MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

National Aviation University

Faculty of Transport, Management and Logistics

Management of Foreign Economic Activity of Enterprises Department

Quality Management System

METHODICAL RECOMMENDATIONS TO PRACTICALS

on the discipline

«Macroeconomics»

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Task 1. Do the crossword:

Cross:

1.   The total amount of income generated by the sale of goods or services related to the company's primary operations.

2.   The amount of some good or service consumers are willing and able to purchase at each price.

3.   The category which make an influence on the level of GDP.

5.   Indicator which measures the changes in prices for all of the goods and services produced in an economy.

6.   The amount of something that people and other entities use.

Down:

1.   _____ GDP is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year (expressed in base-year prices).

2.   The situation when Demand is more than Supply.

4. The creation of something from basic inputs and also the indicator which is measured by GDP calculation.

7. The amount of a resource that firms, producers, providers of financial assets, or other economic agents are willing and able to provide to the marketplace or to an individual.

8. _____ GDP is an assessment of economic production in an economy that includes current prices in its calculation.
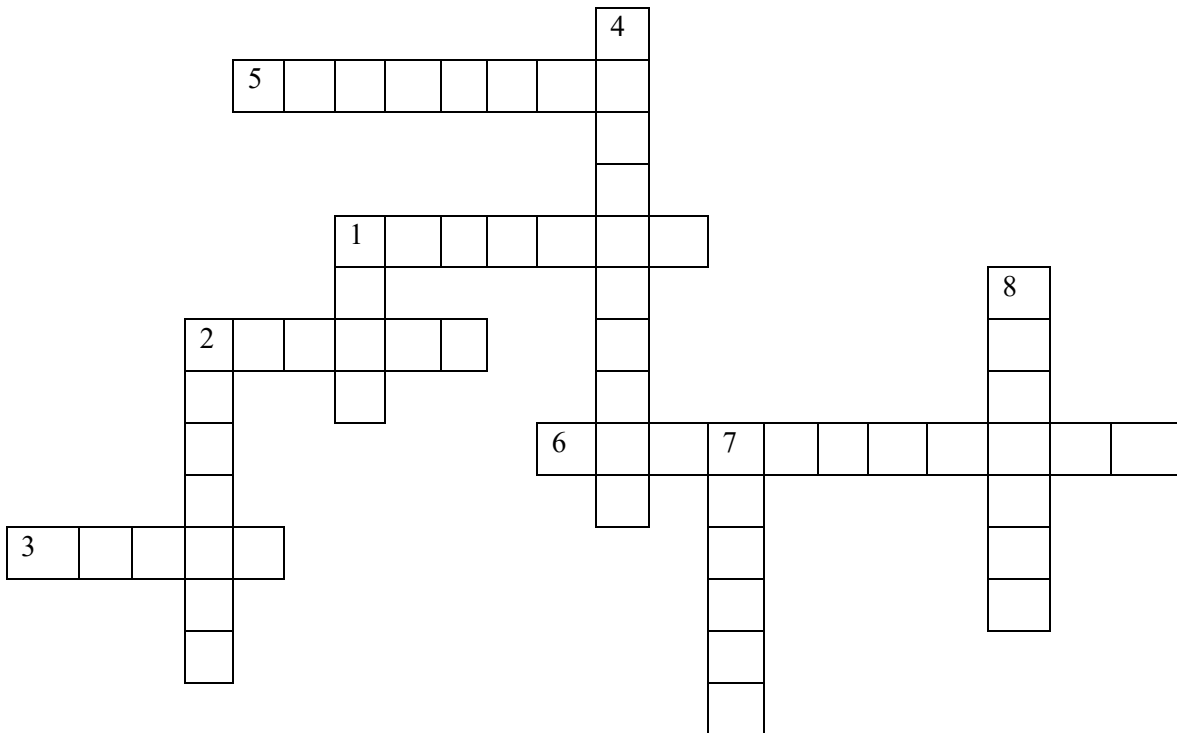
Task 2. In the period t-1 r = 10%. In period t it will decrease to 8%, and autonomous investments will increase by UAH 2.5 billion. Calculate the increase in investment demand in period t according to a simple investment function, if b = 20.

Task 3. We have the following conditions: gross profit = UAH 30 billion, income tax = UAH 3.2 billion, dividends = UAH 1.8 billion. Calculate the gross savings of enterprises.

Task 4. The total investment in an investment project with a three-year life cycle is 1140 thousand UAH, including in the first year the investment is 440 thousand UAH, in the second - 400 thousand UAH, in the third - 300 thousand UAH. Revenue from sales in the first year is 0 thousand UAH, in the second = 642 thousand UAH, in the third = 965.6 thousand UAH. Determine the net discounted value of the investment project if the discount rate is 10%.

Task 5. Nominal interest rate = 14%, inflation rate = 3%. Under these conditions, the economy offers four investment projects that differ in cost and real rate of return: 1) 100 thousand UAH, 20%; 2) UAH 200,000, 15%; 3) UAH 300 thousand, 12%; 4) 400 thousand UAH, 10%. Calculate investment demand.

Task 6. Desired amount of fixed capital = 600 billion UAH, the available amount of fixed capital in the period t-1 is 580 billion UAH. In the period t, the share by which companies have closed the gap between available and desired capital, was 0, 25. Calculate the net investment in period t according to the neoclassical investment function.

Task 7.

Yd (Y) = C + S

C = a + MPC * Yd

S = -a + MPS * Yd

APC + APS = 1

MPC + MPS = 1

Household consumption expenditures:

C = 100 + (2 / 9)Y.

Calculate the consumption expenditure of households and the amount of savings, as well as the average propensity to consume and the average propensity to save, if the income (Y) is 900 UAH Determine the marginal propensity to consume and the marginal propensity to save with the growth of disposable income from 900 to 1800 UAH

C = 100 + 2 / 9Y.

Y = 900 UAH

C = 100 + (2 / 9)*900 =300 UAH

Yd (Y) = C + S

S=Y-C=900-300=600 UAH

APC=C/Y=300/900=1/3 (33,3%)

APS = 1-APC = 66,7%

APS = S/Y = 600/900 (66,7%)

MPC = $(\Delta C/ \Delta Y)$ * 100%

C1 = 100+(2/9)*1800 =500 UAH

Y1 = 1800 UAH

ΔC = 500-300 = 200 UAH

ΔY = 1800-900 = 900 UAH

MPC = (200/ 900) * 100% = 22,2%

MPS = $(\Delta S/ \Delta Y)$ * 100%

MPC + MPS = 1

MPS = 1-MPC =1-0,222 =0,778 (77,8%)

MPC = 0,65

Task 8.

Y = 5000 UAH

Y1 = 6300 UAH

C1 = 450 UAH

C-?

ΔC = C1-C ΔY = Y1-Y

MPC = 0,31

Y = 5000 UAH

Y1 = 6300 UAH

C1 = 450 UAH

ΔC = 300 UAU

a -?

a – autonomous (autonomic) consumption

Task 9. You are going to borrow money and would like to get a real 5% per annum. The expected inflation rate is 120%. What nominal interest rate should you set?

Task 10. The bank has a deposit of 6000. The reserve requirement rate is 15%. The amount of loans can be increased by at least ...

Task 11. You are going to lend your money and would like to get a real 5% per annum. Expected inflation rate is 120%. What nominal interest rate should you set?

Bank interest = **nominal interest rate (i)**

the increase in the purchase value of money is **real interest rate (r).**

$r = i - \pi$, where π **is the inflation**

Therefore, the nominal rate will be $i = r + \pi = 5\% + 120\% = 125\%$

Task 12. You are going to lend your money and would like to get a real 6% per annum. What nominal interest rate should you set if you have the following information:

Year	Consumer price index
2019	107,9
2020	102,7

Task 13. You are going to lend your money and would like to get a real 5% per annum. What nominal interest rate should you set if you have the following information:

Year	Consumer price index
2015	148,7
2016	113,9
2017	114,4
2018	110,9
2019	107,9
2020	102,7

Task 14.
- Determine the regions where the amount of investments is the highest
- Determine the types of economic activity with the biggest amount of investments
- Determine the prerequisites of such a situation

	Капітальні інвестиції за видами економічної діяльності за регіонами у 2020 році *Capital investments by types of economic activity by regions in 2020*		
	Обсяг капітальних інвестицій за видами економічної діяльності/ *Capital investments by types of economic activity*		
	Сільське господарство,	з нього/*from it*	Інформація та

	Agriculture, forestry and fisheries лісове господарство та рибне господарство		сільське господарство, мисливство та надання пов`язаних з ними послуг / agriculture, hunting and related services		телекомунікації / Information and telecommunications	
	тис.грн/ thsd.UAH	у % до загального обсягу у регіоні/ in % to the total in the region	тис.грн/ thsd.UAH	у % до загального обсягу у регіоні/ in % to the total in the region	у % до загального обсягу у регіоні/ in % to the total in the region	тис.грн/ thsd.UAH
Ukraine	**50679695**	**10,0**	**50189373**	**9,9**	**0,4**	**22381603**
Vinnytsya	2986062	22,0	2964107	21,8	0,0	150396
Volyn	972049	10,7	957969	10,5	0,1	10899
Dnipropetrovsk	2720798	4,6	2707374	4,6	0,2	65037
Donetsk	1480917	5,6	1480690	5,6	0,1	1455560
Zhytomyr	1989616	21,5	1895942	20,5	к/с	13893
Zakarpattya	143439	2,8	125186	2,5	0,2	8338
Zaporizhzhya	2155444	13,9	2154522	13,9	0,7	88117
Ivano-Frankivsk	611071	9,6	584316	9,2	0,2	22282
Kyiv	5261928	16,1	5174115	15,8	0,1	43028
Kirovohrad	2946619	43,7	2933623	43,5	0,0	8407
Luhansk	1100392	33,8	1099074	33,7	к/с	2740
Lviv	1020647	4,3	999470	4,2	0,8	201093
Mykolayiv	1569257	16,5	1568911	16,5	0,0	19806
Odesa	1070176	5,0	1065610	5,0	1,5	346914
Poltava	3727188	14,8	3721918	14,8	0,1	56592
Rivne	1092023	19,3	1064356	18,8	0,0	1600
Sumy	2526903	35,1	2495345	34,7	0,0	15885
Ternopil	2282962	31,3	2278055	31,2	0,1	26395
Kharkiv	2485181	12,3	2470600	12,2	0,1	154874
Khmelnytskiy	2662445	25,1	2646697	24,9	0,0	8380
Cherkasy	3104429	34,2	3078226	33,9	0,1	12153
Chernivtsi	181157	5,5	169415	5,1	0,0	13994
Chernihiv	3581704	45,0	3555182	44,7	0,1	2470
City of Kyiv	1016801	0,6	1009063	0,6	0,7	19642193

Task 15. In the economy of a certain country, the **monetary base** is 100, **the share of cash in the money supply** is unchanged and equal to ¼, commercial banks keep 15% of **deposits in excess reserves**.

- Determine the value of the money multiplier and the money supply **if the required reserve ratio is 5%.**
- Determine how the money supply will change with an increase in the monetary base by 20.

Task 16. In the economy of a certain country, the **monetary base** is 200, **the share of cash in the money supply** is unchanged and equal to 0,5, **bank reserves are 85**. Determine the value of the money multiplier and the money supply

Task 17. Analyze the Economic Growth of the Country taking into consideration the Inflation in the Goods and Services:

Paasche Price Index

$$\text{Paasche Price Index Formula} = \text{Sum} \frac{\text{Observation Price} \times \text{Observation Qty}}{\text{Base Price} \times \text{Observation Qty}}$$

Commodity	Prices			Quantity		
	2017	2018	2019	2017	2018	2019
A	$10	$30	$60	20	30	40
B	$20	$40	$70	25	35	45
C	$30	$50	$80	20	40	50

- The Index generally uses a base year of 100 to analyze the Index.
- An index greater than 100 signifies the Inflation impact and an Index less than 100 implies Deflation.
- Year 0 will be termed as Base Year while Calculating Year will be termed as Observation Year.
- It is commonly used by Economist to analyze the Economic Growth of the Country taking into consideration the Inflation in the Goods and Services.