RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. THIRD SEMESTER EXAMINATION, DECEMBER 2017

SECOND YEAR [BATCH 2016-19]

Date : 12/12/2017 **ECONOMICS [Honours]**

Time : 11 am – 3 pm **Paper : III** Full Marks : 100

[Use a separate Answer Book for <u>each Group</u>]

<u>Group – A</u>

Answer <u>any three</u> questions from <u>Question Nos. 1 to 5</u> : [3×4]

1. Suppose there are two groups of workers, unionized and nonunionized. The Labour Ministry passes a law that requires all workers to join the union. What do you expect to happen to the wage rates of formerly nonunionized workers? Of those workers who were originally unionized?

2. Let the share prices of Company A and B always move together. Would you like to buy shares of both companies? Explain if your answer changes in case the share price of A and that of B move in the opposite direction.

3. What do you mean by moral hazard in insurance business?

4. Gautam and Siddhartha want to divide Rs. 100 between themselves. So they consult their friend Sugato who proposes Gautam should receive Rs. 70 while Siddhartha's share should be Rs. 30. If the utility functions are given by $U_{Gautam} = I_{Gautam}\, I_{Siddhartha}$ and $U_{Siddhartha} = I_{Siddhartha}$ where I denotes the share of a person. Argue whether Sugato's proposed division is Pareto optimal.

5. Based on the table below, find and explain the most preferred bet for a typical person :

	Situation 1	**Situation 2**
Bet 1	100 with prob. = 1/2	–100 with prob. = 1/2
Bet 2	100 with prob. = 3/4	–300 with prob. = 1/4
Bet 3	100 with prob. = 9/10	–900 with prob. = 1/10

Answer <u>any one</u> question from <u>Question Nos. 6 to 7</u> : [1×8]

6. A firm's short-run revenue is given by $R = 10e - e^2$, where e is the level of effort by a typical worker (all workers are assumed to be identical). A worker chooses his level of effort to maximize wage less effort: w – e (the per-unit cost of effort is assumed to be 1). Determine the level of effort and the level of profit (revenue minus wage paid) for each of the following wage arrangements. Explain why these different principal–agent relationships generate different outcomes.
   a) $w = 2$ for $e \geq 1$; otherwise $w = 0$
   b) $w = R/2$
   c) $w = R - 12{\cdot}5$

7. Discuss whether markets can achieve a desirable allocation of resources among economic agents using price mechanism.

Answer <u>any two</u> questions from <u>Question Nos. 8 to 11</u> : [2×15]

8. Mr. Bajaj owns a large garment factory on a remote island. His factory is the only source of employment for most of the islanders, and thus Mr. Bajaj acts as a monopsonist. The supply curve for garment workers is given by L = 80w and the marginal-expense-of-labour curve is given by $ME_L = L/40$ where L is the number of workers hired and w is their hourly wage. Assume also that his labour demand (marginal value product) curve is given by $L = 400 - 40\ MVP_L$.
   a) How many workers will Mr. Bajaj hire in order to maximize his profits, and what wage will he pay? Show these in a graph. [4]
   b) Assume now that the government implements a minimum-wage law covering all garment workers. How many workers will Mr. Bajaj now hire, and how much unemployment will there be if the minimum wage is set at Rs. 3 per hour? Rs. 3·33 per hour? Rs. 4·00 per hour? Use the above graph and plot these new results. [8]
   c) How does the imposition of a minimum wage under monoposony differ in results from a minimum wage imposed under perfect competition (assuming the minimum wage is above the market-determined wage)? [3]

9. Consider a profit-maximizing firm with the production function $y = f(x_1, x_2)$, facing output price p and factor prices w_1 and w_2. Suppose this firm is taxed according to the total cost of factor 2, i.e. tax = tw_2x_2. Show that—
   a) if the tax rate rises, the firm will use less of factor 2; and [8]
   b) $\dfrac{\delta x_1^*}{\delta t} = w_2 \dfrac{\delta x_2^*}{\delta w_1}$ [7]

10. A college hires a part time teacher. The college maximizes its pay-off function given by x − s, where x is the hours taught by the teacher and s is the salary paid. The teacher's utility function is $s - \dfrac{x^2}{2}$ and his reservation utility is zero.
   a) If the college chooses x and s to maximize its utility subject to the constraint that the teacher is willing to teach in the college, how much will the teacher choose to teach? How much salary will he receive? [8]
   b) If the college chooses salary according to the formula s = ax + b, and lets the teacher to choose the number of hours of teaching, what values of a and b should the college choose to maximize its own utility? [7]

11. a) Suppose in a two person-two good economy, there are two individuals A and B. Each has 10 hours of labour to devote to producing X and Y. A's demand for X and Y are given by $X_A = \dfrac{0{\cdot}3I_A}{P_X}$ and $Y_A = \dfrac{0{\cdot}7I_A}{P_Y}$, while for B, demands are given by $X_B = \dfrac{0{\cdot}5I_B}{P_X}$ and $Y_B = \dfrac{0{\cdot}5I_B}{P_Y}$, where I_A and I_B respectively denote A and B's incomes from working. Production functions are $X = 2L_X$ and $Y = 3L_Y$ where L_X and L_Y denote labour inputs in production of X and Y respectively. Find—
      i) competitive price-ratio $\dfrac{P_X}{P_Y}$; [5]
      ii) demand for X and Y by A and B in the equilibrium (Set the wage equal to 1); and [3]
      iii) equilibrium allocation of labour in each sector producing X and Y. [2]

b) In an economy, the production functions of the 2 final goods are given by $X_1 = \sqrt{k_1 \ell_1}$ and $X_2 = \sqrt{\ell_2}$, where k_i and ℓ_i denote capital and labour employed in the production of i^{th} good respectively, i = 1, 2, Total capital and labour endowments in the economy are K and L respectively. What is the equation of the Production Possibility Frontier in the economy? [5]

Group – B

Answer <u>any three</u> questions from <u>Question Nos. 12 to 16</u> : [3×4]

12. Explain the 'Capability approach' towards economic development.
13. Explain the concept of 'Optimum population'. In this context mention what is under-population and over-population.
14. How is Sen's measure an improvement over the traditional measures of poverty?
15. What are the four criteria for inequality measurement?
16. Explain briefly the concept of 'Coordination failure'.

Answer <u>any one</u> question from <u>Question Nos. 17 to 18</u> : [1×8]

17. Explain the use of Lorenz curve to make judgement on the pattern of income distribution in any developing economy.
18. Do you think that the theory of 'Unbalanced Growth' is an improvement over the theory of 'Balanced Growth'?

Answer <u>any two</u> questions from <u>Question Nos. 19 to 22</u> : [2×15]

19. a) "Economic development is something more than economic growth" —Explain. [6]
    b) Explain the relationship between formation of human capital and economic development in a less developed country. [6]
    c) What are the core values of economic development? [3]
20. a) Discuss the process of demographic transition and its implication in the 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) Discuss the situations where a labour surplus economy may choose capital-intensive technology instead of labour-intensive technology. [5]
    b) Analyse the conflict between
       i) employment and output, and
       ii) employment and savings generation while choosing any production technique. [5+5]
22. a) What do you mean by a non-monetary index of development? What is the need for a non-monetary index of development? [1+3]
    b) Mention the variables that are taken into consideration for measuring any two non-monetary indices. [2+2]
    c) Explain the steps for measuring one such non-monetary index. [7]

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