

# RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. THIRD SEMESTER EXAMINATION, DECEMBER 2015

SECOND YEAR [BATCH 2014-17]

ECONOMICS (Honours)

Date : 15/12/2015

Time : 11 am – 3 pm

Paper : III

Full Marks : 100

**(Use a separate Answer Book for each group)**

## **Group – A**

Answer **any three** questions :

[3×4]

1. When do you consider an allocation feasible? What is the relationship between feasible allocation and competitive allocation? Explain.
2. Explain the Second Fundamental Theorem of Welfare Economics.
3. Explain, in brief, the Arrow's Impossibility Theorem.
4. Explain the Clark-Wickstead 'Product Exhaustion Theorem'.
5. Is there any complementarity between adverse selection and moral hazard in insurance market? Explain briefly.

Answer **any one** question :

[1×8]

6. Suppose a pure exchange economy has just two consumers A and B and two commodities 1 and 2. The endowments of two agents are  $W_A = (W_A^1 = 10, W_A^2 = 10)$  and  $W_B = (W_B^1 = 8, W_B^2 = 4)$ . The utility functions are  $U_A = (X_A^1)^{0.5} (X_A^2)^{0.5}$  and  $U_B = (x_B^1)^{.25} (x_B^2)^{.75}$ . Solve for Walrasian equilibrium in this model.
7. Show that a risk averse person will prefer a gamble with 50% chance of winning Rs. 100 or losing Rs. 100 over a gamble with 50% chance of winning Rs. 200 or losing Rs. 200. What would be the choice for the risk neutral person in the same situation?

[8]

[4+4]

Answer **any two** questions :

[2×15]

8. Explain the concept of Pareto Optimality. Describe how can you reach a Pareto optimal solution in a product sector with two factors of production (L and K) used in production of two goods (X and Y). How is the production possibilities frontier related to the production contract curve?
9. a) Why the labour supply curve may be backward bending?  
b) How does the elasticity of supply govern economic rent?  
c) Explain the Ricardian theory of rent.
10. a) Suppose that medieval England was a single, large, price taking firm that produced one type of output with a constant returns to scale Cobb-Douglas production function,  $q = L^a K^{1-a}$ . Labor and capital have inelastic supplies (everyone works and all capital is used). The phenomenon of 'Black Death' killed  $(1-\theta)$  workers, causing the number of workers to fall from  $L$  to  $L^* = \theta L$ . If  $p$  is normalized to 1,  $a$  is  $\frac{1}{2}$ ,  $k$  is 100 and  $\theta = \frac{1}{4}$  then (All the notation are usual) –  
(i) Show how output falls due to a reduction in labor.  
(ii) Given the effect of the plague on output, show how the marginal product of labor changed and hence how the wage changed.  
(iii) Show what happens to marginal product of capital correspondingly.

[2+8+5]

[5+5+5]

(iv) Calculate the changes in wages and the rental price of capital using the specified parameters.

- b) Show that price of a scarce exhaustible resource depend on interest rate. [12+3]
11. a) Show that  $u = \begin{cases} c^{ax}, & a > 0 \\ 1 - c^{ax}, & a < 0 \end{cases}$  has a constant absolute risk aversion for any constant , c.
- b) A and B have the same income and taste and there is a project  $P = (Y_1 - c, Y_2 - c|p)$  where  $c$  is the cost of the project, which neither is willing to accept on his own. So they will also reject an equal sharing of the project. True or false? Justify.
- c) Consider an individual with initial wealth equals to Rs. 1 lakh faces a risk of complete loss with probability  $p = 0.01$ . If the insurance company charges a premium rate 0.02, find the optimum level of insurance if  $u = \sqrt{y}$ . [5+5+5]

### **Group – B**

Answer **any three** questions :

[3×4]

12. Define and discuss the notion of ‘capability’ as explained by Prof. Amartya Sen.
13. How can a Lorenz Curve be used to indicate an increase in income inequality in a country.
14. Explain the notions of ‘Head count ratio’ and ‘Income gap ratio’ as measures of poverty.
15. Define PQLI.
16. Explain briefly the concept of coordination failure.

Answer **any one** question :

[1×8]

17. ‘Per Capita income does not accurately measure an improvement in the standard of living of the majority of population’ –Explain the validity of the statement in the context of using per capita income as an index of development.
18. Examine the suitability of the balanced growth path for a less developed economy.

Answer **any two** questions :

[2×15]

19. a) Explain the notion low-level equilibrium trap with special reference to income depressing forces and income raising forces in an economy. [9]
- b) Do you think that a critical minimum effort in the form of a huge dose of investment is inevitable to free the economy from this trap? [6]
20. a) Discuss the process of demographic transition and its implication in economic development of a country. [8]
- b) Can population pressure inevitably result in low level Equilibrium trap in any less developed country? Explain. [7]
21. a) What are the occupational and production structures of a less developed economy? How do these change as the country develops? [8]
- b) What are the core values of economic development? [7]
22. Country A has just achieved independence and possess a limited amount of capital stock.
  - a) Point out various objectives ‘Country A’ might exercise. [2]
  - b) Discuss in detail possible conflicts that can emerge while following these objectives. [10]
  - c) Critically assess those assumption that are crucial to your analysis. [3]

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