

IIT-Patna

Introductory Macroeconomics (HS-202)-End Term Exam

Date-24 April, 2018

Total Marks-50 (50% Weight)

Duration-3 Hours

Answer Any FIVE questions. Write to the point and do not write more than 200 words for any subjective question.

- 1) a) If nominal federal fund rate of US is 10% and inflation is 5% then comment on US economy's output. Is the output of US above its potential level of output?
b) What is Big-Mac index, proposed by Economist magazine? If real exchange rate between Indian rupees and US dollar is found to be 2 times of the nominal exchange rate then what you can infer about the price levels of India and US?
c) Does fiscal policy work when economy enters in liquidity trap zone? Justify your answer. (4+3+3=10)
- 2) a) What will happen with output(Y) and exchange rate(e) in a small open(an open economy which cannot influence world interest rate) economy if central bank takes an expansionary monetary policy? Explain with graph and economic logic.
b) If the same small economy (mentioned in part a) wants to keep its exchange rate fixed then what should it do in response to expansionary monetary policy? (5+5=10)
- 3) a) Draw IS-LM curves for a closed economy in one graph and show how equilibrium gets restored through market dynamic from disequilibrium in commodity or money market. Explain with economic logic.
b) Why LM curve for a small open economy is vertical? (6+4=10)
- 4) What is the difference between GDP and GNP? Derive Phillips curve from the aggregate supply curve.
Show each step of your derivation clearly. (2+8)=10
- 5) a) Production function for an economy is represented by, $Y=AK^\alpha L^{(1-\alpha)}$, where A is technology parameter, L is labour, K is capital, Y is output and $0 < \alpha < 1$. Derive the optimal per capita consumption of the economy which satisfies "Golden rule" of capital accumulation.
b) Derive optimal number of trips to bank from Baumol-Tobin model. (6+4)=10

6) a) Derive the IS equation of a closed economy from following information.

$$C = 100 + 0.75 \cdot Y_d$$

$$I = 50 - 25 \cdot r$$

$$T = G = 50$$

Where C is consumption, Y_d is disposable income, I is investment, r is interest rate, T is tax and G refers to government expenditure.

b) Derive LM equation from following information.

Assume total money supply in economy is fixed at 150 units and total money demand has two components named transactions demand for money (M_T) and speculative demand for money (M_{Sp}) and they are represented by,

$$M_T = 0.5 \cdot Y$$

$$M_{Sp} = 105 - 1500 \cdot r$$

Where Y is income and r is interest rate.

$$(5+5)=10$$
