**1.)  How do the following events affect the value of the USD, all other things being unchanged?**

|  |  |  |
| --- | --- | --- |
|  | Appreciates | Depreciates |
| Out of displeasure at the failed NAFTA negotiations with D. Trump, Canada and Mexico boycott American products |  | X |
| Because of Brexit, investors withdraw their investments from Great Britain and invest new in the USA | X |  |
| D. Trump introduces import duties for all important trading partners | X |  |
| Tourism in USA is booming and attracting more and more tourists from Europe and Asia | X |  |
| US Federal reserve raises interest rates | X |  |
| China, Japan and EU no longer buy US government bonds as result of growing protectionism. |  | X |

**2.a) Denmark operates a fixed-rate system and has its currency, the Danish krone (DKK) fixed to the euro at a rate of 0.134 EUR = 1 DKK, with an exchange rate fluctuation band of +/- 2.25%. Draw this fixed rate system with its characteristics and with the supply and demand curve for Danish Krone (DKK) in exchange with EUR, in the lower graph. Do not forget to mark the axes!**

**2.b) Due to the euro-crisis, investors lose their confidence in euro. The loss of confidence is triggering reactions on the Danish financial market. On the financial market, people sell their EURund buy DKK. Draw this intervention in the graph above.**

**2.c) What kind of transaction must be Danish Central Bank carry out in such a case so that the fixed exchange rate can be guaranteed?**

**3.) After the reunification of Germany, paymebts to rebuild the former East Germany led to a major expansion of aggregate demand in Germany. To combat the increasing inflation, the german central bank had to raise interest rates. At that time, many currencies of EU countries were fixed to the german currency (the Deutsche Mark). Explain why in these countries the recession was reinforced by the policy of german central bank.**

**4) Assume that also natural resources are an important input for the production of GDP but that their contribution is neglected in the production function, which has been used here. What does this imply about the Value of total-factor productivity (TFP), which you have calculated in question xyz?**

**5) Calculate GDP and GNP using the following figures:**

|  |  |
| --- | --- |
| In billion of dollars | |
| Consumption | 3600 |
| Investment | 900 |
| Transfer payments | 800 |
| Government expenditures | 1000 |
| Savings | 1000 |
| Exports | 650 |
| Imports | 550 |
| Net factor income to and from abroad |  |

**6) Which GDP components (component by the expenditure side) are affected by the following transactions:**

|  |  |
| --- | --- |
| Canton AG build new hospital | I up |
| Income of teacher of primary school | G up |
| Swiss army buys new jets | I and M up |
| Old age pension is being paid | Nothing |
| Company is not able to sell at their production and piles up inventories | I up |

**7) Which goods and sercives are not included in GDP which can be regarded as welfare? 2 Examples ?**Childcare, volunteer work, household

**8) Is it possible that the growth rate of GDP is lower than growth rate of GDP per employed person? Explain why (not).**

**9) Assume that growth rate of total-factor productivity (TFP) becomes zero, and therefore there is no more technological progress. Will growth of GDP still be possible in the long run? If yes, under what conditions?**

**10) Multiple Choices**

1. Assume an economy where there is no population growth. In the neoclassical growth model, an increase in the savings rate can, in the long run, cause an increase in…
   1. GDP growth
   2. GDP growth per worker
   3. Neither GDP growth nor GDP growth per worker
   4. Growth of the capital stock per worker
2. If the capital stock per worker in an economy has increased over a certain time and total factor productivity has increased as well
   1. GDP per worker (labor productivity) has grown at the same rate as productivity
   2. GDP per worker (labor productivity) grew at a higher rate than total factor productivity
   3. GDP per worker (labor productivity) has grown at a lower rate than total factor productivity
   4. GDP per worker (labor productivity) aims at a maximum value of total factor productivity exceeded

**12) The government is analyzing the impact of an investment project in infrastructure on GDP. How does the investment multiplier change when the following conditions change:**

|  |  |  |
| --- | --- | --- |
|  | Multiplier gets bigger | Multiplier gets smaller |
| Marginal propensity to consume increases |  |  |
| Marginal propensity to consume decreases |  |  |

**14) a) An economy is stuck in a recession and the government decides to spend more in infrastructure. Show the situation of a recession in the AS-AD framework and what happens with the increase in government spendings**

**14b) Describe 2 objections against such a fiscal policy**

**15) Donald Trump imposed import taxes on many goods hoping to reduce the current account deficit in the USA. What kind of measures could the US take to reduce the current account deficit, which lay within its boarders and affect the domestic components and have an impact on NX? Explain the connections**

**16) Assume that the production of output in a country can be described by a neoclassical production function, where the inputs are labor, capital and technological progress. The share of labor income of aggregate income is 0.75 and the share of capital income is 0.25 respectively. The production function has the property of constant returns to scale and there is diminishing marginal productivity with respect to each factor of production.**

**16a) Over a certain time period we observe that on average, the GDP grows at a rate of 3% while labor grows at a rate of 1.8 %. Furthermore it is assumed that the capital stock grows at a rate of 2%. What is the average growth rate of technological progress or total factor productivity (TFP) in this case?**

**16b) What was the average growth rate of labor productivity (GDP per employee)? How is this growth rate linked to the growth rate of total factor productivity which you have found above? How can the difference in the growth rates be explained?**

**17) According to traditional neoclassical growth theory all investment must be financed by saving and more investments require more savings first. Why is this assumption problematic for a modern economy? Explain the consequences of an increase in savings of househoulds and/or businesses in the economy. What role does money creation play in the process of financing investment?**