**UNIT 4 VALUATION**

**TWO MARKS**

**1.Define valuation** **(April/May 2017)**

Valuation is the process of estimating the cost of a property based on its present condition. The properties may be immovable properties like land, buildings, mines trees quarries etc., and movable properties such as coal, oil, steel, cement, sand etc.

**2.What is depreciation**? ( **April/May 2017**)

The monetary value of an asset decreases over time due to use, wear and tear or obsolescence. This decrease is measured as depreciation

3**.What are the important factors influencing the value of building?**

Type of the building

Location of the building

Expected life of the building

Size and shape of the building

The Present condition of the building

Legal control of the building

**4.What is the purpose of valuations? (May/June 2014, Nov/Dec 2015)**

For assessment of wealth tax, property tax etc

For fixation of rent

For security of loans or mortgage

For insurance, betterment charges etc

For compulsory acquisition

For reinstatement.

**5.Write the necessity of valuation.**

Rent fixation. It is generally taken as 6% of the valuation of the property

For buying and selling

Acquisition of property by Govt.

To be mortgaged with bank or any other society to raise loan

For various taxes to be given and fixed, by the Municipal Committee

Insurance: For taking out on insurance policies.

**6.Define the Value**.

Value-Present day cost of a engineering structures (saleable value)

**7.Define the Cost**.

Original cost of construction. It is used to find out the loss of value of property due to various reasons.

**8.Define the Gross income**.

Total amount of the income received from the property during the year, without deducting outgoings

**9.Define the Net come.**

An amount left at the end of the year after deducting all useable outgoings

**10.Define the Obsolescence**

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The value of property decreases if its style and design are outdated i.e rooms not properly set, thick walls, poor ventilation etc. The reason of this is fast changing techniques of construction, design, ideas leading to more comfort etc.

**11.Define the Scrap Value. (May/June 2013)**

Scrap Value: If a building is to be dismantled after the period its utility is over, some amount can be fetched from the sale of old materials. The amount is known as scrap value of a building. If various from 7% to 10% of the cost of construction according to the availability of the material.

**12. Define the Salvage value (May/June 2013)**

If a property after being discarded at the end of the utility period is sold without being into pieces, the amount thus realized by sale is known as its salvage value.

**13.Define the Capitalized value. (May/June 2014)**

It is defined as that amount of money whose annual interest at the highest prevailing rate will be equal to the net income received from the property. To calculate the capitalized value, it is necessary to know highest prevailing on such properties and income from the property.

**14.Define sinking fund. (May/June 2013)**

A fund which is gradually accumulated and set aside to reconstruct the property after the expiry of the period of utility is known as sinking fund. The sinking funds may be found out by taking a sinking fund policy with any insurance company or deposition some amount in the bank. Generally while calculating the sinking fund, life of the building is considered. 90 % of the cost of construction is used for calculations 10 % is left out as scrap value.

sinking fund (I) = Si/ (1+i)n -1

Where I = Annual instalment required

n = Number of year required to creat sinking fund

i = Rate of interest expressed in decimal i.e 5% as 0.05 S = Sinking fund

**15.Define Market value (Nov/Dec 2015, Nov/Dec 2016)**

Market value: The market value of a property is the amount, which can be obtained at any particular time from the open market if the property is put for sale. The market value will differ from time to time according to demand and supply.

**16. Define Book value. (Nov/Dec 2016)**

Book value: Book value is the amount shown in the account book after allowing necessary depreciations. The book value of a property at a particularly year is the original cost minus the amount of depreciation up to the previous year.

**17. Write the various methods of valuation**.

Plinth area method

Depreciation rate method

Rental method

Land and building method

5.Development method

**18. The estimated value of a building is Rs.5,00,000.The carpet area of the building is 70 sq.m If the plinth area is 20% more than this ,what is the plinth rate of the building?**

Value of building = Rs.5, 00,000

Carpet area = 70 m2

Plinth area = 20 % more = 1.20 x 70 = 84 m2

Plinth area rate of the building = Value of the building/Plinth area

= 5,00,000/84 = Rs.5952.38m2

**19. The present value of a property is 20000/- Calculate the standard rent. The rate of interest may be assumed as 6%.**

*Annual rent @ 6% = 20000x 6 /100 = Rs.1200/-*

*Standard rent per month = 1200/12 = Rs.1200/12 = Rs.100/-*

**20. Write the various methods of depreciation (May/June 2013)**

1. Straight line method

2. Constant percentage basis

3. Quantity survey method

4. Sinking fund method.

**21. Define the Year’s purchase**

Year’s purchase : It may be as the figure which when multiplied by the net income from a property gives capitalized value of the property.It can also be defined as “a certain amount of capital whose annuity of Rs.1/- at a certain rate of interest can be received”

Year’s purchase = 100/rate of interest = 1/i

**22. Define the Annuity**

Annuity : The return of capital investment in the shape of annual installments monthly, quarterly, half yearly &yearly.

**23. Define Analysis of work.**

The process of determining the rate of an item of work or supply of the material is known as the analysis of rate or rate analysis.

**24. An old building has been purchased by a person at a cost of Rs.30,000/- excluding the cost of the land. Calculate the amount of annual sinking fund at 4% interest assuming the future life of the building as 20 years and scarp value of the building as 10% of the cost of purchase.**

The total amount of sinking fund to be accumulated at the end of 20 years S = 3000x (90/100) = Rs.27000.00

Annual installments of sinking fund I = Si/(1+i)n – 1 = 27000 x 0.04 /(1+0.04)20 -1 = Rs.907.20

Annual installments for sinking fund requires for 20 years = Rs.907.20

**25. Write the necessity of valuation. (April/May2015)**

Rent fixation. It is generally taken as 6% of the valuation of the property

For buying and selling

Acquisition of property by Govt.

To be mortgaged with bank or any other society to raise loan

For various taxes to be given and fixed, by the Municipal Committee

Insurance: For taking out on insurance policies.

**26. Define the Capitalized value. (Nov/Dec 2014)**

It is defined as that amount of money whose annual interest at the highest prevailing rate will be equal to the net income received from the property. To calculate the capitalized value, it is necessary to know highest prevailing on such properties and income from the property.

**27. What is depreciation?(Nov/Dec 2014)**

The monetary value of an asset decreases over time due to use, wear and tear or obsolescence. This decrease is measured as depreciation.

**28. Define Mortgage. (April/May2015)**

A [legal](http://www.businessdictionary.com/definition/legal.html) [agreement](http://www.businessdictionary.com/definition/agreement.html) that [conveys](http://www.businessdictionary.com/definition/convey.html) the [conditional](http://www.businessdictionary.com/definition/conditional.html) [right](http://www.businessdictionary.com/definition/right.html) of [ownership](http://www.businessdictionary.com/definition/ownership.html) on an [asset](http://www.businessdictionary.com/definition/asset.html) or [property](http://www.businessdictionary.com/definition/property.html) by its [owner](http://www.businessdictionary.com/definition/owner.html) (the [mortgagor](http://www.businessdictionary.com/definition/mortgagor.html)) to a lender (the [mortgagee](http://www.businessdictionary.com/definition/mortgagee.html)) as [security](http://www.businessdictionary.com/definition/security.html) for a [loan](http://www.businessdictionary.com/definition/loan.html).

**SIXTEEN MARKS**

1. **Explain the various methods of valuation (April/May 2017)**

Depreciation method of valuation

Valuation based on cost

Valuation based on profit

Valuation by Development method

Rental method of valuation

**a) Depreciation method of valuation**

In this method, the structure is divided into four parts for calculating depreciation:

Walls

Roofs

Floors

Doors and Windows

The measurement is done accurately and the cost is found out using current rates. Life of each portion is found out using Table A. to find out depreciated value, the formula used is



where all the values are given, „D‟ can be calculated.

This value does not in clued cost of land, water supply, sanitary fitting, electric installations etc.

The cost of above items are added to get the total valuation of property. The table C gives calculate values of depreciation for different values of

„n‟ and „rd‟.

**b) Valuation based on cost**

In this method, the actual cost of the construction is found out and valuation is done after considering depreciations and also caring for type of construction and design of the construction.

**c) Valuation based on profit**

Under this sub-head, valuation of cinemas, theatres, hotels, banks, big shop etc. Located at sui9table places is done where profit is of capitalized value. The capitalized value is calculated by multiplying year‟s purchase with net profit. The net profit is worked out after deducting all possible outgoings and expenditures from the gross income. In such cases the cost will be too high as compared with the cost of construction actually incurred.

**d) Valuation by development method**

This method is also used for working out the value of a building. In certain cases, some additions, alterations and improvements are carried out which increases the cost of the building. The valuator should be careful while doing evaluation about this.

In cases, when the building is still under development. In this case the future development of the building and profits from it should be anticipated while evaluating.

**e) Rental method of valuation**

Rent of a building is used as a base for calculating value of a building. In this method the net income by the war of way of rent is found out after deducting all out goings from the gross income. A suitable rate of interest prevailing in the market is also to be assumed of such type of buildings. Based on the above rate of interest, the Y‟ P. is obtained. The net income is multiplied with Y‟s P. to obtain capitalized value

1. **An R.C.C framed structure building having estimated future life of 80 years, fetches a gross annual rent of Rs.2200/- per month. Work out its capitalized value on the basis of 6% net yield. The rate of compound interest for sinking fund may be 4%. The plot measures 400 sq.m. & cost of land may be taken as Rs.120/-per sq.m. The other out goings are:**

**(April/May 2017)**

**Repair & maintenance = 121 of gross income**

**Municipal & property taxes = 25% gross income**

**Management & miscellaneous = 7% gross income**

**The plinth area of the building is 800 sq.m. & cost per sq.m. may be taken as Rs.500/- per sq.m**Solution

Gross annual rent = 2200 x 12 = 26400/-

Rate of compound interest = 4%

Life of the building = 80 years

Cost of the building = 800 x 500 = 4, 00,000/-

Out going:

(i) Repair & maintenance = 

(ii) Municipal Taxes 

(iii) Management & Miscellaneous 

iv) sinking Fund 

total outgoings = 11379/-

met income = 26400 – 11379

= 15021/-

Capitalized value = Y’s. P x xnet income

Where Y”s P = 6%

Capitalized value = 100 x 615021 = 250350

Calculate the annual rent of a building with the following data: (Nov/Dec 2012)

Cost of Land = Rs. 20,000/-

Cost of building = 80, 000/-

Estimate life = 80 years

Return expected = 5% on land 6 % on building

Annual repairs are expected to be 0.8% of the cost construction and other out goings will be 25% of the gross rent. There is no proposal to set up a sinking find

Solution:-

Amount of return required on land @ 5% of Rs 20,000/- = 1000/-

Amount of return required on building @ 6% of 80, 000/- = 4800/-

Net Income = 5800/-

Let gross rent per annum = x

Amount of annual repairs 8% of 80, 000/- = 640/-

Amount for other repairs = 25

Net in come = Gross income – Out goings

5800 = x 640 – 25x

Rent per month = 

1. **A govt. accommodation is built at the cost of Rs. 60,000/- . The water supply and sanitary and electrical installation expenditure is Rs. 15000/-. Calculate the standard rend of the building if the following rate of return are fixed:**

**6% on construction cost.**

**1 1/2 % towards maintenance of building work,**

**4 1/2 % on installation expenditure.**

**iv. 4% on maintenance installation.**

**Rs. 120/- as property tax per year.**

**Cost of land is be neglected. (Nov/Dec 2015, Nov/Dec 2016)**

Solution:-

(a) (i) Return construction cost = 3600/-

(ii) Return on installation cost = Rs. 6/5.

(iii) Cost of maintenance of building = 900/-

(iv) Cost of maintenance of installations = 600/-

(v) property = 120/- Gross

Return = 5895

Standard rent = Gross rent /12

= 491.25 P.M (Per Month)

(b) Standard rent is also equal to 6% of capital value

1. Construction cost v = 60.000.00

2. Installation cost = 15000.00

Total = 750000.00

Standard = 4500/- per year

1. **Explain the Methods for calculating depreciation (May/June 2014)**

Straight line Method

Constant percentage method

Sinking Fund Method

Quantity Survey Method

**Straight Line Method**

In this method, it is assumed that the property losses its value by the same amount every year. A fixed amount of the original cost is deducted every year, so that at the end of the utility period, only the scrap value is left.

*Annual Depreciation, D = (original cost of the asset – Scrap Value)/life in years*

For example, a vehicle that depreciates over 5 years, is purchased at a cost of

US$17,000, and will have a salvage value of US$2000, will depreciate at US$3,000 per year:

($17,000? $2,000)/ 5 years = $3,000 annual straight-line depreciation expense. In other words, it is the depreciable cost of the asset divided by the number of years of its useful life.

**Constant Percentage Method or Declining balance Method**

In this method, it is assumed that the property will lose its value by a constant percentage of its value at the beginning of every year.

Annual Depreciation, D = 1-(scrap value/original value)1/life in year

**Sinking Fund Method**

In this method, the depreciation of a property is assumed to be equal to the annual sinking fund plus the interest on the fund for that year, which is supposed to be invested on interest bearing investment. If A is the annual sinking fund and b, c, d, etc. represent interest on the sinking fund for subsequent years and C = total original cost

**Quantity Survey Method**

In this method, the property is studied in detail and loss in value due to life, wear and tear, decay, and obsolescence etc, worked out. Each and every step is based is based on some logical grounds without any fixed percentage of the cost of the property. Only experimental valuer can work out the amount of depreciation and present value of a property by this method.

**5. A printing machine is to be installed at a cost of 30000/- in a press**

**Assuming the life of the machine as 20 years. Calculate the amount of annual installment of sinking fund to be deposited to accumulate the whole amount of 5% compound interest.**

The annual sinking fund



The owner will have to deposit Rs. 906.30 per year in 5% compound interest for 20 years to accumulate Rs. 30,000/-.

Note: In certain cases, old buildings are purchased and in that case scrap value into be deducted from the amount spent so as to calculate the amount of Sinking fund.

1. **An old shop in the main market has been purchased by a person as a cost of Rs. 20000/-. Work out the amount of annual sinking fund at 3% interest assuming future life of the building as 15 years and scrap value of the building as 10% of the cost of purchase. (May/June 2013)**

Solution:

Cost of the shop = Rs. 20000/-

Less crape value = Rs. 2000/-

Net Rs. 18000/-

Amount of sinking found to be accumulated after 15 years = Rs. 18000/-Annual installment of sinking fund.



**7.Explain about Depreciation (Nov/Dec 2012)**

A structure, after sometimes gradually losses some of its value due to its constant use and some other similar reasons, such as

The property in neglected condition

The property being away from schools & market

Design being out of fashion

Poor specifications followed which requiring maintenance. The loss thus involve in the value of properties known as Depreciation.



Where D = Deprecated Value

P = Present Value

Rd = Fixed percentage of deprecation

N = number of year the building has been constructed in existence

P = Present Value

The present value of building can be found out using any of the following methods

Value depending upon Plinth Area.

This method has already been health with in details in the previous chapters.

The plain the area is multiplied with plinth area rate.

value from detailed measurement:

Detailed measurements of the building are taken and multiplied by current rates, sub-head-wise. The current rates are taken from schedule of rates and premium is added to it.

Value from records on M.B

The value of the total construction is found out from the records entered in the measurement book. In this method, old cost is noted and is multiplied by the

increase in price index i.e. percentage of increase.

Rd = Fixed percentage of depreciation

Experience has also shown that the time passes, due to constant use, wear and tear, the cost of the building depreciates. This depreciation increases with the time. The following are the values of rd for different structures.

Structure with 80-100 years life rd = 1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ” | ” | 70-75 | ” | ” | ” = 1.3 | |
| ” | ” | 50 | ” | ” | ” = 2 | |
| ” | ” | 25 | ” | ” | ” = | 4 |
| ” | ” | 20 | ” | ” | ” = | 5 |

A = Life of Structure

Experience has also shown that well contracted structure can last upto 100 years. This life depends upon the durability of various materials used. Thus by seeing specification the life of a structure can be found out. The following chart shown expected life of the various materials and constructions.

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e**) Rental method of valuation**

1. **A residence is to be constructed over a plot of land measuring 600 sq.m. The byelaws permit a 30% of covered area. The constructions to be done are of A class specifications. Also add for services @30% of the total cost. The water supply is from a common source. Prepare rental statement also.**

Solution

Covered area = 30% of 600 sq.m. = 180 sq.m.

Rough cost estimate = 180 x 500 = Rs.90,000/-

(Rs.500-Rate per sq.m)

Add for services @ 30% = Rs.27,000/-

Total = 90,000 + 27,000 = Rs.1,17,000/-

RENTAL STATEMENT

Loss = Rs. 585 – Rs. 120 = Rs.465/-

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Solution

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Rent per month = 