

# RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

FIRST YEAR [2018-21]

B.A./B.Sc. FIRST SEMESTER (July – December) 2018

Mid-Semester Examination, September 2018

Date : 24/09/2018

ECONOMICS (Honours)

Time : 11 am – 1 pm

Paper : I

Full Marks : 50

[Use a separate Answer Book for each group]

## Group – A

1. Answer **any three** questions of the following: [3 × 5]

a) "Price control has efficiency costs." Explain this statement by using the cases of price ceiling and price floor.

b) "It is possible to have diminishing returns to a single factor of production and constant returns to scale at the same time." Discuss.

c) i) Ananda wants to buy milk (in litres) and sugar (in kilograms) worth Rs. 100. The price of each good is Rs. 10 per unit. Last Sunday he received two discount coupons with the newspaper. One said "Buy one litre of milk and get one litre free!" while the other said "Buy one kilogram of sugar and get one kilogram free!" Each coupon is valid for the purchase of one unit of the respective good only. Draw Ananda's budget constraint.

ii) Using the definition of homothetic preferences, show that the utility function  $u(x, y) = x^\alpha y^\beta$ ,  $\alpha, \beta > 0$  exhibits homotheticity. (3 + 2)

d) i) For each of the following utility functions, draw indifference curves for different utility levels as indicated. Use arrows to show the direction in which utility is increasing:

$$\text{I) } u(x, y) = \begin{cases} x + y & \text{if } y < 4 \\ 4 + x & \text{if } y \geq 4 \end{cases} \text{ for } u = 6, 8$$

$$\text{II) } u(x_1, x_2) = \min \{x_1, x_2^2\} \text{ for } u = 1, 4, 9$$

ii) Show that a *constant-utility-demand curve* is always downward sloping. (3 + 2)

2. Answer **any two** questions of the following: [2 × 5]

a) A political campaign manager must decide whether to emphasize television advertisements or letters to potential voters in a re-election campaign. Describe the production function for campaign votes. How might information about this function (such as the shape of the isoquants) help the campaign manager to plan strategy? Explain with graphs.

- b) A consumer's preferences are given by the utility function:

$$u(x_1, x_2) = \min \{2x_1 + x_2, x_1 + 2x_2\}$$

Suppose  $m = 120$ , and  $p_1 = p_2 = 12$ .

- i) Find the equilibrium condition and justify it using economic reasoning. What is the optimal bundle chosen?
- ii) If the price  $p_1$  falls to 4, keeping  $p_2$  and  $m$  fixed, then decompose the price effect into substitution and income effects using the Hicks and Slutsky decompositions separately, both numerically and graphically.
- c) i) 'It is said that the Weak Axiom of Revealed Preference (WARP) alone cannot ensure transitive behaviour'—Examine the validity of this statement in the light of the following price-choice combinations for a consumer:  $\{p^0 = (2,2,2), x^0 = (2,2,2)\}$ ,  $\{p^1 = (1,3,2), x^1 = (3,1,2)\}$ , and  $\{p^2 = (2,1.5,5), x^2 = (4,1,1.5)\}$ .
- ii) How does the Strong Axiom of Revealed Preference (SARP) help in overcoming such shortcoming? (3 + 2)

### **Group – B**

3. Answer **any five** questions of the following: [5 × 5]

- a) What will be the impact of the following transactions on National Income?
- i) Mr. Roy donates ₹ 5, 00,000 to Ramakrishna Mission. (2.5)
- ii) Mr. Roy purchases a painting of M.F. Hussain painting from an auction by paying ₹ 5, 00,000. (2.5)
- b) i) Suppose there are two economies X and Y. Both of them have the same GNP. But Y's GDP is higher than that of X. What can you say about the nature of difference between the two economies? (2.5)
- ii) Why is it needed to distinguish between real and nominal GNP? (2.5)

c) Consider a simple Keynesian model with the following equations: (1.5 + 3.5)

$$Y = C + I + G$$

$$C = \bar{C} + c.Y$$

$$I = \bar{I}$$

$$G = \bar{G}$$

i) Find the autonomous expenditure multiplier.

ii) How will the value of multiplier change if government expenditure becomes a positive linear function of income? Explain.

d) Derive the IS curve in a situation when investment is perfectly interest inelastic.

e) In a situation of perfectly interest elastic money demand, the government decides to increase the money supply. Show what will be its possible impact on equilibrium level of income in an IS- LM framework.

f) Suppose an economy is facing serious economic downturn and wants to take either expansionary fiscal policy or expansionary monetary policy. The following are the basic characteristics of the economy`—

(i) MPC = .6;

(ii) interest sensitivity to investment = -.6;

(iii) sensitivity of money demand to change in income = .6;

(iv) sensitivity of money demand to change in interest = -.4.

Which policy would you suggest the government to take and why?

g) Suppose in an economy  $\frac{2}{3}$ rd of the firms have the scope to change their prices according to their wish and  $\frac{1}{3}$ rd of the firms have to select prices at the beginning of the period. What will be the equation of the aggregate supply curve of the economy?

\_\_\_\_\_ × \_\_\_\_\_