You are provided with the following info about an open economy with government activity:
C = 25 + 0.8Yd
I = 20 + 0.1Y
Z = 15 + 0.1Yd
T = 0.2Y
Yd = Y - T
G = 200
Assume initial level of income Y is 1000

1.Given T = 200, find the value of consumption and investment
2.CALCULATE THE VALUE of export and import.
3. Calculate the balance of trade.
4. Briefly elaborate on the "circular flow of income".

Solution:

1. Gross Domestic Product (GDP) is the total value of all goods and services produced in an economy. The composition of GDP is:
   GDP = C + I + G + X – Z,
   where C – consumption;
   I – investment;
   G – government spending;
   X – exports;
   Z- imports.

   We can find the value of consumption and investment using data given.

$$C = 25 + 0.8Yd$$
$$Yd = Y - T = 1000 - 200 = 800$$
$$C = 25 + 0.8 * 800 = 665$$

$$I = 20 + 0.1Y = 20 + 0.1 * 1000 = 120$$

   Answer: the value of consumption is 665, the value of investment is 120.

2. We can calculate the value of import.

$$Z = 15 + 0.1Yd = 15 + 0.1 * 800 = 95$$

   From the GDP-formula we can find the value of export.

$$Y = C + I + G + X - Z$$
$$1000 = 665 + 120 + 200 + X - 95$$
$$X = 110$$

   Answer: the value of export is 110, the value of import is 95.

3. The balance of trade means the difference between exports and imports, i.e. net exports.

$$NX = X - Z$$

$$NX = 110 - 95 = +15$$

As exports > imports, the country has trade surplus (NX = +15).

4. Circular flow of income is a model that indicates how money moves throughout an economy, i.e. it shows connections between different sectors of the economic system. It shows all of the money coming into an economy (injections) and all of the money that goes out of an economy (leakages or withdrawals).

This model revolves around flows of goods and services and factors of production between firms and households.

Businesses produce goods and services and in the process of doing so, incomes are generated for factors of production (land, labour, capital and enterprise) – for example wages and salaries going to people in work.

The circular flow shows that some part of household income will be:

- Put aside for future spending, i.e. savings (S) in banks accounts and other types of deposit
- Paid to the government in taxation (T) e.g. income tax and national insurance
- Spent on foreign-made goods and services, i.e. imports (M) which flow into the economy

Withdrawals are increases in savings, taxes or imports so reducing the circular flow of income and leading to a multiplied contraction of production (output).

Injections into the circular flow are additions to investment, government spending or exports so boosting the circular flow of income leading to a multiplied expansion of output.

- Capital spending by firms, i.e. investment expenditure (I)
- The government, i.e. government expenditure (G)
- Overseas consumers buying national goods and service (X)

An economy is in equilibrium when the rate of injections = the rate of withdrawals from the circular flow.