

**Problem 1.**

The machine has been in operation for 3 years. The initial cost was 2400 UAH. Depreciation rate - 16.6%. Calculate the rate of depreciation and residual value of the machine.

**Problem 2.**

Boring machine, the initial cost of which was 1,800 USD, were written off from the liquidation cost of 450 USD. The annual amount of depreciation - 250 UAH. Determine depreciation rate (Dr) for the case when the depreciation lifetime will be reduced by 2 years. How does the amount of depreciation be reduced?

**Problem 3.**

Determine the replacement cost of automatic lines for soft drinks, when it is known that the initial cost of 180 thousand UAH., The line is operating three years, the rate of indexation 1.1, 0.85, 1.05 correspondingly.

**Problem 4.**

Calculate capital productivity and capital intensity of production airlines based on the following data:

The average cost of fixed assets - 32391 thousand UAH.

Income = 18948 thousand. UAH.

Profit - 4243 thousand. UAH.

**Problem 5.**

Small enterprise uses 5 sewing machines that were purchased 3 years ago at a price of 1200 USD for each. Term of service is of 8 years. The current price of the car 1050 UAH. Calculate the overall rate of its deterioration.

**Problem 6.**

Calculate:

- 1) original (book) value of fixed assets of EPTSA;
- 2) the level of physical deterioration of the airport.

Background:

1. The cost of construction, acquisition, SVP equipment - 225,000 thousand. UAH .;
2. The cost of transportation - 8700 thousand. UAH;
3. Installation costs - 40,000 thousand. UAH;
4. The carrying value of the airport - 2000 thousand UAH, including: underground part - 5 thousand; ground parts - 15,000 thousand UAH.
5. Coefficient of physical deterioration - the underground part - 0.3; ground part of - 0.6.

**Problem 7**

Determine the value of fixed assets, if it is known that the value of fixed assets at the beginning of the year was 690 thousand ( $G_y$ ). In February amount of assets will be put by 60 thousand UAH, in July - 50 thousand UAH. The volume of production is 9500 thousand UAH. The number of industrial personnel is of 680 people.

**Problem 8**

In 1999, the company purchased a new semiautomatic machine the price of which was 45 thousand UAH. Regulatory it's lifetime is 7 years. Calculate the annual amount of depreciation using straight-line basis and double-residual (accelerated depreciation).

**Problem 9**

The company accelerated depreciation of the active part of fixed assets, including new CNC milling machines. Decide which method is better for calculation this depreciation (cumulative or double-residual) if the initial cost of the machine 36 thousand UAH and normative service lifetime of the machine is 6 years.

**Problem 10**

Calculate capital productivity and capital intensity of production airlines based on the following data:

The average cost of fixed assets - 32391 thousand UAH.

Income = 18948 thousand UAH.

Profit - 4243 thousand UAH.

**Problem 11.**

Determine the profitability of airline:

	Schedule	Report
Costs (thousand UAH)	145	152
Income (thousand UAH)	250	262
The carrying value of fixed assets (thousand UAH)	330	345
Normalized current assets (thousand UAH)	100	125

**Problem 12.**

Determine the turnover rates of normalized floating means on operating businesses. Conclude that the company uses vehicles running better?

Indicators	Enterprise	
	1	2
Revenue for the III quarter, thousand UAH	6000	3500
Remains of normalized working capital funds thousand UAH		
July, 1	800	480
August, 1	1200	600
September, 1	900	500
October, 1	800	400

### Problem 13

Determine the amount of inventory (raw materials) when it is known that every one day spent 8.5 tons of raw materials, the price of 1 tone - 8 thousand UAH. Raw materials are delivered to the plant every 20 days, the duration of transport 3 days, current stock - 5 days insurance - half the current stock.

### Problem 14

Determine the rate of the stock of total assets in progress, if made during the year will cost 340 products from 620 UAH/pcs. At the beginning of production cycle length is 35 days, spent 100 USD.

### Problem 15

Calculate the productivity of EPTSA the following initial data: revenue from passenger traffic on domestic PL in its own park is 81.2 million UAH; Carriage paid on luggage - 10 million UAH; transportation of cargo - 5 million UAH; transportation of mail - 13 million UAH; income from aircraft flying PS of other enterprises - 8 mln UAH, income from commercial aircraft servicing of other companies - 5 million UAH, revenue from Air Navigation Services of other enterprises AC - 3 million UAH; income from aircraft flying in other companies - 3 million UAH; income from commercial aircraft servicing other businesses - 4 million; income from air service sectors of the economy - 2 million; income from operations and services related to core activities - 1.1 million; number of workers EPTSA is 1750 people. Coefficient taking into account the actual loss of revenue due to exemptions passengers is taken as 0.95.

### Problem 16

Labor productivity increased by 4.5%, the volume of production - by 3.8%. Determine how did the number of employees changed due to these indicators.

### Problem 17

Monthly wage of worker who gets salary hourly is 1224 USD.

A worker must work 21 shifts of 8 hours a day. Actually, he worked 20 shifts on 5 hours a day and 3 shifts on 4 hours. For trouble-free operation he is provided premium of 15% of the tariff income. Determine the hourly salary taking into account bonus system.

**Problem 18**

Determine the employee's wages by piece-progression system when it is produced 190 products per month in terms of 155/month. The initial basis for calculating extra payments is 114% of the target. The complexity of product manufacturing - 1.2 norm-hours, echelon of work is 5, tariff rates at I echelon - 1,2 UAH / h, and the tariff rate is 1.5 for category 5.

**Problem 19**

Identify the given capital investment (including time factor) by alternative construction of the airport on the following data:

1. Capital expenditures for options distributed by years of construction in the following way (thousand UAH):

Variants of building	YEARS				
	1	2	3	4	5
I	1000	500	2000	2000	2500
II	2000	-	2000	3000	1000
III	3000	1000	500	1000	2500



2. For the current year it is taken last year period under review. The ratio reduction is taken as 0.1.

**Problem 20**

Identify the most effective option for implementation of aircraft and compare annual economic impact in the following output data:

	VARIANTS		
	1	2	3
a) transportation net cost, UAH t/km	1,51	1,64	1,28
b) capital costs, thousand UAH	31800	10200	8000
c) hourly productivity of flights, tkm/h	8800	4000	6300
d) annual flying hours, hours	2000	2000	2000

Normative coefficient of relative effectiveness factor is taken as 0.15 (En = 0.15).

**Problem 21**

Calculate the cost of tons km Tu-154 at different percentages using commercial load limit, draw conclusions.

Background:

1) The cost of flying hours - 13300 UAH;

2) The maximum payload - 15,000 kg;

3) scheduled speed - 820 km / h ;

Factor limiting commercial loading: 0.75; 0.8; 0,9.

### **Problem 22**

Determine which size changed level of transportation costs due to changes in comparison with the task in the level of expenditure on individual articles of the cost of the aircraft if:

<b>INDICATORS</b>	<b>INDICES</b>	<b>SCHE DULE</b>	<b>REPO RT</b>
1. Costs on salary	thousand UAH	22	24
2. Costs on GCM	thousand UAH	40	48
3. Depreciation costs	thousand UAH	30	30
4. Other costs	thousand UAH	10	12
5. Volume of transport work	thousand UAH	90	98

### **Problem 23**

Calculate the absolute economic efficiency of capital investments in the electronic industry and identify their economic viability if  $E_n = 0.15$ , the amount of capital investment 300 thousand UAH. The cost of production in the base case 1600 thousand UAH, introduced in 1500 thousand Gy.

### **Problem 24**

Settlement of production and economic objectives of the enterprise requires certain investments presented in 6 variants. Select and justify the most effective of the options.

Indicators	Variants					
	1	2	3	4	5	6
Capital investments	650	690	720	740	715	790
Net cost of annual production	550	540	535	530	540	600
Normative coefficient of the investments efficiency	0,23	0,23	0,23	0,23	0,23	0,23

### **Problem 25**

Four years ago, the company purchased and put into operation the equipment starting price of 60 thousand UAH. The average annual growth rate of labor productivity on the farm is 0.9%, the amount of annual depreciation of equipment - 7,1 thousand UAH. Determine the replacement cost of existing equipment considering its wear.

### **Problem 26**

Small company purchased a new lathe \$ 50 thousand. UAH. Regulatory Life time of machine is 5 years. The residual value of the equipment according to preliminary estimates of 10 thousand. UAH. Determine the depreciation rate of the fifth year of service of the machine and the amount of accumulated depreciation in the same year, if accelerated depreciation accrued by reducing the residual value.

### **Problem 27**

What is the possibility of repayment of \$ 350 thousand UAH now, if the income from the project capital investment is expected to amount to 800 thousand UAH. The term of the loan - 6 months.

### **Problem 28**

The initial cost of equipment for aircraft repair plant 100 thousand UAH, The required service life - 5 years. The residual value of the equipment according to preliminary estimated at 25 thousand UAH. Determine which method is better to use when calculating depreciation: 1) rapid reduction of the residual value or 2) cumulative.

### **Problem 29**

Would be adopted total project investment if expected income from investments is 1 million. Deadline of project - 1 year. The total cost of project - 700 thousand UAH.

**Problem 30**

Determine the feasibility of investments of \$ 5 million UAH on business acquisition and establishment of production hardware. Depreciation costs for all groups of fixed assets amount to about 400 thousand a year. It is supposed to keep the profile of the company over the next 4 years at an average cost of products - 45 UAH. Selling price of 55 USD and an annual registration - 900 thousand items Discount rate - 12%.

**Problem 31**

Determine the residual value of the car and the annual rate of depreciation, if it is known that the initial value of 10 000 USD, Amortization period - 8 years, the annual depreciation 820 USD, Residual value cars - 260 UAH.

**Problem 32**

According to the table to determine the need for wagon factories in black metal and its minimum, maximum, and average inventory if delivery period of 30 days, and the period of disruption time 6 days.

Detail	Clear mass, kg	Metal using coefficient	Annual production, pieces
1	180	0,6	7
2	300	0,55	12
3	460	0,85	16
4	560	0,65	23

**Problem 33**

Determine the initial cost of the core business, knowing that the annual rate of depreciation of 15%, and the amount of annual depreciation - 4800 UAH.

**Problem 34**

Determine the service life of the machine, if the initial value of 26 thousand. UAH. Replacement - 24.88 thousand. UAH, and the average annual growth of labor productivity - 4.5%.

**Problem 35**

Determine the ratio, funds availability, capital, and funds fulfillment, knowing that the value of fixed assets of the enterprise is 800 thousand UAH. The number of production staff is 68 persons, number of machines is 76 volume released in the year 9500 thousands of products, UAH.

**Problem 36**

Earlier this year, the value of fixed assets of the airline is 1000 thousand UAH. In June it was purchased capital assets of \$ 250 thousand UAH, October 35 thousand UAH. In May, the airline withdrew from the balance sheet fixed assets worth 45 thousand UAH, and in September cost 30

thousand UAH. Determine the value of fixed assets of the airline and the cost of fixed assets at the year end.

**Problem 37**

Determine the turnover of working capital and the duration of one revolution if the annual amount of sales - 6000 UAH, And middle quarter ratio of current assets respectively 620, 630, 640 and 650 thousand UAH.

**Problem 38**

Specialization of production ensure increased productivity by 8%. Thus wages fell by 5%. The cost of commercial products company is 150 thousand UAH, And payroll - 70 thousand UAH. Determine the impact of productivity growth on the level of costs company's production.

**Problem 39**

Determine tariff earnings crew members and the total earnings of each member of the team based bonus. The bonus is 700 USD. Data for the calculation are presented in the table below:

Name	Rate per hour	Worked hours	Work participation coefficient
Ivanov	1,4	160	0,8
Petrov	1,6	165	1,4
Sydorov	1,3	170	1,2

**Problem 40**

In the reporting year the volume of production was 18000 thousand UAH/ year, and the complexity of the production program of this year decreased compared to baseline at 800 days per person. Annual output in the base year was 100 thousand per year. Determine the output per worker in the reporting year, knowing that this year was 238 days.

**Problem 41**

Determine the wholesale price and product profitability. If you know that the production cost is 650 USD, non-productive spending 3.5% and profit 120 USD.

**Problem 42**

Determine the output per worker in the plan year and its growth in the percentage of the base year if 260 was made. Days, the annual output in the base period was 20 thousand UAH / person-year. The plan of the volume of production was 4,000 thousand UAH/ year, and reduce the complexity of the production program - 2200 people - days.

**Problem 43**

Enterprises sold 200 thousand units. Unit cost 4 thousand UAH, Wholesale price products - 4,8 thousand UAH. Determine the amount of profit, the cost of 1 USD marketable products and the profitability of production.

**Problem 44**



Full Commercial product cost is 70 USD, profit provided by the wholesale price - 30 USD, Shipping costs in the price of goods of the company employees is 160 people of staff. Product account for 1.20 USD, trade allowance of 30%. Determine the selling price.

**Problem 45**

Determine the cost of 1 USD commodity productions and percentage reduction of production costs, according to the table below:

Commodities	Annual production, pieces		Net cost of one commodity, piece/UAH		Discount rate per one unit
	report	schedule	report	schedule	
X	4000	4300	80	78	83
Y	10000	9000	16	14	18

**Problem 46**

Calculate tax profit on the following data:

1. Revenue from sales - 8300 thousand UAH.
  2. Cost of goods sold - 7,800 thousand UAH.
  3. Proceeds from the sale of additional products - 20,8 thousand UAH.
  4. Revenue from rendering of transport services - 120.8 thousand UAH.
  5. Costs for additional products - 15,6 thousand UAH.
  6. Transport costs - 110.0 thousand UAH.
  7. The amount of excess inventory - 0.8 thousand UAH.
  8. Debts (income) - 9.0 thousand UAH.
  9. Benefits penalty - 1,8 thousand UAH.
- Fines of 10 partners - 25.0 thousand UAH.

**Problem 47**

Specialization of production ensure increased productivity by 8%. Thus wages fell by 5%. The cost of commercial products company is 150 thousand. UAH, and payroll - 70 thousand UAH. Determine the impact of productivity growth on the level of cost company's commodities.

**Problem 48**

Determine tariff earnings crew members and the total earnings of each member of the team based on bonus. The bonus is 700 USD. Data for the calculation are presented in the table below:

Name	Hour tarrif	Worked hours	Work's coefficient
Ivanov	1,4	160	0,8
Petrov	1,6	165	1,4
Sidorov	1,3	170	1,2

**Problem 49**

In the reporting year the volume of production was 18000 thousand UAH/ year, and the complexity of the production program of this year decreased compared to baseline at 800 days - persons. Annual output in the base year was 100 thousand UAH /per year. Determine the output per worker in the reporting year, knowing that this year was 238 days.

**Problem 50**

Determine the wholesale price and product profitability. If you know that the production cost is 650 USD, non-productive spending 3.5% and profits 120 USD.