RMW(O)-ECO-I/21

2021

ECONOMICS

PAPER-I

Time Allowed — 3 Hours   *Full Marks — 200*

If the questions attempted are in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining ones ignored.

*Answers may be given either in **English** or in **Bengali** but all answers must be in one and same language.*

Answer *any five* questions taking *at least two* from each group.

Group-A

1. (a) Explain how negatively sloped convex indifference curves are derived from axioms in a two commodity world.

   (b) Explain the difference between short-run equilibrium and long-run equilibrium in monopolistic competition.   20+20=40

2. (a) How does the competitive firm combine two inputs labour (L) and capital (K) optimally to produce output?

   (b) Discuss the determinants of growth in the AK model of endogenous growth.   20+20=40

3. (a) In an open economy with government, determine the equilibrium output in the goods market.

   (b) In an IS-LM framework, examine the effectiveness of an expansionary fiscal policy on output and interest rate.   20+20=40

4. (a) Draw the indifference map in each of the following cases, clearly indicating the direction in which utility increases:

   (i) Mr. A enjoys both steak and lobster. However, he thinks while steak is good beyond 3 lobsters a day, eating seafood is bad.

   (ii) Mrs. B likes apples but neither likes nor dislikes oranges.

   (iii) Mrs. C thinks automobiles are good but pollution is bad.

   (iv) Mr. D likes tea and always uses two spoons of sugar for one cup of tea.

   (v) Ms. E likes both tea and coffee — they are perfect substitutes for her.

   (b) A profit-maximizing monopolist produces its output with a total cost (in Rupees) function given by

   $$TC = 5Q + 20$$

   and sells its output in two market segments that are completely separated from each other. The demand in market segment 1 and 2 are respectively

   $$Q_1 = 55 - P_1$$
   $$Q_2 = 70 - 2P_2$$

   (i) What quantities should the monopolist sell in each market segment?

   (ii) What prices should be charged in each market segment?   (4×5)+(10+10)=40

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5. (a) A firm produces output (Q) using labour (L) and machines (K). The following information about the production situation is obtained.

Q	K	L
490	15	99
500	15	100

Q	K	L
470	14	100
500	15	100

The price of L is $5 per unit and the price of K is $10 per unit. Does the input combination of 15 units of K and 100 units of L represent the least-cost method of producing output of 500? If not, should the firm use more L and less K, or more K and less L?

(b) The following is information from the national income accounts of a hypothetical country:

GNP = $2400

Gross Investment = $400

Net Investment = $150

Consumption = $1500

Government purchases of goods and services = $480

National Income = $1925

Wages and Salaries = $1460

Proprietors' income + rental income of persons = $160

Dividends = $50

Government budget surplus = $15

Social insurance contributions = $190

Net interest income = $60

Government and business transfers to persons = $260

Personal tax and non-tax payments = $300

What is

(i) NNP?

(ii) Net exports?

(iii) Indirect taxes?

(iv) Corporate profits?

(v) Taxes–transfers?

(vi) Personal income?

(vii) Disposable personal income?

(viii) Personal savings?

20+(2½×8)=40

Group-B

6. (a) In a two-country-two-commodity Ricardian model of international trade, show that both countries gain from trade.

   (b) Why is there reference to surplus or deficit in Balance of Payments if Balance of Payments is always in balance?   20+20=40

7. (a) Distinguish between

   (i) Primary deficit and Revenue deficit

   (ii) Public good and Private good.

   (b) While preparing the budget for the country, which type of tax would you prefer to give greater importance to—direct tax or indirect tax? Give reasons for your choice.
                                                                                   (10+10)+20=40

8. (a) Find the missing frequency of the following data whose Median is given as 24.

Marks	0–10	10–20	20–30	30–40	40–50
Frequency	13	22	?	16	14

   (b) In shuffling a pack of playing cards, 4 cards are accidentally dropped. Find the probability that the missing cards are one from each suit.   20+20=40

9. (a) Find the mean and standard error of sample proportion for a sample drawn at random with replacement from a finite population.

   (b) In the two-variable Classical Linear Regression model, how would you derive R^2? Explain its significance.   20+20=40

10. Write short notes on *any two*:   20+20=40

    (a) Intra-industry trade

    (b) Cournot model of Oligopoly

    (c) Hypothesis testing

    (d) Expansionary monetary policy in the Mundell-Fleming model with flexible exchange rate and perfect capital mobility.

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