Notes:

1. \* Multiplication
2. **/** Division
3. **(2 d.p.)** Rounded off to 2 decimal places

QUESTION ONE SOLUTION:

**Part: (a)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Goods | 2015 | 2016 | 2017 | 2018 |
| Maize Quantities | 700 | 900 | 1,000 | 950 |
| Fish Quantities | 500 | 1,000 | 900 | 750 |
| Price of Maize (K) | 65 | 70 | 80 | 90 |
| Price of Fish (K) | 50 | 70 | 90 | 120 |
| Nominal GDP (K) | **70,500** | **133,000** | **161,000** | **175,500** |
| Real GDP (K) | **70,500** | **108,500** | **110,000** | **99,250** |

2015(base year) Nominal GDP:

Maize : 700units \* K65 = K45,500

Fish : 500units \* K50 = K25,000

Total : K45,500 + K25,000 = K70,500

2015(base year) Real GDP:

Maize : 700units \* K65 = K45,500

Fish : 500units \* K50 = K25,000

Total : K45,500 + K25,000 = K70,500

2016 Nominal GDP:

Maize : 900units \* K70 = K63,000

Fish : 1000units \* K70 = K70,000

Total : K63,000 + K70,000 = K133,000

2016 Real GDP:

Maize : 900units \* K65 = K58,500

Fish : 1000units \* K50 = K50,000

Total : K63,000 + K70,000 = K108,500

2017 Nominal GDP:

Maize : 1000units \* K80 = K80,000

Fish : 900units \* K90 = K81,000

Total : K80,000 + K81,000 = K161,000

2017 Real GDP:

Maize : 1000units \* K65 = K65,000

Fish : 900units \* K50 = K45,000

Total : K65,000 + K45,000 = K110,000

2018 Nominal GDP:

Maize : 950units \* K90 = K85,500

Fish : 750units \* K120 = K90,000

Total : K85,500 + K90,000 = K175,500

2018 Real GDP:

Maize : 950units \* K65 = K61,750

Fish : 750units \* K50 = K37,500

Total : K61,750 + K37,500 = K99,250

**Part: (b)**

2015 Nominal GDP = K70,500

2016 Nominal GDP = K133,000

2016 Nominal GDP growth rate = [(2016 Nom. GDP – 2015 Nom. GDP)**/** (2015 Nom. GDP)] \* 100% = [(133,000-70,500) **/**70,500] \* 100%

= 88.65248227%

= 88.65% (2 d.p.)

2016 Nominal GDP = K133,000

2017 Nominal GDP = K161,000

2017 Nominal GDP growth rate = [(2017 Nom. GDP – 2016 Nom. GDP) **/** 2016 Nom. GDP] \* 100%

= [(161,000 – 133,000) **/** 133,000] \* 100%

= 21.05263158%

= 21.05% (2 d.p.)

2017 Nominal GDP = K161,000

2018 Nominal GDP = K175,500

2018 Nominal GDP growth rate = [(2018 Nom. GDP – 2017 Nom. GDP) **/** 2017 Nom. GDP] \* 100% = [(175,500 – 161,000) **/** 161,000] \* 100%

= 9.00621118%

= 9.01% (2 d.p.)

**Part: (c)**

2015 real GDP = K70,500 (base year)

2016 real GDP = K108,500

2016 real GDP growth rate = [(2016 real GDP – 2015 real GDP (base year)) **/** 2015 real GDP] \* 100%

= [(108,500 – 70,500) **/** 70,500] \* 100%

= 53.90070922%

= 53.90% (2 d.p.)

2016 real GDP = K108,500

2017 real GDP = K110,000

2017 real GDP growth rate = [(2017 real GDP – 2016 real GDP) **/** 2016 real GDP] \* 100%

= [(110,000 – 70,500) **/** 70,500] \* 100% = 56.02836879%

= 56.03% (2 d.p.)

2017 real GDP = K110,000

2018 real GDP = K99,250

2018 real GDP growth rate = [(2018 real GDP – 2017 real GDP) **/** 2017 real GDP] \* 100%

= [(99,250 – 70,500) **/** 70,500] \* 100%

= 40.78014184%

= 40.78% (2 d.p.)

**Part: (d)**

GDP deflator = [(Nominal GDP **/** Real GDP)] \* 100%

Inflation = [(Nominal GDP **/** Real GDP) – 1] \* 100%

In the base year (i.e. 2015 in this case), the GDP deflator is 100% or 1 as ratio

2016 Nominal GDP = K133,000 and 2016 Real GDP = K108,500

Therefore, 2016 GDP deflator = 133,000**/** 108,500 = 1.225806452 = 1.23 (2 d.p.)

2016 Inflation = [(2016 GDP deflator – 2015 GDP deflator) **/** 2015 GDP deflator] \* 100%

Therefore, 2016 Inflation = (1.23 – 1) **/** 1 \* 100%

= 23%

2017 Nominal GDP = K161,000 and 2017 Real GDP = K110,000

Therefore, 2017 GDP deflator = 161,000**/** 110,000 = 1.463636364 = 1.46 (2 d.p.)

2017 Inflation = [(2017 GDP deflator – 2015 GDP deflator) **/** 2015 GDP deflator] \* 100%

Therefore, 2017 Inflation = (1.46 – 1) **/** 1 \* 100%

= 46%

2018 Nominal GDP = K175,500 and 2018 Real GDP = K99,250

Therefore, 2018 GDP deflator = 175,500**/** 99,250 = 1.768261965 = 1.77 (2 d.p.)

2018 Inflation = [(2018 GDP deflator – 2015 GDP deflator) **/** 2015 GDP deflator] \* 100%

Therefore, 2018 Inflation = (1.77 – 1) **/** 1 \* 100%

= 77%

**Part: (e)**

Differences between GDP deflator and Consumer Price Index (CPI):

* GDP deflator measures prices of all kinds of goods and services produced in a given economy. These goods and services can be from firms, government departments, households, individuals, etc. On the other hand, Consumer Price Index (CPI) only measures the prices of goods and services bought by consumers (individuals/households). In this case, goods bought by firms or governments are captured under GDP deflator and not in the CPI.
* CPI is ‘substitution bias’. This means that the CPI assumes people continue to buy the same basket of goods and services regardless of the magnitude of upward changes in prices. However, in reality, when prices of a particular good or service go up unreasonably, people switch to substitutes instead. These switches in product preference are not captured by the CPI. The GDP deflator on the other hand, is a broad measure and captures all goods and services and therefore gives room for substitutions.
* GDP deflator includes only those goods and services produced domestically. Imported goods and services are therefore not captured by the GDP deflator. However, the CPI records imports such as vehicles, electronic accessories, computer, etc. bought by households.

QUESTION TWO SOLUTION:

**Part: (a)**

Unemployment rate is a measure of the prevalence of unemployment and is calculated as a percentage by dividing the number of unemployed individuals by all individuals currently in the labour force. Individuals are deemed unemployed if they currently do not work despite being able and willing to do so. The labour force consists of all employed and eligible unemployed people in a given economy.

Unemployment rate (u) = [U/ (E + U)] \* 100 where U denotes the number of eligible but unemployed workers and E the number of employed workers.

Number of inhabitants = 10 million (10,000,000)

Labour force participation = 62% = 0.62 \* 10,000,000 = 6,200,000

Unemployed persons = 455,000

Unemployment rate = [455,000/6,200,00] \* 100% = 7.338709677% = 7.34% (2 d.p.)

**Part: (b)**

The labour force participation rate is the number of people available for work as a percentage of the total population. In (a) above,

Total population = 10,000,000

Labour force = 6,200,000

Labour force participation rate (a) = [(E + U)/ (N + E + U)] \* 100% where N + E + U = 10 million and E + U = 6.2 million

Therefore, Labour force participation rate (a) = (6.2/10) \* 100% = 62%

**Part: (c)**

1. Seasonal Unemployment-temporal and occurs in industries where economic activity is in specific periods or seasons. Typical examples where economic activities are seasonal include tourism, agriculture, construction, etc. In such industries, there is a high demand for labour during certain periods of the year and then most workers are laid off during off peak periods.
2. Cyclical Unemployment-exists when individuals lose their jobs as a result of a downturn in aggregate demand due to dwindling economic levels. This type of unemployment is closely associated with fluctuations in economic growth, characterized by booms and recessions. During economic downturns, levels of unemployment are usually high.
3. Structural Unemployment-occurs when certain industries decline due to long term changes in market conditions. Globalization is an increasingly significant cause of structural unemployment in many countries as some industries fail to compete on the global stage and hence go under. This in turn leads to loss of employment in affected industries. For example, over the last 20 years or so, UK motor vehicle production has declined while there has been an upswing in the same industry in the Far East. This created structurally unemployed car workers in the UK. To the contrary, employment levels in the Far East shot up in the same industry during the same period.
4. Frictional Unemployment-this is also called search unemployment. It occurs when workers lose their current job and are in the process of finding another one. This is also common in secondary school or college graduates who are searching for jobs. Frictional unemployment indicates imperfections in the market such as lack of knowledge, the geographical immobility of labour or mismatch between the requirements of the employers and the available skills of the prospective employees/unemployed.