

ÉRETTSÉGI VIZSGA • 2016. május 18.

**KÖZGAZDASÁGI
ALAPISMERETEK
(ELMÉLETI GAZDASÁGTAN)
ANGOL NYELVEN**

**EMELT SZINTŰ ÍRÁSBELI
ÉRETTSÉGI VIZSGA**

**JAVÍTÁSI-ÉRTÉKELÉSI
ÚTMUTATÓ**

**EMBERI ERŐFORRÁSOK
MINISZTERIUMA**

Important Information

During correction, all partial points awarded for partial solutions, as well as all correct solutions and mistakes have to be indicated using a different colour pen than that of the student's. **Total points for each question have to be whole numbers, which are then to be entered into the pre-printed fields.** The summary table found at the end of the test should be filled out according to the given fields.

There are several different possible answers for the questions. This means that solutions could be different from those indicated in the correction guide. If the solution is based on professionally sound elements; and if the procedure is sufficiently detailed and leads to the correct solution, then maximum points should be given.

When awarding points, the following principles have to be followed:

1. Maximum points can only be awarded for perfect solutions.

In case of missing answers, the partial point awardable for the answer must be deducted.

2. If a question has been solved using a logically sound procedure, but purely calculation errors have occurred, then half of awardable partial points have to be deducted, at the section where the error was made. The logically sound procedure will still be considered correct in the later stages of the solution regardless of the calculation error; therefore subsequent partial points do not have to be deducted because of one error. When calculating total points of the examination, please follow the following procedure: **points to be entered must be rounded to whole numbers according to the rules of mathematics (e.g.: 23.33 points must be rounded to 23 points; 23.5 points or 23.66 points must be rounded to 24 points; no steps are to be taken in the case of whole numbers.)**

3. In the case of logical errors, no points are awarded at the section where the error was made, but subsequent correct steps deserve the half the points. When calculating total points of the examination, please follow the following procedure: **points to be entered must be rounded to whole numbers according to the rules of mathematics (e.g.: 23.33 points must be rounded to 23 points; 23.5 points or 23.66 points must be rounded to 24 points; no steps are to be taken in the case of whole numbers.)**

4. Only one answer per question is to be evaluated.

5. In the case of true-false questions, total points are determined from two sections. 1 point can be awarded for the indication of T or F. If the correct letter is indicated, but the explanation is incorrect or wrong then the solution cannot be awarded any points.

Taking the above into account, evaluation must be performed according to the following:

- correct answer with correct explanation: 1+2 points;
- correct answer with incomplete explanation: 1+1 points;
- wrong answer or answer without explanation is 0 points in each case.

6. The partial points of section III cannot be broken down any further; deviation from this is possible only in case of the above mentioned calculation errors.

Test Questions

Multiple choice questions

(6 · 2 = 12 points)

1.	2.	3.	4.	5.	6.
C	D	B	C	C	B

All correct answers are worth 2 points. Maximum score is: 12 points

Written (long-answer) questions

1. True-False statements

(6 · 3 = 18 points)

T-F	Explanation	Score
T	1) In case of inelastic demand, the quantity purchased of the good drops at a lower rate than the rate of price increase, therefore, total expenditure will increase.	1+2 points
F	2) If we were to deduct accounting cost from sales revenue, we would arrive at account profit as a result. However, explicit cost is lower than accounting cost, therefore, the difference must be greater than accounting profit.	1+2 points
F	3) Based on the conditions provided, this is a positive externality and in such cases the socially optimum quantity is greater than individual/market optimum. <i>or</i> From a social perspective, production is worth increasing as long as the correlation $MSB > MSC$ is true.	1+2 points
F	4) Primary income from abroad increases, while primary income transferred abroad decreases national income, therefore, the balance here is positive, thus GNI is greater than GDP.	1+2 points
F	5) Based on the correlation $S_s = T - (G+TR)$, the budget has deficit if S_s is negative. We know that $T > TR$, but this does not mean that S_s will certainly be negative. <i>or</i> If tax surplus can also finance government purchases, then with the given condition, the budget may also have a surplus.	1+2 points
T	6) The deficit of the current account balance means that the country has acquired less foreign currency through real economic transactions than the foreign currency it has to pay the foreign sector. The foreign currency required to finance the deficit may be ensured by borrowing or capital import.	1+2 points

2. Complete the table

(2+2 = 4 points)

Question number	Solution	Score				
2.1.	<table border="1"> <thead> <tr> <th>Indicator (name or letter)</th> <th>Letter of the more favourable option</th> </tr> </thead> <tbody> <tr> <td><i>net present value</i> or <i>NPV</i></td> <td>Y</td> </tr> </tbody> </table> <p>Note:</p> <ul style="list-style-type: none"> - only 1 point per column may be awarded - any of the answers may be awarded points in the indicator column - only calculations by themselves may not be awarded points - the basis of the decision is greater net present value ($NPV_X = -2\,000\,000 < NPV_Y = 100\,000$) 	Indicator (name or letter)	Letter of the more favourable option	<i>net present value</i> or <i>NPV</i>	Y	2 points
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<i>marginal revenue product</i> or <i>MRP_A</i>	Y					

3. Pairing up

(4 · 1 = 4 points)

Question number	Solution	Score
3.1.	B) = The function's vertical intercept increases, its slope also increases	1 point
3.2.	A) = The function's vertical intercept increases, its slope decreases	1 point
3.3.	E) = The function's vertical intercept decreases, its slope remains unchanged	1 point
3.4.	D) = The function's vertical intercept remains unchanged, its slope decreases	1 point

4. Comparison **(1+1+2+3=7 points)**

Question number	Solution	Score												
4.1.	A) ... <i>decreases</i> ... B) ... <i>lower than</i> ...	1 point												
4.2.	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">4</td> <td style="padding: 5px;">5</td> <td style="padding: 5px;">6</td> </tr> <tr> <td style="padding: 5px;">--</td> <td style="padding: 5px;">--</td> <td style="padding: 5px;">P_2</td> <td style="padding: 5px;">--</td> <td style="padding: 5px;">Q_2</td> <td style="padding: 5px;">--</td> </tr> </table>	1	2	3	4	5	6	--	--	P_2	--	Q_2	--	1 point
1	2	3	4	5	6									
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4.3.	<div style="text-align: center;"> </div> <p><i>Note:</i></p> <ul style="list-style-type: none"> - the points awarded cannot be broken down further, and only perfect answers may be awarded points - the rectangle's boundary at the vertical axis is at "3" and between 1 and 2, and at the horizontal axis, along the line indicated by the number "5". 	2 points												
4.4.	A) ... <i>greater than</i> <i>equal to</i> ... ----- B) ... <i>not required</i> ... ----- C) ... <i>unfavourable</i> <i>higher</i> <i>less</i> ...	3 · 1 = 3 points												

5. Analysis and evaluation question

(2+2+3=7 points)

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5.1.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Period</th> <th style="width: 10%;">2011</th> <th style="width: 10%;">2012</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td>Number of economically active (thousand people)</td> <td style="text-align: center;">4280</td> <td style="text-align: center;">4353</td> <td colspan="2"></td> </tr> </tbody> </table> <p><i>Note:</i> <i>Full points may also be awarded if only the two highlighted data are entered into the table.</i> <i>The fully completed table is as follows:</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Period</th> <th style="width: 10%;">2011</th> <th style="width: 10%;">2012</th> <th style="width: 10%;">2013</th> <th></th> </tr> </thead> <tbody> <tr> <td>Number of employed (thousand people)</td> <td style="text-align: center;">3812</td> <td style="text-align: center;">3878</td> <td style="text-align: center;">3938</td> <td></td> </tr> <tr> <td>Number of unemployed (thousand people)</td> <td style="text-align: center;">468</td> <td style="text-align: center;">475</td> <td style="text-align: center;">449</td> <td></td> </tr> <tr> <td>Number of economically active (thousand people)</td> <td style="text-align: center;">4280</td> <td style="text-align: center;">4353</td> <td style="text-align: center;">4387</td> <td></td> </tr> <tr> <td>Number of economically inactive (thousand people)</td> <td style="text-align: center;">3396</td> <td style="text-align: center;">3303</td> <td style="text-align: center;">3243</td> <td></td> </tr> <tr> <td>Population between the ages of 15-74 (thousand people)</td> <td style="text-align: center;">7676</td> <td style="text-align: center;">7656</td> <td style="text-align: center;">7630</td> <td></td> </tr> </tbody> </table>				Period	2011	2012			Number of economically active (thousand people)	4280	4353			Period	2011	2012	2013		Number of employed (thousand people)	3812	3878	3938		Number of unemployed (thousand people)	468	475	449		Number of economically active (thousand people)	4280	4353	4387		Number of economically inactive (thousand people)	3396	3303	3243		Population between the ages of 15-74 (thousand people)	7676	7656	7630		2 points
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5.3.	<p>A) ... true ... B) ... false ... C) ... false ...</p>				3 · 1 = 3 points																																								

Calculation and Plotting Questions

Question 6

(8+4 = 12 points)

Question number	Solution	Score																		
6.1.	<table border="1"> <thead> <tr> <th data-bbox="355 499 684 571">Question number</th> <th data-bbox="684 499 1064 571">Quantity corresponding to the letter</th> </tr> </thead> <tbody> <tr> <td data-bbox="355 571 684 620">1)</td> <td data-bbox="684 571 1064 620">$p_{1m} = 100$</td> </tr> <tr> <td data-bbox="355 620 684 669">2)</td> <td data-bbox="684 620 1064 669">$p_{2m} = 120$</td> </tr> <tr> <td data-bbox="355 669 684 719">3)</td> <td data-bbox="684 669 1064 719">$P_{max} = 120$</td> </tr> <tr> <td data-bbox="355 719 684 768">4)</td> <td data-bbox="684 719 1064 768">$Q_{max} = 220$</td> </tr> <tr> <td data-bbox="355 768 684 817">5)</td> <td data-bbox="684 768 1064 817">$P_B = 100$</td> </tr> <tr> <td data-bbox="355 817 684 866">6)</td> <td data-bbox="684 817 1064 866">$Q_B = 20$</td> </tr> <tr> <td data-bbox="355 866 684 916">7)</td> <td data-bbox="684 866 1064 916">$P_a = 80$</td> </tr> <tr> <td data-bbox="355 916 684 965">8)</td> <td data-bbox="684 916 1064 965">$Q_b = 200$</td> </tr> </tbody> </table>	Question number	Quantity corresponding to the letter	1)	$p_{1m} = 100$	2)	$p_{2m} = 120$	3)	$P_{max} = 120$	4)	$Q_{max} = 220$	5)	$P_B = 100$	6)	$Q_B = 20$	7)	$P_a = 80$	8)	$Q_b = 200$	8 · 1 = 8 points
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6.2.	<p>The aggregate market demand function consists of two straight sections:</p> $P = \begin{cases} 120 - Q, & \text{if } 0 < Q \leq 20 \\ 110 - 0,5Q, & \text{if } Q > 20 \end{cases}$ <p>or:</p> $Q = \begin{cases} 120 - P, & \text{if } 100 \leq P \leq 120 \\ 220 - 2P, & \text{if } P < 100 \end{cases}$ <p>Note: The points awarded cannot be broken down further, and only the perfectly expressed equation may be awarded points.</p>	4 points																		

Question 7

(4+2+6 = 12 points)

Question number	Solution	Score
7.1.	Labour utilisation can be determined based on the condition of profit maximum: $MFC_L = MRP_L$, that is we can take the equation $1200 = (50 - L) \cdot 40$ as a starting point. Result: $L = 20$ hours	2 points
	We must use the correlation $AP_L = \frac{Q}{L}$ to calculate production: $Q = (50 - 0.5 \cdot 20) \cdot 20 = 800$	2 points
7.2.	$TR = P \cdot Q = 40 \cdot 800 = 32\ 000$ $FC = AFC \cdot Q = 6000$ $VC = L \cdot P_L = 20 \cdot 1200 = 24\ 000$ $T\pi = TR - (FC+VC) = 2\ 000$	2 points
7.3.	If $AP_L = 41$, then using the correlation $50 - 0.5L = 41$, we can determine the quantity of labour used: $L = 18$, $Q = AP_L \cdot L = 41 \cdot 18 = 738$ (Being aware of staff numbers, we may even express variable cost: $VC = P_L \cdot L = 18 \cdot P_L$, or even total cost: $TC = 6000 + 18 \cdot P_L$)	1 point
	In order to determine P_x and P_L , we must solve the following equation system: (1) profit can be calculated as follows: $804 = 738 \cdot P_x - (6000 + 18 \cdot P_L)$ (2) and based on optimal labour utilisation $P_L = (50 - L) \cdot P_x = 32 \cdot P_x$	2 points
	Results: $P_x = 42$ $P_L = 1344$ $TC = 30\ 192$	3 · 1 = 3 points

Question 8 **(2+2+2+2+2 = 10 points)**

Question number	Solution	Score
8.1.	Based on the current items account of the household sector, consumption is: $W + TR_H = C + S_H + T_H$ $C = 480\,000 + 10\,000 - 15\,000 - 20\,000 = 455\,000$	2 points
8.2.	Based on the capital account, investment is: $I = S_H + S_C + S_S + S_F$ $I = 20\,000 + 140\,000 - 15\,000 + 5\,000 = 150\,000$	2 points
8.3.	Based on the current items account of the state, government purchases are: $T_C + T_H = TR_C + TR_H + G + S_S$ $G = 80\,000 + 15\,000 - 6\,000 - 10\,000 - (-15\,000) = 94\,000$	2 points
8.4.	Based on the current items account of the foreign sector: $X + S_F = IM$ $S_F = IM - X$, because the savings of the foreign sector are positive (5 000), therefore, the foreign trade balance is: $X - IM = -5\,000$, that is it has <i>deficit</i>	2 points
8.5.	Based on the domestic product account, gross domestic product is: $Y + IM = C + I + G + X$ $Y = 455\,000 + 150\,000 + 94\,000 - 5\,000 = 694\,000$	2 points

Question 9 **(4+6+4 = 14 points)**

Question number	Solution	Score
9.1.	Based on consumption data: $\hat{c} = \frac{\Delta C}{\Delta Y} = \frac{11040 - 9440}{12000 - 10000} = 0.8$	1 point
	using the correlation $9440 = C_0 + 0.8 \cdot (10000 - 800 + 600)$: $C_0 = 1600$	1 point
	Based on $C(Y_{di}) = C_0 + \hat{c} (Y - T + TR)$ $C(Y_{di}) = 1600 + 0.8 (Y - 800 + 600) = 1440 + 0.8Y$	2 points
9.2.	Based on $Y^D = C + I + G + X - IM$: $Y^D = 1600 + 0.8 (Y - 800 + 600) + 900 + 1200 + 1300 - [420 + 0.1(Y - 800 + 600)] = 4440 + 0.7Y$ $Y^D = Y$ and therefore $Ye = 14800$	4 points
	$S_S = T - (TR + G) = -1000$	1 point
	$X - IM = 1300 - [420 + 0.1(14800 - 800 + 600)] = -580$	1 point
9.3.	On account of the changes $G_1 = 1460$, $T_1 = 1000$, therefore, the equation for new commodity market demand is: $Y^D = 1600 + 0.8 (Y - 1000 + 600) + 900 + 1460 + 1300 - [420 + 0.1(Y - 1000 + 600)] = 4560 + 0.7Y$ $Y^D = Y$ and therefore $Ye = 15200$	4 points