Midterm Practice Exam
Macro Economics

Institute for Financial Management & Research (Batch: 2018-20)

23 October, 2018

Maximum Points: 60   **Duration**: 150 minutes

Instructions and Advice:

- The question paper is divided in two sections- Part A and Part B.

- You need to answer 7 questions in all. [2 from Part A, and 5 from Part B]

- You can choose between Question 1 and Question 2, and between Question 3 and Question 4.

- All other questions are compulsory.

- Please be brief and precise in your answers. Unnecessarily lengthy answers will attract penalty.

- At no point of this examination you are allowed to ask clarificatory questions. Make reasonable assumption if you have doubts and proceed to answer the question.

- You are **not allowed** to use calculator in the exam.

- There is plenty of time. Use it wisely, do not rush.

- All the best!

Part A

1. (4 points) Suppose that money demand is given by

$$M^d = Y(0.25 - i)$$

$Y = 500$, the nominal money supply is, $M^s = 100$.

  (a) (2 points) What is the equilibrium interest rate?

  (b) (2 points) If the RBI wanted the interest rate to be down by 10%, what should be the new money supply?

Or

2. (4 points) The GDP can be broken down into four components- consumption(C), investment (I), government purchases (G), and net exports (NX)- according to: $Y = C + I + G + NX$.

Identify to which component (C, I, G, or NX) would the following belong:
a. An Indian laptop purchased by the Maharashtra state government.
b. An Indian laptop purchased by an Indian consumer.
c. An Indian laptop purchased by a German consumer.
d. An Indian laptop purchased by Wipro.

3. (6 points) Please indicate whether each of the following statements is true or false:
a) GDP accounts for physical goods like iPhones, Fitbit, Plasma TV, but not on services, like haircuts, legal advice, that are produced within an economy for a given period of time.
b) GDP is a measure of both income and expenditure.
c) GDP includes the value of both new iPhones purchased from Apple stores and used iPhones purchased on OLX by consumers within an economy during a given period of time.

Or

4. (6 points) *Suppose that the markup of goods prices over marginal cost is 5%, and that the wage-setting equation is*

$$W = P(1 - u)$$

, where u is the unemployment rate.

  (a) (2 points) What is the real wage, as determined by the price-setting equation?

  (b) (1 point) What is the natural rate of unemployment?

  (c) (3 points) Suppose that the markup of prices over costs increases to 8%. What happens to the natural rate of unemployment? Explain the logic behind your answer.

Part B

5. (10 points) *Suppose the economy is characterized by the following behavioural equations:*

$$C = c_0 + c_1 Y_D$$
$$I = b_0 + b_1 Y$$
$$G = \bar{G}$$
$$T = \bar{T}$$

(a) (2 + 3 points) Solve for equilibrium output. What is the value of the multiplier?

(b) (5 points) Suppose that now business confidence is up, and there is a shift in the investment equation.

$$I = 2b_0 + b_1 Y$$

Compute the change in equilibrium output, the change in investment, and the change in national savings.

6. (10 points) *Suppose that a person's wealth is ₹50,000 and her annual income is ₹60,000. Also, the money demand follows the following equation*

$$M^d = Y(0.35 - i)$$

(a) (2 + 2 + 2 points) Derive the demand for bonds. Suppose that interest rate is down by 10 percentage points. How will the demand for bonds be impacted?

(b) (2 points) Explain the impact of rising wealth on the money demand and the demand for bonds.

(c) (2 points) Explain how shifts in annual income will impact the money demand and the demand for bonds.

7. (10 points) *Consider the following equations:*

$$C = 400 + 0.4Y_D$$
$$I = 200 + 0.1Y - 1000i$$
$$G = 400$$
$$T = 1000$$
$$\left(\frac{M}{P}\right)^d = Y - 4000i$$
$$(M/P)^s = 600$$

(a) (3 points) Derive the IS curve, and the LM curve. Solve for the equilibrium output and income.

(b) (3 points) Now suppose that government expenditure is up by 100%, and nominal money supply is now $M^s = 1000$. Calculate the new equilibrium output and interest rate.

(c) (2 points) Explain in words your findings for part (b) of the question.

(d) (2 points) Show your answer to part (b) on a graph.

8. (10 points) Suppose the economy begins with output equal to its natural level. Then, there is a rise in income taxes.

   (a) (5 points) Using the $AS - AD$ model, show the effects of a reduction in income taxes on the position of the AD, AS, IS, and LM curves in the medium run.

   (b) (5 points) What happens to output, the interest rate, and the price level in the medium run? What happens to consumption and investment in the medium run?

9. (10 points) *Assume that the average consumer in India and the average consumer in the United States buy the quantities and pay the prices indicated in the table below:*

	Food		Transportation Services	
	Price	Quantity	Price	Quantity
India	₹5	400	₹20	200
United States	$1	1000	$2	2000

   (a) (1 point) Compute U.S. consumption per capita in dollars.

   (b) (1 point) Compute Indian consumption per capita in rupees.

   (c) (2 points) Suppose that $1 = ₹10. Compute Indian per capita consumption in dollars.

   (d) (3 points) Using the purchasing power parity method and U.S.prices, compute Indian per capita consumption in dollars.

   (e) (3 points) Under each method, how lower is the standard of living in India than in the U.S.? Does the choice of the method make a difference?