

These are the answers to the exam created by Mike Veall to accompany the Case/Fair/Strain/Veall, *Principles of Macroeconomics*, Second Canadian Edition textbook.

1. **D** (The CDs are the only expenditure on a new, final good or service.)
2. **C** The expected real rate of interest equals the market rate of interest less the expected rate of inflation. Higher-than-expected inflation means that lenders get a lower actual rate of interest.
3. **C**
4. **A**
5. **C** $Y=C+I+G+EX-IM=.75Y_d+30+0+10-(10+.15Y_d)=.6Y+30$ as $Y_d=Y$ when there are no taxes. Hence $.4Y=30$, $Y=75$.
6. **C** The balanced budget multiplier is 1 so setting $G=T=125$ will increase equilibrium output by 125 to 200.
7. **C** The price that would set demand equal to supply is \$400. Given the cash price is \$100, individuals will keep lining up as long as the waiting costs less than $\$400-\$100 = \$300$. If time is worth \$25 hour, this translates into a queue of 12 hours.
8. **E** A price ceiling will reduce price and the quantity traded. A price floor will increase price and reduce the quantity traded.
9. **A** Nominal GDP in 1996 is $10 \times 1 + 8 \times 0 = \10 and real GDP in 1997 using 1996 prices is $10 \times 1 + 4 \times 0 = \10 .
10. **B** $Y=C+I+G+EX-IM$ and $Y=C+S+T$. Hence $I+G+EX-IM=S+T$ or $80 + 150 + 60 - IM = 90 + 160$, implying $290 - IM = 250$, or $IM=40$.
11. **D** When the reserve ratio is 25%, desired reserves are \$50 million. When the reserve ratio is 40%, desired reserves are \$80 million, requiring 30 million more reserves. With a reserve ratio of 40%, the money multiplier is $(1/.4)=2.5$, so banks must reduce loans by $2.5 \times \$30 \text{ million} = \75 million .
12. **A** An expansionary fiscal policy under flexible exchange rates will normally lead to higher interest rates (as the increase in output will increase money demand or, more simply, the increased government borrowing bids up interest rates) and the higher interest rates will lead to an appreciation of the Canadian dollar.
13. **D** (particularly the increase in oil prices)
14. **B** An upward shift in the AS curve will increase unemployment in the short run, but in the long run in this model there is a tendency to full employment.
15. **C**. Promoting tourism is export promotion.
16. **C**.
17. **C** (As sweaters become less fashionable, the price of sweaters falls and manufacturers switch

to producing blankets.)

18. **D** When price is zero, clearly demand is 6m and supply is 1m so that there is 5m excess demand. If one assumes the supply and demand model is appropriate, after solving the equations, the price and quantity are clearly \$500 000 and 5m, so the increase in supply is $5m - 1m = 4m$.

19. **B** Suppose the farmer has 50 hectares of each type of land. Therefore the PPF will be straight lines going through the points (0,50), (50,50) and (50,0).

20. **D** Downward sloping demand guarantees that no one will visit more when they have to pay "per visit" and some have to pay less.

21. **B** For both price and quantity to increase, the demand curve must have shifted right.

22. **A** The effective price to an individual of consuming an extra piece of the pizza is 1/5 th of the full price because the other individuals will pay 4/5 th by splitting the bill. So each individual will eat more.

23. **D** Higher government debt increases interest rates and leads to an appreciation of the currency, the former reducing planned investment and the latter reducing net exports.

24. **A** (It is not option C because while it is argued the Bank of Canada may have caused high unemployment, it is accepted it reduced inflation.)

25. **E** 1990 GDP is $300 \times \$10 + 200 \times \$20 + 100 \times \$30 = \100 . Real 1990 GDP (at 1980 prices) is $300 \times \$30 + 200 \times \$20 + 100 \times \$20 = \150 . $(\$100/\$150 - 1) \times 100 = -33\%$.

26. **E** When the reserve ratio is 26%, desired reserves are \$26 million. When the reserve ratio is 25%, desired reserves are only \$25 million, freeing up \$1 million in excess reserves. With a reserve ratio of 25%, the money multiplier is $(1/.25) = 4$, so banks could increase loans by $4 \times \$1$ million = \$4 million.

27. **B** The interest rate is the opportunity cost of holding money and less money will be held if it costs less to obtain extra cash if needed.

28. **C** Lower output will reduce money demand while an open market purchase of bonds is a looser monetary policy which increases money supply. (Another way of seeing this last point is to note that a purchase of bonds reduces the supply of bonds, driving the price of bonds up which is the same thing as driving interest rates down.)

29. **A** The floor price is more difficult to maintain as it requires buying Canadian dollars using limited foreign exchange reserves.

30. **A** Looser monetary policy probably means lower interest rates, making it less expensive to borrow to expand and a depreciation of the Canadian dollar, increasing the relative price of imported equipment.

31. **D** Suppose it will cost \$1m to decommission today. If that money is invested in a bond in a year it will be worth \$1.07m and hence there will be a profit after paying the decommissioning costs next year of \$1.05m.

32. **A** An expansionary fiscal policy will likely have more effect under fixed exchange rates because the interest rates will be determined by U.S. interest rates and will not be affected by the increased borrowing (and economic activity) due to the fiscal expansion, which would normally increase money demand and interest rates.

33. **D** In the short run output will increase with the expansionary monetary policy but in the long run output will return to equilibrium.

34. **C** For each of the other alternatives, the opposite is true. (For alternative A, a shortcoming of the model is in fact that investment does not feed into the capital stock and increase potential output.)

35. **C** This is the only explanation which shifts the Aggregate Supply curve which is what causes stagflation in this model.

36. **D** The output in question is not attributable to factors of production owned by Irish residents so it does not count in Irish GNP. It is attributable to capital owned by Canadian residents so it is in Canadian GNP.

37. **D** Value added equals sales minus costs of material inputs.

38. **C** The decrease in exports will move the aggregate demand curve to the left and tend to reduce the price level. The reduction in price level and output will tend to reduce money demand and hence interest rates if the exchange rate is flexible. This would lead to an offsetting increase in investment and net exports (as the lower interest rates lead to an exchange rate depreciation). The aggregate demand curve will not move as far. But under fixed exchange rates, interest rates will not change: there will be no offsetting effect on investment and net exports to dampen the effect on the aggregate demand curve.

39. **D** Because government revenues fall during a recession, an automatic balanced budget rule would require tax increases or expenditure cuts, which would reduce aggregate demand still further.

B1: (a) The real rate of interest is the nominal rate of interest less the rate of inflation (1 mark).

(b) *Open market operations* can be used to expand the money supply by the Bank of Canada purchasing bonds (i.e. exchanging money for bonds). The Bank of Canada can also *transfer government deposits* to the private banks, increasing the deposits that those banks have in their lending base and hence increasing the money supply.

B2 Upward shifts in the aggregate demand curve (possibly caused by government policies that affect aggregate demand) leads to greater output (and hence less unemployment) but put increases the price level. Similarly downward shifts in the aggregate demand curve lead to more unemployment but decrease the price level.

B3 (a) The government deficit is government expenditures less revenues, or the amount the

government must borrow. The government debt is the total amount the government owes, or the accumulated deficit.

(b) There are many possible answers but Real GDP makes no allowance for pollution, depletion of resources, household production, leisure and black market activities. It values government expenditure at cost, so that war materials count equally with expenditures on education.

$$4. Y=C+I+G+EX-IM=100+.8Y_d+50+80+0=240+.8(Y-T)=230+.8(Y+150-.25Y)=350+.6Y$$

Hence $.4Y=350$ and equilibrium output $Y=875$. To set the government surplus to zero, $G=T$ so

$$Y=C+I+G+EX-IM=100+.8Y_d+50+T+0=150+T+.8(Y-T)=150+.8Y+.2T=150+.8Y+.2(-150+.25Y)$$

$$=120+.85Y \text{ or } .15Y=120, Y=800.$$