Question 1: Explainwhypublicgoodsmustbeprovidedbythegovernment.

Solution: A good that is non-rival and non-excludable is referred to as public good. Non-rival means that consumption by one individual does not affect the consumption of another individual.Whereas,non-excludableimpliesthatnoindividualcanbeexcludedfromusing thegood.Forexample,parks,roads,nationaldefence, government administration etc. which cannot be provided by market mechanism These goods are necessary for life and national development.

These goods must be provided by the government because of the following reasons:

i. Thebenefitsofpublicgoodscanbeeasilyenjoyedbyanyonewithoutaffectingthe consumptionofotherindividuals.Therearisesmarketfailure.

ii. No individual can be excluded from using public goods as it is available to all. The link betweentheproducerandtheconsumerbecomesnon-functional,necessitatinggovernment interference through publicprovisions.

Question 2: Distinguishbetweenrevenueexpenditureandcapitalexpenditure.

Solution:RevenueExpenditure:In simple words, anexpenditurewhichneithercreatesanyassetsnor reduces anyliabilityiscalledRevenueExpenditure,e.g.,salariesofemployees,interestpayment onpastdebt,subsidies,pension,etc.Thesearefinancedoutofrevenuereceipts.Broadly,any expenditure which does not lead to any creation of assets or reduction in liability is treated as revenueexpenditure. It is recurring in nature as day to day activities.

Generally, expenditure incurred on normal running of the government departments and maintenance of services is treated as revenue expenditure. Examples of revenue expenditurearesalariesofgovernmentemployees,interestpaymentonloanstakenbythe government,pensions,subsidies,grants,ruraldevelopment,educationandhealthservices, etc.

Capital Expenditure: An expenditure which either creates an asset (e.g., schoolbuilding) or reduces liability (e.g., repayment of loan) is called capital expenditure. It is non-recurring in nature**.**

(A) Capitalexpenditurewhichleadstocreationofassetsare(a)expenditureonpurchaseof land,buildings,machinery,(b)investmentinshares,loansbyCentralgovernmenttostate government, foreign governments and government companies, cash in hand and (c) acquisition of valuables.

(B) Such expenditures are incurred on long period development programmes, real capital assets and financial assets. This type of expenditure adds to the capital stock of the economy and raises its capacity to produce more in future.

(C) Repayment of loan is also capital expenditure because it reduces liability. These expenditures are met out of capital receipts of the government including capital transfers from rest of the world.

Question 3: 'The fiscal deficit gives the borrowing requirement of the government'. Elucidate.

Solution: Fiscal deficit is the excess of total expenditure over total receipts. That is, whenever total government expenditure is greater that total government receipts, the government faces fiscal deficit.

Fiscal deficit is estimated as:

Total Expenditure (revenue + capital) - Total Receipts (excluding borrowings).

Fiscal deficit gives an indication to the government about the total borrowing requirements from all sources. Fiscal deficit can be financed through domestic borrowings and/or borrowings from abroad. Greater fiscal deficit implies greater borrowings by the government.

Question 4: Give the relationship between the revenue deficit and the fiscal deficit.

Solution: The relationship between the revenue deficit and the fiscal deficit can be explained through the following points:

(i)   Revenue deficit is the difference between government's revenue expenditures and government's receipts.

Revenue deficit = Revenue expenditures - Revenue receipts
On the other hand, fiscal deficit is the difference between the total expenditure and the total receipt of the government.

Fiscal deficit = Total Expenditure - Total Receipts (excluding borrowings)

(ii)   The term 'fiscal deficit' is used in a broader sense than the term 'revenue deficit'.

(iii)   As revenue deficit increases, the proportion of fiscal deficit also increases.

When resources available for revenue expenditure are reduced, growth process is hindered. Government is once again compelled to take loans adding to its fiscal deficit.

Thus, revenue deficit and fiscal deficit tend to push each other.

Question 5: Suppose that for a particular economy, investment is equal to 200, government purchases are 150, net taxes (that is lump-sum taxes minus transfers) is 100 and consumptionisgivenby$C=100+0.75Y$

(a)Whatisthelevelofequilibriumincome?

(b) Calculatethevalueofthegovernmentexpendituremultiplierandthetaxmultiplier.

(c)Ifgovernmentexpenditureincreasesby200,findthechangeinequilibriumincome.

Solution

:Given:

I = 200

G = 150

T = 100

C = 100 + 0.75 Y

So, C (Autonomous consumption) = 100 And,

MPC (c) = 0.75

(a) Equilibrium level ofincome

Y = 1/1-c {C – (c)T + I + G}

$$= \frac{1}{1-0.75}\left(100 - 0.75 \times 100 + 200 + 150\right)$$

$$= \frac{1}{0.25} \times 375$$

= Rs 1500

(b) Government expendituremultiplier

$$\frac{\Delta Y}{\Delta G} = \frac{1}{(1-C)} = \frac{1}{(1-0.75)} = \frac{1}{0.25}$$

$$\frac{1}{25} \times 100$$

= 4

$$\text{Tax multiplier} = \frac{\Delta Y}{\Delta T} = \frac{-C}{1-C}$$

$$\frac{-0.75}{1-0.75} = \frac{-0.75}{0.25}$$
$$= -3$$

(c) $\Delta G = 200$

New equilibrium income

$$= \frac{1}{1-c}\left[\overline{C} - cT + I + G + \Delta G\right]$$

$$= \frac{1}{(1-0.75)(100-0.75\times100+200+150+200)}$$

$$= \frac{1}{0.25}\times575$$

$$= \frac{100\times575}{25}$$

=Rs 2300

Therefore, change in equilibrium income = 2300 - 1500 = Rs 800

Question 6: Consideraneconomydescribedbythefollowingfunctions:C=20+0.80Y,I=30,G= 50, TR=100

(a)Findtheequilibriumlevelofincomeandtheautonomousexpenditure multiplier in the model.

(b) If government expenditure increases by 30, what is the impact on equilibrium income?

(c) If a lump-sum tax of 30 is added to pay for the increaseingovernmentpurchases,howwillequilibriumincomechange?

Solution:
(a) $C = 20 + 0.80\ Y\ \left[\overline{C} = 20\right]$

$I = 30$

$c = 0.80$

$G = 50$

$T = 100$

Equilibrium level of income

$$Y = \frac{1}{1-c}\left[\overline{C} + cT + I + G\right]$$
$$= \frac{1}{1-0.80}[20 + 0.80 \times 100 + 30 + 50]$$
$$= \frac{1}{0.20} \times 180$$
$$= \frac{180}{20} \times 100$$
$$= 900$$

Expenditure multiplier $= \frac{1}{1-c}$

$$= \frac{1}{1-0.80} = \frac{1}{0.20}$$
$$= \frac{100}{20}$$
$$= 5$$

(b) Increase in governmentexpenditure

$$\Delta G = 30$$

New equilibrium expenditure

$$= 1 / 1\text{-c }[C + (c)T + I + G + \Delta G]$$

$$= 1 / 1 - 0.80 \ \{[20 + 0.80 \times 100 + 30 + 50 + 30]$$

$$= 1 / 1 - 0.80 \ [20 + 80 + 30 + 50 + 30]$$

$$= \frac{1}{0.20} \times 210$$

$$= \frac{210}{20} \times 100$$

$$= 1050$$

Equilibrium level of income increases by 150 (1050 - 900)

(c) Tax multiplier $= \dfrac{-c}{1-c}$

$\dfrac{\Delta Y}{\Delta T} = \dfrac{-c}{1-c}$

So,

$\Delta Y = \dfrac{-c}{1-c} \times \Delta T$

$= \dfrac{-0.80}{1-0.80} \times 30$

$= \dfrac{-0.80}{0.20} \times 30$

$= -120$

NewEquilibriumlevelofincome $= Y + \Delta Y$

$= 900 + (-120)$

$= Rs\ 780$

Question 7: In the above question, calculate the effect on output of a 10 per cent increase in transfers,anda10percentincreaseinlump-sumtaxes.Comparetheeffectsofthetwo.

Solution:MPC = 0.80

$\overline{C} = 20$

I = 30

G = 50

TR = 100

$\Delta TR = 10$

Equilibrium level of income =

$\dfrac{1}{1-c}\left[\overline{C} + cTR + I + G + \Delta TR \right]$

$= \dfrac{1}{1-0.80}\left[20 + 0.80 \times 100 + 30 + 50 + 0.80 \times 10 \right]$

$= \dfrac{188}{20} \times 100$

$=$ Rs 940

Change in income $= 940 - 900 =$ Rs 40

Increase in lump-sum tax $\Delta T = 10$

Change in Income $= \Delta T(-c)/(1-c)$

$= -10 \times \dfrac{0.80}{0.20}$

$= -10 \times 4$

$= - 40$

From the above results, we can conclude that increase of 10 percent in transfers will raise the income by 40%.

And, increase of 10% in tax will lead to a fall in the income by 40%.

Question 8: We suppose that C = 70 + 0.70Y D, I = 90, G = 100, T = 0.10Y

(a) Find the equilibriumincome.

(b) WhataretaxrevenuesatequilibriumIncome?Doesthegovernmenthavea balancedbudget?

Solution:

(a) C=70+0.70YD

I =90

G = 100

T=0.10Y

Y = C + I +G

Y=70+0.70YD+90+100

Y=70+0.70YD+190

Y = 70 + 0.70 (Y - T) + 190

Y = 70 + 0.70Y - 0.70T + 190

Y=70+0.70Y-0.70×0.10Y+190

Y=70+0.70Y-0.07Y+190

Y=70+0.63Y+190 Y =

260 +0.63Y

Y - 0.63Y = 260

0.37Y = 260

$$Y = \frac{260}{0.37}$$

Y = 702.7

(b) T = 0.10Y

$$= 0.10 \times 702.7$$

$$= 70.27$$

Government expenditure = 100

Tax revenue = 70.27

As, G > T, Government has a deficit budget, not a balanced budget Because government expenditure exceeds the tax revenue.

Question 9: Suppose marginal propensity to consume is 0.75 and there is a 20 per cent proportional income tax. Find the change in equilibrium income for the following (a) Government purchases increase by 20 (b) Transfers decrease by 20.

Solution: In case of proportional taxes

(a) $$\Delta Y = \frac{1}{1-c(1-t)} \times \Delta G$$

MPC=0.75 and ΔG =20

$$= \frac{1}{1-0.75(1-0.2)} \times 20$$

$$= \frac{1}{1-0.75 \times 0.8} \times 20$$

$$= \frac{20}{1-0.60}$$

$$= \frac{20}{0.4}$$

$$= 50$$

(b) Transfer decreases by 20

$$\Delta Y = \frac{c}{1-c} \times \Delta T$$

$$= \frac{0.75}{1-0.75} \times 20$$

$$= \frac{0.75}{0.25} \times 20$$

$$= 60$$

Question 10: Explain why the tax multiplier is smaller in absolute value than the government expenditure multiplier.

Solution: The tax multiplier is smaller in absolute value than the government expenditure multiplier, because the government expenditure affects the total expenditure and taxes through the multiplier. Tax multiplier also influences disposable income that affects the overall consumption level.

The reason is explained through the following example :

Let us assume MPC = 0.50

Then Govt Expenditure Multiplier = $\frac{1}{1-c}$

=1/(1- 0.50)

$=1/(0.50)=$ 100/50=2

Tax Multiplier $=$ (-c)/(1-c)$=$ (-0.50)/(1-0.50)

$=$ (-0.50)/(0.50)

$=-1$

This shows that government expenditure multiplier is more than the tax multiplier.

Question 11: Explaintherelationbetweengovernmentdeficitandgovernmentdebt.

Solution: Theconceptofdeficitanddebtarecloselyrelated.Deficitcanbethoughtofasaflow whichaddtothestockofthedebt.Ifthegovernmentcontinuestoborrowyearafteryear,it leadstotheaccumulationofdebtandthegovernmenthastopaymoreandmorebywayof interest.Theseinterestpaymentsthemselvescontributetothedebt. In other words, government deficit is the excess of total expenditure over total receipt of the government whereas government debt is the amount of liability owned by the government to the public, foreign and other institutions.

Question 12: Doespublicdebtimposeaburden?Explain.

Solution: Government debt or public debt refers to the amount or money that a central governmentowes.Thisamountmaybeborrowingsofthegovernmentfrombanks,public financialinstitutionsandfromotherexternalandinternalsources.Yes,Publicdebtdefinitely imposes a burden on the economy as a whole, which is described through the following points.

i. **Adverseeffectonproductivityandinvestment:**Agovernmentmayimposetaxesorget moneyprintedtorepaythedebt.Thishoweverreducesthepeoples'abilitytowork,saveand invest,thushamperingthedevelopmentofacountry.

ii. **Burdenonyoungergenerations:**Thegovernmenttransferstheburdenofreducedconsumption on future generations. Higher government borrowings in the present leads to highertaxesleviedinfutureinordertorepaythepastobligations.Thegovernmentimposes taxesontheyoungergenerations,loweringtheirconsumption,savingsandinvestments.Hence, higher public debt has negative effect on the welfare of the younger generations.

iii. **Lowerstheprivateinvestment:**Thegovernmentattractsmoreinvestmentbyraising ratesofinterestsonbondsandsecurities.Asaresult,amajorpartofsavingsofcitizensgoes

in the hands of the government, thus crowding out private investments.

iv. **Leads to the drain of National wealth:** The wealth of the country is drained out at the time of repaying loans taken from foreign countries and institutions.

Question 13: Are fiscal deficits inflationary?

Solution: Yes, if fiscal deficits is financed by issuing new currency it will increase inflation. It could be worse if new currency used to finance the current consumption expenditure of the government. When the government expenditure increases and tax reduces, there is a government deficit and there will be a corresponding increase in the aggregate demand. Therefore, fiscal deficits are inflationary in this sense. If new money is used for infrastructural activities or other capital projects, then fiscal deficit will not be inflationary. In this situation, a high fiscal deficit is accompanied by high demand, greater output level resulting to lesser inflationary situation.

Question 14: Discuss the issue of deficit reduction.

Solution: The ways of government budget deficit reduction are the following:

(i) Decreasing expenditure / Decrease in expenditures:

(a) The expenditure of government should be decreased by making government activities more planned and effective. It should reduce unproductive and unnecessary administrative activities.

(b) The government can encourage private sector to undertake capital projects which will reduce its expenditure

(ii) Increasing revenue / Increase in revenue generation:

(a) Higher taxes imply higher income earned by the government. Also, imposing new taxes, increasing the rate of existing taxes may add revenues of the government.

(b) The government can sell shares of Public Sector Undertakings (PSU disinvestment) to increase its revenue.