Indian Institute of Technology, Kharagpur

Date_______FN/AN Time: 3 hours Full Marks: 50 No. of Students: 45

End Autumn Semester 2015 Dept: HSS Sub No: HS20007

5-Year Integrated MSc in Economics Sub Name: Macroeconomics I

Instruction: Answer **all** questions.

1. Define investment and discuss how Keynesian investment function is different from the Classical investment function? In this context, distinguish between demand price and supply price. Also discuss the role of expectations.
An investor is planning to invest capital in a new project. The initial capital requirement is estimated to be Rs 3000 Crore. Annual prospective yields are estimated as follows:

Year	Prospective Yield
First	2000
Second	2500
Third	1500
Fourth	1000

If the cost of raising capital is 10%, estimate MEC and suggest whether the investment is worth-considering. **3+2**

2. Define multiplier and explain how the value of multiplier can vary according to the nature of the demand functions (consider closed economy only). Prove that there can be as many multipliers as the number of demand functions and offer implications.
Suppose Consumption function $C = 50 + 0.7Y$ and investment $I_0 = 50+0.1Y$. Derive equilibrium income. If autonomous investment is increased by 30, what would be its impact on income and multiplier under the condition that the rise in autonomous expenditure is (a) once-over type, and (b) permanent? Illustrate this with the help of two different tables and algebraic expressions while exhibiting the relationship between realized investment and planned investment. **3+4**

3. The following information is available for an economy:

Consumption function	$C = C_0 + \beta(Y - T)$
Investment	$I = I_0$
Government expenditure	$G = G_0$
Exports	$X = X_0$
Import function	$M = M_0 + \mu Y$
Where	$C_0 = 80$
	G & $T = 30$
	$I = 100$
	$\beta = 0.8$
	$X = 120$
	$M_0 = 110$
	$\mu = 0.1$
	Y represents income.

Find the equilibrium level of income and the value of multiplier. **3**

4. What is 'paradox of thrift'? What condition is critical for an economy to experience it and why?
Suppose an economy's Consumption function $C = 20 + 0.7Y$ and Investment function $I = 10 + 0.1Y$. Obtain the equilibrium income. If the new Consumption function is $C = 10 + 0.7Y$, with Investment function remaining the same, what will happen to national savings and equilibrium income? Does the result exhibit 'paradox of thrift'? Justify your answer. **2+2**

5. Define National income and discuss different methods of measuring National income. Will different methods provide different estimates? Substantiate your argument.
The following information is available from the National income accounts of a country:

Particulars	Currency in Billions of US$
GNP at factor cost	95,023
NDP at market price	100,422
NNP at market price	100,575
GNP at market price	107,226
Indirect taxes	14,723

Find the value of depreciation, net factor income from abroad, value of subsidies and NDP at factor cost. **3+3**

6. How is multiplier affected by proportional tax and lump sum tax? What will be the impact of an increase in autonomous government expenditure on income if there is an equal increase in tax? Justify your answer.
Suppose the savings function of an economy $S = -10 + 0.25Y$ and investment $I = 20$. Initially, government purchase G and taxes T are zero. If full employment output $Y_f = 300$, by how much should G be increased so that the economy attains full employment. Suppose now government levies an income tax of 20%. What will be the required change in G to attain Y_f in this situation? Calculate the initial value of budget deficit. Also calculate the value of the structural deficit. **3+3**

7. Discuss the Complete Keynesian Model with appropriate graphical and mathematical derivations and prove its superiority over the Keynesian Cross as well as the Classical Theory. **5**

8. Explain the following: **4×2**
(a) Factors determining the slopes and positions of the IS and LM curves and the role of fiscal and monetary policy
(b) Items excluded from the national income and their justifications
(c) Difference between private income and personal income
(d) Sources of financing budget deficit and crowding out effect

9. The following information is available for an economy:

Consumption function $C = 20 + 0.75Y_d$
Tax function $T = 0.2Y$
Investment function $I = 500 - 15r$
Government expenditure $G = 400$
Import function $M = 10 + 0.1Y$
Export $X = 260$
Transaction demand for money $M_t = 0.25Y$
Speculative demand for money $M_{sp} = 125 - 50r$
Money supply $M_s = 250$
Where Y and r represent income and interest rate respectively.

Find (a) equilibrium income, (b) equilibrium interest rate, (c) value of trade balance at the equilibrium point, and (d) budget surplus.
(e) If G is increased by 115, what will be the equilibrium investment?
(f) If there is decline in money supply by 50, what will happen to investment, speculative demand for money and equilibrium income?
(g) If instead there is decrease in government expenditure by 50, what will happen to equilibrium income? **6**