Name _____ Enrolment No. _____ Section____

# AHMEDABAD UNIVERSITY
## AMRUT MODY SCHOOL OF MANAGEMENT
## UNDERGRADUATE PROGRAMMES
2023-2024 WINTER SEMESTER
END SEMESTER EXAMINATION
## ECO 110 MACROECONOMICS

Date: 20-04-2024
Time: 5pm – 7:30pm

Total Marks: 35
No. of printed pages: 11

1. Consider a simple economy with only 2 banks – A and B – and a central bank. All the banking operations apply in this economy as well. The T-account of both banks (in INR) is as given below:

| **Bank A** | |
|---|---|
| Assets | Liabilities |
| Reserves – 10 | Deposits – 100 |
| Loans – 70 | Capital – 0 |
| Govt. Securities – 20 | |

| **Bank B** | |
|---|---|
| Assets | Liabilities |
| Reserves – 20 | Deposits – 70 |
| Loans – 30 | Capital – 0 |
| Govt. Securities – 20 | |

a. Assume that there is no currency with public, what is the total money supply in the above simple economy? (1 Mark)

b. Suppose the mandatory reserve ratio is 10%. Bank A encounters a loan opportunity of INR 10. List *all* the ways in which it will be able to make this loan without compromising on its reserve requirements. (2 Marks)

c. Suppose some of the loans of bank B turn bad, so that their value falls from 30 to 20. What happens to the bank capital of bank B? What measures can it take to remain solvent? (2 Marks)

2. **Below figure shows the value of money supply M2 in both India and US.**

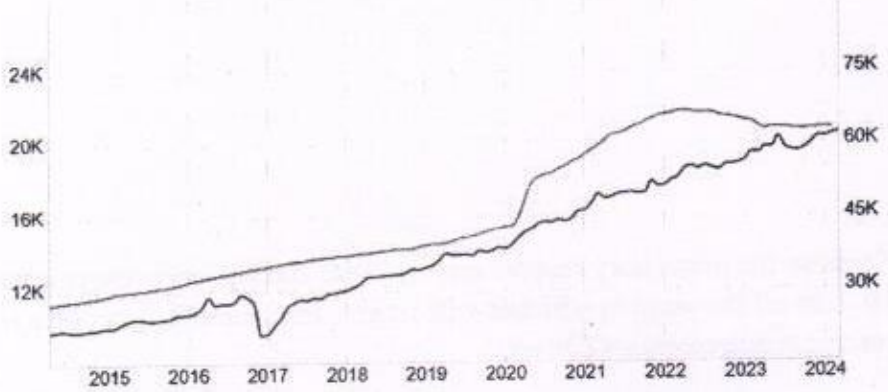



*Figure 1: Source:Tradingeconomics.com*

The top curve is for the US measured in billion USD on the left-side y-axis and the bottom curve is for India measured in billion INR on the right-side y-axis.

a. As per the quantity theory, what do you expect would happen to inflation rate during 2020-22 in both countries? Explain clearly with the use of quantity equation. Assumption: velocity of money

is constant and there were significant supply side constraints during this period due to which it would have been very difficult to change long-run production levels. (2 Marks)

b. **During 2022-24, in order to fight inflation, the US Fed started tightening its monetary policy by reducing the money supply. However, US citizens didn't stop criticizing the Fed for permanently reducing their purchasing power relative to pre-Covid period. Using the appropriate graph, explain why US citizens' criticism of the Fed is justified. The assumption of part (b) still holds. (2 Marks)**

3. Suppose black pepper is produced only in India and the rest of the world imports it from India. The price of pepper in India is INR 20 per kg, and it's sold for 1 USD per kg in the US. The exchange rate is 80 INR per USD.
    a. Does there exist an arbitrage opportunity to trade pepper between India and US? Why or why not? Assume there are no trade costs to trade goods between India and US. (1 Mark)

    b. If the trade cost is INR 40 per kg, what happens to your answer for part (a)? Explain. (2 Marks)

    c. According to PPP theory, is the INR over-valued or under-valued relative to USD? Assume no trade costs. (2 Marks)

4. There are two sectors in an economy: Agriculture and Non-Agriculture. Both have non-unionised workers and have equal wages. Answer the following using **graphs**.

   a. Say agricultural workers form a union. Assess the impact on wages and employment in agriculture sector. (1 Mark)

   b. What will be the impact of union in agriculture sector on wages and employment in non-agriculture sector? (2 Marks)

c. Based on your answers in (a) and (b), what could be done for improving employment quality in Non-agriculture sector? Explain your answer. (2 marks)

5. Government of India plans to make India a developed nation by 2047. Based on your understanding of the macroeconomic course, outline a vision for the Government of India for a holistic long-run development of the nation. Using economic theories and proper frameworks in your vision. Random answers will not be entertained. (5 Marks)

6. An international war has caused major trade routes to close down, causing massive shortages of raw materials in a hypothetical economy. Please answer the following questions based on this information. (The question clearly assumes fiscal policy as an exclusive mandate of the government and monetary policy as the sole prerogative of the central bank.) *Diagrams are required for any marks when asked.* [11 Marks]

    a. Explain, through the AD-AS-LRAS diagram, the implications of war for the above mentioned economy, along with its effect on employment, output, and price levels. [2 Marks].

b. If no central bank or government intervention is made at this stage, how would the economy recover in the long run to its natural level of output? [1 Mark]

c. Explain, through the AD-AS-LRAS diagram, what policy measures the government can undertake to aid in the recovery, along with its consequences on price levels. [2 Marks]

d. How can the central bank increase the effectiveness of the policy measures taken by the government in Part (c)? Explain with the help of diagrams. (Hint: crowding-out effect.) [2 Marks]

e. Suppose the central bank's only focus is on the control of price level. Explain, through the diagrammatic framework of MD-MS and AD-AS-LRAS, how the central bank would try to control the crisis under its own independent price level mandate and what would be its consequences? [3 marks]

f. Imagine yourself in the shoes of the economic advisor to the government. You are supposed to develop projects under the policy measure adopted by the government in Part (c). There are two options available to you: first, to provide income tax cuts to the rich, or second, to build infrastructure projects. Based on the economic concept of multiplier effect, which of the two projects would you recommend to the government? **[1 Mark]**. ***(No marks shall be provided without the reasoning.)***