Ref. No.: Ex/UG/ECO/34/20/2019(OLD)

B.A. ECONOMICS SECOND YEAR THIRD SEMESTER 2019 (OLD, 2012 syllabus)
MACROECONOMICS I

Time: 2 hours **Full Marks: 30**

Answer any three questions
All questions carry equal marks

1. a) Prove that three ways of measuring national income yield identical value of GDP
   b) Derive the fundamental identity of national income accounting. Using this, prove that if private savings cannot meet government deficit, there must be a current account deficit in the economy. 6 + 4 = 10

2. a) The government in an economy initiates a balanced budget expansion for three consecutive periods such that every year government expenditure (G) is increased by dG and is matched by an increase in lump-sum tax (T) by dT. What will be the change in GDP (Y) after three periods in terms of general formula? What will be the value of Y in this case if dG = 128? What will be the final change in Y if an infinite number of periods are taken into account? 4+1 =5
   b) Suppose in an economy, there are two groups of people denoted as A and B, who has the following characteristics:
   Y_A and Y_B = Income of A and B respectively, such that $Y_A > Y_B$
   β_A and β_B = Propensity to consume (Keynesian type property)
   T_A = Tax on A and S_B = Subsidy to B, assuming $T_B = S_A = 0$
   ω_A and ω_B = Share of A and B in GDP (Y)
   F = Autonomous Consumption, I = Autonomous Investment and G = Government expenditure
   What will be the change in Y if government increases taxes by dT_A and distributes the same to B as additional subsidy, allowing thereby a change in share of the two groups in GDP by amounts $d\omega_A$ and $d\omega_B$ respectively? 5

3. a) Graphically explain why it leads to instability of equilibrium if slope of IS curve is greater than slope of LM
   b) The following data are given for an economy (all variables have their usual meaning):
   $C = 100 + 0.8Y + 600r$
   $I = 10 - 100r$
   $M/P_0 = 0.5Y - 5000r$
   $M = 50, P_0 = 1$
   What is the change in Y if M changes by 30 (use the multiplier formula to derive it)? Does the result look counter-intuitive? What may be the reason for this? 6+4 = 10

4. In a complete Keynesian model, the following data are given (all variables have their usual meaning):
   Product Market equilibrium: $Y = 200 - 500r$
   Money Market equilibrium: $M/P = \frac{1}{2} Y - 250r$
   $M = 500$

Production function: $Y = N^{1/3}$
Money Wage Rate: $W = 20$
Now the new product market equilibrium equation is given by: $Y = 200 - 250r$.
Show that (i) AD curve becomes less elastic and (ii) Expansionary fiscal policy becomes more effective in terms of government expenditure multiplier (Derive the necessary multiplier formula). 5 + 5 = 10

5. Derive the Short run Phillips Curve (SPC). Explain the long-run Phillips curve (LPC) in terms of expectation augmentation of SPC. Is LPC always vertical? Explain
3 + 6 + 1 = 10