functional Obsolescence

Q4. How much is economic Obsolescence.

Q5. What is the fair value of the machine in 2020.



# Answers

- $A1 \text{ (Index 1 / Index 2) = (Price 1/ price 2)}$ 
  - $219/115 = \text{RCN} / 5.20, \text{RCN} = \text{Rs } 9.90 \text{ lakh}$
- $A2 = \text{Physical Obsolescence} = (\text{RCN} - \text{residual value}) \times \text{Obs. Percent}$ 
  - $(9.90 - 10\% \text{ of } 9.9) \times 0.8 = \text{Rs } 7.13 \text{ lakh}$
- $A3 = \text{Functional Obsolescence} = \text{Value AFTER physical obsolescence} \times \text{percent}$ 
  - $\text{Rs } 9.90 - 7.13 = \text{Rs } 2.77 \times 20\% = \text{Rs } 0.55 \text{ lakh}$
- $A4 = \text{Economic Obs.} = \text{value after the two obs.}$ 
  - $\text{Rs } 9.90 - \text{Rs } 7.13 - \text{Rs } 0.55 = \text{Rs } 2.22. \text{ So Obs} = \text{Rs } 2.22 \times 30\% = \text{Rs } 0.66$
- $A5 = \text{Fair value of the machine} = \text{Rs } 9.9 - \text{Rs } 7.13 - \text{Rs } 0.55 - \text{Rs } 0.66 + \text{Rs } 0.99 = \text{Rs } 2.54 \text{ lakh}$

# Case No 19

The following is the details for a plant.

Purchase in 1994. Company act life 15 years. Installed 1996. Residual value is 5%

Purchase price Rs 12 crs. Acquisition cost Rs 12.67 cr

The plant could not run between 2001 to 2003.

After 2003, additional investment of Rs 3 crs, increased to life to 30 years.

Valuation is done for 31-Mar-2020.

Q1. What is the value of the plant as on valuation date.

Q2. What is the total depreciation as per company law on date of valuation.

Q3. What will be the depreciated book value in 2001.

# Answers

- A1. Depreciation is on acquisition cost and from the date of installation.
  - Stoppage of plant in between has no effect on depreciation.
  - Life used till 2003 = 2003-1996 = 7 years
  - Depreciation =  $(12.67 - 5\% \text{ of } 12.67) \times 7/15 = \text{Rs } 5.62$
  - Value =  $12.67 - 5.62 = 7.05 \text{ crs}$
  - Additional investment = Rs 3 cr. Value in 2003 =  $3 + 7.05 = \text{Rs } 10.05 \text{ cr}$
  - End life now = 1996+30 = 2026. Residual value = 5% of Rs 10.05 = Rs 0.50
  - Depreciation till 2020 =  $(10.05 - 0.5) \times (2020 - 2003) / (2026 - 2003) = \text{Rs } 7.05$
  - Value =  $\text{Rs } 10.05 - \text{Rs } 7.05 = \text{Rs } 3.0 \text{ cr.}$
- A2. Total depreciation =  $\text{Rs } 5.62 + \text{Rs } 7.05 = \text{Rs } 12.67 \text{ cr}$
- A3 Depreciation =  $(12.67 - 5\% \text{ of } 12.67) \times 5/15 = \text{Rs } 4.01$ .
  - Dep. Book value =  $12.67 - 4.01 = \text{Rs } 8.66 \text{ crs}$

# Case 20

During inspection of the goods, under IBC valuation the following items were observed. Valuation date 30-Jun-2020.

S. No	Item Name	Quantity	Purchase Value each	Year of Purchase	Condition during inspection	Present Market Value	Replace Cost New
1.	Laptop	5	35000	2015	Not starting	2000	28000
2.	UPS 750VA	3	1400	2015	Not starting	250	1550
3.	Split AC	2	21000	2015	Poor	3500	24500
4.	Office furniture	Misc	100000	2015	Broken	7500	125000

Life of laptop & UPS = 5 years

Life of AC = 10 years

Residual value = 5%

Q1. Which is a logical way to value these items.

Q2. What will be the value for a P&M Valuer.

Q3. Client says that he will buy all the above at double the market value. Will this change the valuation.

Q4. IP requests that due to Covid, he was unable to do any thing, and so the valuation date be changed to 30-Jun-2021. How will that affect the valuation.

Q5. IP was changed before the valuation could be carried out. Does that cancel the appointment of the valuer.

# Answers

- A1. As all these items are traded freely in the secondary market, it is better to value them on Market Method.
- A2. Valuation is

S.No	Item Name	Quantity	Purchase Value each	Year of Purchase	Condition during inspection	Present Market Value	Value
1.	Laptop	5	35000	2015	Not starting	2000	10,000
2.	UPS 750VA	3	1400	2015	Not starting	250	750
3.	Split AC	2	21000	2015	Poor	3500	7000
4.	Office furniture	Misc	100000	2015	Broken	7500	7500
						TOTAL	25,250

- A3. No, it will not change the valuation.
- A4. A future date valuation is not done. Plus in case of IBC, the date of appointment of IP is the date as per the law. That cannot be changed.
- The appointment of the valuer is ratified by COC and cannot be changed by change of IP.

# Case 21

A plant of engineering fabrication was purchased in 2020 for Rs 20 crs that was under liquidation.

Additional investment of Rs 50 crs was made in P&M to make it operational.

The management plan is to sell the goods as follows.

Year	Sale Value	Operations Cost in total
2021	20 crs	22 cr
2022	30 cr	29cr
2023	40 cr	38 cr
2024	50 cr	47 cr
2025	60 cr	56 cr

Company took a loan at 8.5% for the machines to be repaid over 6 years.

Life of equipment = 15 years. Residual value 10%. Number of shifts operational = 3.

Management cannot project the sales beyond this and say that will be quite unreliable.



- Q1. What is the acquisition cost of the plant.
- Q2. Value as per cost method.
- Q3. Value as per income method.

# Answers

- A1. Acquisition cost = Rs 20 + Rs 50 = Rs 70 crs.
- A2. As the date of valuation is same as date of acquisition, the value is Rs 70 cr.

Year	2021	2022	2023	2024	2025	
Income	20	30	40	50	60	
Expenses	22	29	38	47	56	
Profit	-2	1	2	3	4	
Discount rate	8.50%	8.50%	8.50%	8.50%	8.50%	
Discounted Profit	(1.84)	0.85	1.57	2.16	2.66	5.40
Depreciation	8.4	8.4	8.4	8.4	8.4	
Depreciated Value	61.6	53.2	44.8	36.4	28.0	
Present value of the assets				18.62		
Value	18.62+5.4		24.02	crs		

Thanks