

2022

ECONOMICS — HONOURS

Paper : CC-3

(Introductory Macroeconomics)

Full Marks : 65

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Section - A

1. Answer **any ten** questions : 2×10
- (a) Distinguish between nominal GDP and real GDP.
 - (b) Which contributes more to GDP— the production of an economy car or the production of a luxury car? Why?
 - (c) For an economy where GNP exceeds GDP, we observe that the residents of that country are earning less abroad than the foreigners are earning in that country. Is the statement true or false? Give reasons.
 - (d) Explain the condition for stability of equilibrium in SKM in a two-sector economy.
 - (e) Why does an exogenous increase in autonomous expenditure by a given amount raises equilibrium output by a larger amount?
 - (f) Find out the equilibrium level Y if $C = 100 + 0.8(Y - T)$, $I = 20$ and $G = T = 10$.
 - (g) What is the value of the multiplier if mpc is high? Why?
 - (h) What is classical dichotomy?
 - (i) What is speculative demand for money?
 - (j) Explain marginal efficiency of capital.
 - (k) Explain the relation between market value of a consol, its coupon rate and long-run market rate of interest.
 - (l) State whether the following are included in National Income accounting. Give reasons.
 - (i) Transport expenses incurred by a firm.
 - (ii) Rent free house to an employee by an employer.
 - (m) State whether the following statements are true or false. Give reasons.
 - (i) For a country where GNP exceeds GDP, we find that the residents of that country are earning less abroad than the foreigners are earning in that country.
 - (ii) In computing GDP by the value Added Method, firms producing intermediate goods should be disregarded.
 - (n) Mention two basic assumptions of the Simple Keynesian Model.
 - (o) Distinguish between MEC and MEI.

Please Turn Over

Section - B

2. Answer *any three* questions :

- (a) Consider a hypothetical economy. All values are in ₹ Crores GDP = 7000. Gross Investment = 800, Net Investment = 550.

Consumption = 4500, Government purchase of goods = 1100, Budget surplus = 30

Calculate (i) NDP (ii) net exports (iii) government taxes minus transfer (iv) disposable income (v) personal saving. 5

- (b) Consider two situations in the context of SKM for a closed economy. In one situation, investment is autonomous and in the other it is an increasing function of Y . Suppose the government wants to increase Y by a given amount. In order to achieve this, the government lowers tax collection (\bar{T}).

Explain in which situation will it have to lower \bar{T} by a larger quantity. 5

- (c) Explain why Say's law and Quantity Theory of Money are consistent. 5

- (d) What is the accelerator principle of investment? 5

- (e) (i) Suppose there are three firms in an economy : A, B, C. The value of A's sales is ₹ 100 of which ₹ 40 comes from B and ₹ 60 comes from C. Value of B's sales is ₹ 350 which consists of ₹ 200 from sales to C and ₹ 150 to final consumers. C sells to final consumer for ₹ 500. Show the equivalence of the value added and value of final output in this economy.

- (ii) Show that if $S = I$, then budgetary deficit will be reflected in an equal external deficit. 3+2

Section - C

Answer *any three* questions.

3. (a) State whether the following statements are True or False. Give reasons.

(i) An increase in interest payment by the government means an increase in aggregate national saving.

(ii) In the identity $C+I+G+(X-M) = GDP$, M does not include imported intermediate inputs.

- (b) Is GDP a good measure of economic well-being? Explain. (2+2)+6

4. (a) Discuss the impact of government purchase on budget surplus.

- (b) Explain paradox of thrift. 5+5

5. Explain loanable funds theory and explain its significance in the context of classical model. 10

6. Discuss the neo-classical model of investment. 10

7. How are employment, output, real wage, price level and money wage determined in the classical model? 10

2022

ECONOMICS — HONOURS

Paper : CC-4

Full Marks : 65

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

Group - A

1. Answer **any ten** questions :

2×10

- (a) Consider the function $f(x_1, x_2) = x_1x_2 + x_2^2$. Find the corresponding marginal functions and comment on their degree of homogeneity.
- (b) For the total cost function $C = y^2 + 10y + 25$; $y > 0$, show that when average cost (AC) curve is horizontal, then $AC = MC$ (Marginal Cost).
- (c) Find the point elasticity of demand (w.r.t. own price) for the demand function $x = 100p^{-2}$.
- (d) Find the extreme values of the function $y = 0.5x^3 - 3x^2 + 6x + 10$ and determine whether it gives a maxima or a minima.
- (e) Find the marginal product functions for the Cobb-Dauglas production function : $y = 10x_1^{1/2}x_2^{1/2}$.
- (f) For the function $f(x_1, x_2) = x_1^2x_2$, verify the Young's Theorem.
- (g) Determine the MRS for the utility function $u(x_1, x_2) = ax_1 + bx_2$.
- (h) Show that the quadratic equation formed by the following matrix product is positive definite.

$$[x_1 \ x_2] \begin{bmatrix} 4 & 2 \\ 2 & 3 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}$$

- (i) State the duality theorem in the context of linear programming problems.
- (j) Find the inflexion point for the function $y = \ln x + 1/x$.
- (k) A production function is given by : $Q(L) = 12L^2 - \frac{1}{20}L^3$; where L denotes the number of workers.
What size of workforce maximises output per worker?
- (l) For the function $x = 5.e^t$, show that the relative rate of increase $\frac{\dot{x}}{x}$ is constant.
- (m) Mohan lives in two periods, today and tomorrow. At the beginning of each period he earns ₹ 5,000. If the interest rate in each period is 0.25, find the present value of her lifetime income.

Please Turn Over

(n) Write down the Kuhn-Tucker conditions for the following optimization problem :

$$\text{Maximize } z = 2x_1 - x_1^2 + x_2$$

$$\text{Subject to } 2x_1 + 3x_2 \leq 6$$

$$2x_1 + x_2 \leq 4$$

$$x_1, x_2 \geq 0$$

(o) Discuss the nature of the following time paths :

$$(i) y_t = 5 \left(-\frac{1}{10} \right)^t + 3$$

$$(ii) y_t = 2 \left(\frac{1}{3} \right)^t$$

Group - B

Answer **any three** questions.

2. Comment on the quasiconcavity/quasiconvexity of the following function :

$$y = 2x_1^{1/2} x_2^{1/2}; x_1, x_2 > 0.$$

5

3. Given $C = 102 + 0.7y$, $I = 150 - 100r$; $M_S = 300$; $M_T = 0.25y$, $M_P = 124 - 200r$ where C = consumption, Y = income, I = investment, r = rate of interest, M_S = Money supply, M_T = Transaction demand for money. M_P = Speculative demand for money. Find (i) The equilibrium level of income and the rate of interest. (ii) The levels of C , I , M_T and M_P at equilibrium. 3+2

4. What is a level curve? Compute the slope of the level curves for the function $f(x_1, x_2) = 2x_1 + 3x_2$. 2+3

5. Examine whether the following functions are homothetic?

$$(a) e^{x^2 y}$$

$$(b) 2 \log x + 3 \log y$$

2½+2½

6. A consumer's utility function is given by $U = x^\alpha y^\beta$. Show that the absolute value of price and income elasticities for either good is equal to unity. 5

Group - C

Answer **any three** questions.

7. (a) Derive the indirect utility function in case of a Cobb-Dauglas utility function $u(x, y) = x^\alpha y^\beta$. Where $\alpha + \beta = 1$ and the budget equation is given by : $I = P_x \cdot x + P_y \cdot y$.

(b) Derive the compensated demand function for the utility function $u^o = q_1 q_2$ and the expenditure function $E = p_1 q_1 + p_2 q_2$. Verify the Shephard's Lemma. 4+(3+3)

8. (a) (i) Suppose that y is a function of x_1 and x_2 given by :

$$y = -(x_1 - 1)^2 - (x_2 - 2)^2 + 10$$

where y represents an individual's health (measured on a scale of 0 to 10), and x_1 and x_2 might be daily dosage of two health enhancing drugs. The objective is to maximise y . But the choice of x_1 and x_2 is constrained by the fact that an individual can tolerate only one drug does per day i.e $x_1 + x_2 = 1$. Find out the optimal combination of drug that will maximise the health standard subject to the constraint.

- (ii) What would have been the optimal choice had there been no constraint. How does the maximum value of y changes in this unconstrained case, compared to the constrained one.

- (b) Consider the following profit equation of a firm producing two products x and y :

$$\pi = 80x - 1.5x^2 - xy - y^2 + 60y$$

Find the profit maximizing combination of output and the level of maximum profit of the firm.

(2+3)+5

9. (a) Let the demand and supply function for a commodity be :

$$Q_d = D(P, t_0); \frac{\partial D}{\partial P} < 0, \frac{\partial D}{\partial t_0} > 0 \text{ and } Q_s = Q_{s_0}. \text{ Where } t_0 \text{ is consumer's taste for the commodity and}$$

where both partial derivatives are continuous.

- (i) Write the equilibrium condition as a single equation.

- (ii) Is the implicit function applicable?

- (iii) How would the equilibrium price vary with consumer taste.

- (b) A firm uses capital K , labour L and land T to produce Q units of output, where $Q = K^{2/3} + L^{1/2} + T^{1/3}$. Suppose that the firm is paid a positive price p for each unit it produces and the positive prices it pays per unit of capital, labour and land are r , w and q respectively.

- (i) Find the values of K , L and T that maximises firm's profit.

- (ii) Show that $\frac{\partial Q^*}{\partial r} = -\frac{\partial K^*}{\partial p}$, where Q^* denotes the optimal level of output and K^* denotes the

optimal level of capital stock.

(1+2+2)+(3+2)

10. (a) Consider the following market model :

$$Q_t^d = Q_t^s \quad Q_t^d = 20 - 3P_t$$

$$Q_t^s = \begin{cases} -10 + 3P_t^* & \text{for } t = 1, 2, \dots \\ 0 & \text{for } t = 0 \end{cases}$$

where P_t^* is the expected price at t -th period given that

$$P_t^* = P_{t-1}^* + \alpha [P_{t-1} - P_{t-1}^*] \quad 0 < \alpha < 1 \quad P_t^* = P_0; t = 1$$

Find the time path of price.

Please Turn Over

(b) Consider the linear difference equation of the Cob-Web model :

$$P_{t+1} = \frac{a+\gamma}{\beta} - \frac{\partial}{\beta} \cdot P_t \left(\frac{\partial}{\beta} > 0 \right)$$

Draw a phase line to ascertain the nature of the time path.

5+5

11. Consider the following linear programming problem :

$$\begin{aligned} \text{Maximize} \quad & x_1 + x_2 \\ \text{Subject to} \quad & x_1 + 2x_2 \leq 14 \\ & 2x_1 + x_2 \leq 13 \\ & x_1 \geq 0, x_2 \geq 0 \end{aligned}$$

- Solve the problem graphically.
- Write down the dual of this problem.
- Use complementary slackness conditions to solve the dual.
- Check whether duality theorem holds.

(3+2+3+2)

2022

ECONOMICS — HONOURS

Paper : CC-8

(Intermediate Microeconomics-II)

Full Marks : 65

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer **any ten** questions :

2×10

- (a) What is the value of the index of market power for a firm facing an infinitely elastic demand for its product?
- (b) Explain in brief whether a monopolist has a supply curve.
- (c) What is meant by second degree price discrimination?
- (d) Between a monopolist and a monopolistic competitor, who will be more interested in advertising?
- (e) Why does a monopolistically competitive firm face two demand curves for its product?
- (f) Does the Kinked Demand Curve model of oligopoly explain how the initial prices and quantities are arrived at?
- (g) In which kind of market can we see non-price competition?
- (h) What kinds of exploitation of labour can be seen in non-competitive markets?
- (i) Consider the contract curve in an Edge Worth-Bowley box diagram. Explain whether any point on the curve can be Pareto-superior to any other point on it.
- (j) What kind of economic improvement is called a Pareto improvement?
- (k) What is meant by market failure?
- (l) Is a public good always non-excludable?
- (m) What is the difference between positive externality and negative externality?
- (n) Describe in brief the concept of moral hazard.
- (o) What is meant by the Tragedy of the Commons?

Group - B

2. Answer **any three** questions :

5×3

- (a) Do you agree that monopolistic competition leads to excess capacity in the long run? Explain.

Please Turn Over

- (b) What are corrective taxes? How do they protect the environment from pollution? 2+3
- (c) A monopolist can produce at a constant marginal and average cost of Rs. 5. The market demand curve faced by the producer is $Q = 53 - P$. Calculate the profit maximising price, output and the profit level. 2+2+1
- (d) Mita has 8 coke bottles and 2 sandwiches. Gita, on the other hand, has 2 coke bottles and 4 sandwiches. With these endowments, Mita's Marginal Rate of Substitution (MRS) of coke for sandwiches is 3 and that of Gita is equal to 1. Draw Edgeworth box diagram to show whether this allocation is efficient or not. Explain your answer.
- (e) How do you determine the net welfare cost to society from monopoly?

Group - C

3. Answer *any three* questions :

- (a) (i) What is collusive oligopoly?
 (ii) How can you relate Prisoners' Dilemma in the context of oligopoly?
 (iii) Do you consider the system of collusion to be stable? 2+3+5
- (b) (i) Explain the difference between adverse selection and moral hazard in insurance markets.
 (ii) Suppose the utility function be $u = WL$ and W be the total work hours, r be the wage rate per hour and T be the total time. Find the labour supply function and explain whether it follows the regular properties of labour supply function. 4+4+2
- (c) (i) A monopolist selling in two markets faces the demand curves $p_1 = 164 - 2q_1$ and $p_2 = 108 - 5q_2$ in the two markets. His marginal cost function is $MC = 8$. He has no fixed costs. If the monopolist can charge different prices in the two markets, what price will he charge in each? What will be the quantity sold in each market?
 (ii) Can a perfectly discriminating monopolist maximise profit along the inelastic portion of the demand curve? Why and why not? 5+(3+2)
- (d) (i) What is Pareto Efficient allocations? How is a contract curve related to such allocations?
 (ii) In an economy clothing and food are produced with the help of labour and capital. Suppose that $w = r = ₹ 4$ per hour. In clothing production MP_L^C/MP_K^C is supposed to be 2 and that in food production MP_L^F/MP_K^F is supposed to be $\frac{1}{2}$. Is the economy efficient in production? If not, how should it reallocate its resources? 2+2+2+4
- (e) (i) Assume, duopolist X producing a differentiated product, face an inverse demand function given by $p_1 = 100 - 2q_1 - q_2$ and have the cost function $C_1 = 2.5 q_1^2$. Assume duopolist Y wishes to maintain a market share of $\frac{1}{3}$. Find the optimal price, output and profit for duopolist X and output of duopolist Y.
 (ii) What are the conditions for successful operation of a cartel? 7+3

2022

ECONOMICS — HONOURS

Paper : CC-9

(Intermediate Macroeconomics-II)

Full Marks : 65

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

Section - A

1. Answer **any ten** questions :

2×10

- (a) What are the two characteristics that New Classical economists consider to be essential for being it an useful macroeconomic model?
- (b) If $\left[\frac{dy}{dt}\right]_d = \frac{1}{(1-mpc)} \left[\frac{dl}{dt}\right]$ is increment in $AD(Y)$ per unit of time and $\left[\frac{dy}{dt}\right]_s = a \frac{dK}{dt}$ is the increment in supply of output, then what is the capacity creating effect (Domar effect) of investment following goods market equilibrium?
- (c) Calculate the warranted rate of growth in mpc is 0.80 and capital output ratio is 5.
- (d) What do you mean by random walk of consumption expenditure?
- (e) Calculate the permanent income of the financial year 2020 when rate of weightage for the annual income in the past is one third (0.33) when $Y_{2019} = ₹ 6$ lakhs and $Y_{2020} = ₹ 4.5$ lakhs.
- (f) What is the new classical policy ineffectiveness proposition?
- (g) Why do you think prices are sticky under imperfect competition according to the New Keynesians?
- (h) Distinguish between Adaptive expectations and Rational Expectations.
- (i) In a two period framework what happens to the budget line of the consumer if only first period's income increases?
- (j) How does production function in Endogeneous growth model differ from production function of Solow model?
- (k) What is Solow Residual?
- (l) Define Harrod's concept of warranted rate of growth.
- (m) Investment has a dual role Harrod Domar model – Discuss.

Please Turn Over

- (n) If people become more thrifter than before what will happen to steady state level of capital accumulation?
- (o) What is the most common measure of productivity in Real Business cycle models?

Section - B

5×3

2. Answer *any three* questions :

- (a) Amphan cyclone destroys one-fourth capital stock. Discuss in the context of the growth model the adjustment process of the economy, and show graphically what happens to growth in the short and long run.
- (b) Consider a risk lover. How will his indifference curve look like in the risk-return plane? How will he allocate his wealth between money and perpetuity in Tobin's model? Explain.
- (c) Explain why the transaction demand for money is interest elastic.
- (d) Explain the concept of interest rate rigidity and credit rationing in New Keynesian theory.
- (e) How does Friedman reconcile the short run and long run behaviour of aggregate consumption?

Section - C

Answer *any three* questions.

3. Consider a production function $Y = K^{0.5}L^{0.5}$, where K is capital, L is the labour force.
- (a) Show that production exhibits constant returns to scale.
- (b) Find the per capita production function.
- (c) We know the following facts about countries A and B : δ = depreciation rate = 0.05,
 s_a = saving rate of country A is = 0.1,
 s_b = saving rate of country B is = 0.2 and per capita production function derived in (b),
- (i) Find the steady-state level of capital per worker of country A and B.
- (ii) Calculate the steady-state levels of income and consumption per worker for countries A and B. 2+2+(2+4)
4. In this problem, you are to find the effects of a legal minimum wage on labour income of unskilled workers. Assume that the marginal product of labour for unskilled labour is $MPN = 100 - 0.2N$. The supply of unskilled labour is $80+2w$, where w is the real wage received by unskilled labour.
- (a) If there is no minimum wage, find the equilibrium values of the real wage, employment and labour income for unskilled workers.
- (b) Now suppose that a minimum wage that sets the real wage at 70 is instituted. What are the new levels of employment and total labour income for unskilled workers?
- (c) Repeat parts (a) and (b) for $MPN = 100 - 0.9N$. How does the imposition of a minimum wage of 70 affect labour income now? How does the impact of minimum wage on labour income depend on the sensitivity of labour demand to the real wage. 2+2+6

5. Discuss the effect of an increase in money supply with the assumption of Rational Expectations when policy change is
- (a) Anticipated
 - (b) Unanticipated. 5+5
6. Consider a simple economic model consisting of two markets the labour market and capital market. Suppose a temporary negative productivity shock hits the economy, what happens to employment, output and interest rate? Do you think each generates a correct correlation with GDP? 8+2
7. Present Relative Income Hypothesis by Duesenberry and explain the concept of "Ratchet Effect" in this context. 10
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2022

ECONOMICS — HONOURS

Paper : CC-10

(Introductory Econometrics)

Full Marks : 65

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer **any ten** questions :

2×10

- (a) Clarify what you understand by panel data using an example.
- (b) State the Gauss-Markov theorem.
- (c) Suppose that you have estimated the regression equation of aggregate consumption expenditure on national income of India using the data for the period 1981-2020. Which assumption of CLRM is likely to be violated here? Which test can be used to examine it?
- (d) Consider the following estimated regression equation :

$$\hat{Y} = 2.5 + 0.25X$$

If all observations on X are increased by 2, what will be the new estimated equation?

- (e) State the assumptions of the classical linear regression model.
- (f) Does a strong statistical relationship always imply causation.
- (g) Which of the following statement(s) is (are) false?
 - (i) R^2 cannot be less than $\overline{R^2}$.
 - (ii) Dummy variables are needed to proxy for unobservable variables.
 - (iii) RESET is used to detect presence of omitted variable error in a regression model.
 - (iv) The OLS estimator of regression coefficient follows t distribution in a CLNRM.
- (h) In a three variable model it is found that
 $r_{12} = 0.41$, $r_{13} = 0.71$ and $r_{23} = 0.5$.
Obtain the multiple correlation coefficient $R_{1.23}$.
- (i) What do you mean by heteroscedasticity and autocorrelation?

Please Turn Over

- (j) Consider the following regression equation to explain consumption of ice-creams :
- $$\text{ice-cream} = \beta_0 + \beta_1 \text{ income} + \beta_2 \text{ price} + u$$
- How do you interpret the coefficients β_1 and β_2 ?
- (k) What is meant by variance inflationary factor (VIF)?
- (l) For three variables X_1 , X_2 and X_3 when is it possible that $r_{12,3} = r_{12}$? What does it mean?
- (m) What is the null hypothesis of Jarque-Bera Test? Which distribution is followed by the test statistic under this null hypothesis? Is this test applicable for a small sample?
- (n) Briefly state how you would estimate the parameters of the model : $Y = \alpha X^\beta$.
- (o) What do you mean by forecast error?

Group - B

Answer *any three* questions.

2. Show that the OLS estimator of the slope coefficient in a simple two variable regression model is an unbiased estimator. 5

3. Suppose that we have estimated the consumption function

$$C_t = \alpha_0 + \alpha_1 Y_t + u_t$$

and the savings function

$$S_t = \beta_0 + \beta_1 Y_t + v_t$$

where C, S, Y are consumption, savings and income respectively, and $C + S = Y$ holds. What is the relation between α_1 and β_1 ? Will the residual sum of squares be the same for the two models? Explain. 1+4

4. Briefly state how the Durbin-Watson Test helps in detecting the presence of autocorrelation in data. 5

5. A multiple regression model includes two regressors :

$$Y_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + U_i$$

- (a) What is the expected change in Y when X_1 increases by 9 units and X_2 is unchanged?
- (b) What is the expected change in Y when X_2 decreases by 5 units?
- (c) What is the expected change in Y if X_1 increases by 8 units and X_2 decreases by 3 units?
- (d) If there are 490 observations what are the degrees of freedom due to regression? 1+1+2+1
6. What do you mean by a dummy variable trap? 5

Group - CAnswer *any three* questions.

7. (a) Examine the validity of the following statement :

The OLS estimator of the regression coefficient is biased if there is measurement error in the explanatory variable.

- (b) Consider the following regression result :

$$\hat{Y}_i = 50 - 2978.5X_i \quad r^2 = 0.6149$$

se 629.3

Find the sample size underlying this result. Also interpret the regression result.

Given that

Degrees of freedom	.05	.025	.01	.005
14	1.761	2.145	2.624	2.977
15	1.753	2.131	2.602	2.947
16	1.746	2.120	2.583	2.921

The first column shows the degrees of freedom and the headings of other columns give the probabilities for t to exceed the entry value. 5+(2+3)

8. (a) How would you test statistical significance of individual regression coefficients in a multiple regression model?
- (b) Your friend has given you the following results of two different regression models. In which case could you be sure that an error has been committed? Explain.

(i) $R_{Y.1}^2 = 0.96$ $R_{Y.12}^2 = 0.94$

(ii) $\bar{R}_{Y.1}^2 = 0.93$ $\bar{R}_{Y.12}^2 = 0.90$ 6+4

9. (a) What will be the problem in a regression model if the error term does not follow normal distribution?
- (b) Consider the following regression result :

$$\hat{Y}_i = 2.20 + 0.104X_{1i} + 3.48X_{2i}$$

p-value 0.000 0.001 0.044

ESS = 112.5 RSS = 19.5 n = 10

- (i) Which of the estimated slope coefficients are statistically significant at 1% level of significance?
- (ii) Calculate the values of R^2 and adjusted- R^2 .
- (iii) Calculate the F statistic and interpret it.

Given that $F_{.01, 2, 7} = 9.55$ $F_{.01, 7, 2} = 99.36$ 5+(2+3)

Please Turn Over

10. (a) Suppose that we have increased the number of explanatory variables in a multiple linear regression model. What will be its impact on the values of R^2 and adjusted- R^2 ?

(b) Consider the following regression results :

$$\hat{Y}_i = -261.09 + 0.2453X_i$$

se (31.3) (?)

t (?) (16.6) $r^2 = ?$ $n = 10$

(i) Fill in the missing numbers.

(ii) Would you reject the null hypothesis that the true slope coefficient is zero at 1% level of significance?

Given that

$$P(t_8 > 3.355) = .005$$

$$P(t_9 > 3.250) = .005$$

$$P(t_{10} > 3.169) = .005$$

(iii) What proportion of variation in Y is explained by X?

4+(3+2+1)

11. (a) Examine the consequences of inclusion of an irrelevant explanatory variable on the estimated regression coefficients in an econometric model.

(b) Consider the following regression model :

$$\text{health}_i = \alpha_0 + \alpha_1 \text{income}_i + \alpha_2 \text{urban}_i + \text{error}_i, \quad i = 1, 2, \dots, n$$

where health_i and income_i the annual expenditure on health care and annual income of family i , and urban_i takes the value one if family i belongs to urban area and zero if family i belongs to rural area. Interpret the meanings of the coefficients in the above model. How would you test, in terms of the above model, whether there is any difference between the health care expenditures of the families from rural and urban areas?

5+(2+3)

2022

ECONOMICS — HONOURS

Paper : CC-11

(International Economics)

Full Marks : 65

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer *any ten* questions :

2×10

- (a) Consider a one factor economy, with constant labour coefficient, where two goods are produced — X and Y. The maximum output levels of X and Y that can be produced in the economy are 400 units and 200 units respectively. Assuming labour endowment level of the economy is 800 units, find out the unit labour requirement levels in the production of two goods.
- (b) Why the production possibility curve is downward sloping and concave to the origin?
- (c) What are the fundamental sources of comparative advantage in trade?
- (d) Is trade possible between a large country and a small country?
- (e) State the condition that ensures stability of free trade equilibrium.
- (f) What will be the value of price elasticity of demand for imports at the backward bending region of an offer curve?
- (g) What is voluntary export restraint (VER)?
- (h) 'If the government of a country imposes an advalorem tariff on imports, then the domestic price of imports always increases by the rate of tariff' — True or False?
- (i) Does the decomposability property hold for Jones (1965) model?
- (j) State the economic structure of Jones (1971) model.
- (k) How an increase in fiscal deficit, with equal levels of private saving and investment, affects the current account (CA) of an open economy?
- (l) What do you mean by expenditure switching policy?
- (m) What is meant by elasticity pessimism?
- (n) What do you mean by flexible exchange rate?
- (o) Why is the LM curve upward rising in an open economy?

Please Turn Over

Group - B

Answer *any three* questions.

5×3

2. Explain how a country gains from trade under constant opportunity cost.
3. In a trade model, where the two factors — land and labour — are used to produce two commodities — food and cloth, analyse the effects of an increase in endowment level of labour on the factor intensities and output levels of two commodities.
4. State and explain Stolper-Samuelson theorem.
5. Show how can offer curve be derived from trade indifference curves.
6. Examine the effects of a tariff on small country in terms of general equilibrium analysis.

Group - C

Answer *any three* questions.

7. (a) Derive the level of relative supply of commodity X in the world market when relative price of X lies between the opportunity cost of X in terms of Y in home country and that in foreign country in Ricardian model.
(b) What is meant by perverse comparative advantage? 6+4
 8. (a) 'If India and USA trade with each other, real wages will be equalized in the two countries, even in the absence of labour migration across countries'— Do you agree with this statement? Justify your answer.
(b) Imagine an economy where consumers always buy goods in fixed proportions regardless of prices. Show that an improvement in terms of trade benefits this country as well. 5+5
 9. (a) What is unit isoquant?
(b) How can envelope condition be used in trade models?
(c) State and explain the price magnification effect in Jones (1965) model. 2+4+4
 10. (a) What is prohibitive tariff?
(b) Between tariff and quota, a monopolist will prefer which trade policy and why?
(c) What do you mean by Metzler's paradox? 2+6+2
 11. (a) Why the value of fiscal multiplier for an open economy is different from that for a closed economy?
(b) Explain the expenditure switching policy to eradicate BOP deficit.
(c) What shifts the BP curve to the left? 4+4+2
-

2022

ECONOMICS — HONOURS

Paper : CC-12

(Indian Economy)

Full Marks : 65

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer *any ten* questions :

2×10

- (a) What do you mean by youth dependency ratio?
- (b) What is Right to Education (RTE) Act, 2009?
- (c) Examine the objectives of New Economic Policy, 1991.
- (d) What is the GDP per capita in India in 2020?
- (e) What are the features of FRBM Act?
- (f) Distinguish between MODVAT and CENVAT.
- (g) Define the new strategy introduced in the fourth five year plan.
- (h) What is the difference between FERA and FEMA?
- (i) Why did basic minimum need find a place in India's fifth five year plan?
- (j) What do you mean by underemployment?
- (k) Which one is more volatile — FDI or FPI?
- (l) Mention any two important sources of Agricultural Finance in India.
- (m) Mention any two causes behind industrial sickness in India.
- (n) If there is excessive importance of indirect taxes, the taxation system becomes regressive — true or false?
- (o) What is meant by population explosion?

Group - B

Answer *any three* questions.

5×3

2. Examine the role of foreign aid in India's poverty eradication during the fifth five year plan.
3. What are the causes of low profitability of the Indian Banking system?

Please Turn Over

4. Write a short note on Youth unemployment (School Transition to Work) in India.
5. State the causes of the crisis of Indian economy during the 7th five year plan.
6. Do you think the recent labour market reforms can reduce the quality of jobs available?

Group - C

Answer *any three* questions.

7. Explain the Balance of Payment crisis in the late 1980s. What were the macroeconomic responses to this crisis? 5+5
 8. Describe the tax reforms in India. Explore in this context the changing pattern of fiscal deficit since the early 1990s. 5+5
 9. Explain the causes behind regional inequality in India and the probable corrective measures. 5+5
 10. What is Capital Account Convertibility? Can you recommend for full convertibility in the Capital Account in India? 2+8
 11. Explore the trend of wages in India? Describe the process of informalization of employment following the process of industrialization in India. 5+5
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2022

ECONOMICS — HONOURS

Paper : CC-13

(Public Economics)

Full Marks : 65

*The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer **any ten** questions : 2×10
- (a) Explain what you mean by a good being excludable and rival in consumption.
 - (b) What is meant by a merit good?
 - (c) Explain what is meant by the term 'free rider'.
 - (d) Why do the government intervene in a market economy for the provision of subsidy to primary schools?
 - (e) What do you mean by national and local public goods? Explain by giving examples.
 - (f) Explain briefly the concept of horizontal and vertical equity under ability to pay principle.
 - (g) What is meant by the benefit principle of taxation?
 - (h) Name two instruments of economic stabilisation.
 - (i) Distinguish between internal and external public debt.
 - (j) What is revenue account of a budget?
 - (k) Differentiate between fiscal deficit and revenue deficit.
 - (l) On what basis should a government choose between loans and taxes?
 - (m) What do you mean by a matching grant?
 - (n) Mention two sources each of tax revenue and non-tax revenue of the government.
 - (o) Mention two problems of taxing capital gain.

Group - B

Answer **any three** questions.

5×3

- 2. Define a public good. What are the basic reasons for market failure in provision of public goods?
- 3. What are the different canons of taxation?

Please Turn Over

4. Does debt finance burden future generations? Explain.
5. On what factors do the sharing of the burden of tax between the buyers and sellers depend in a competitive market?
6. What do you mean by a Balanced Budget Multiplier? Under what conditions the value of it is more than one?

Group - C

Answer *any three* questions.

7. Explain the alternative rules of equal sacrifice principle on the assumption that all individuals have identical and declining marginal utility of income. 10
 8. Clearly show and explain the position of Lindahl equilibrium. Discuss the properties of this equilibrium. 6+4
 9. 'An indirect tax imposes an excess burden compared to a direct tax of equal yield.' Do you agree with this view? Give reasons for your answer. 2+8
 10. Analyse the distribution of the burden of a proportional wage tax between labour and capital : (a) when the aggregate supply curve is perfectly inelastic and (b) when it is an increasing function of net wage rate. 5+5
 11. With reference to the recommendations of the Fourteenth Finance Commission comment on the
(a) Vertical and Horizontal devolution of tax proceeds between the centre and the states.
(b) Grants-in-aid. 6+4
-

2022

ECONOMICS — HONOURS

Paper : DSE-B(2)-1

(Environmental Economics)

Full Marks : 65

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer *any ten* questions :

2×10

- (a) What does an environmental economist do?
- (b) Is environment a public good? Why?
- (c) What is meant by Green House Effect?
- (d) What is Montreal Protocol?
- (e) What is entropy?
- (f) What is willingness to accept compensation (WTAC)?
- (g) Is there a conflict between economic growth and environment protection?
- (h) What are deep and shallow ecology?
- (i) What is meant by 'Desertification'?
- (j) What is natural capital?
- (k) What is meant by 'Limits to growth'?
- (l) What are externalities?
- (m) What is Point of Bliss?
- (n) What is the primary difference between renewable resources and nonrenewable resources?
- (o) What is 'property right'?

Group - B

Answer *any three* questions.

5×3

- 2. What are the reasons for market failure?
- 3. Why is environmental valuation necessary?

Please Turn Over

4. Examine and compare 'Taxes vs. Subsidies' approach to control environmental degradation.
5. In the context of interlinkages between the economy and the environment, explain the different roles that environment plays with the help of circular flow model.
6. Write down the main criticisms of the Coase theorem.

Group - C

Answer *any three* questions.

7. How is Pigovian fees determined in case of single polluter and multiple polluters? 5+5
 8. Examine the concept of maximum Social Welfare introducing the concept of externalities, and suggesting solutions to internalize externalities. 5+5
 9. What is climate change? Briefly describe the international attempts to protect the environment. 3+7
 10. What do you mean by Transboundary Pollution? Explain Environmental Kuznet Curve in this context. 5+5
 11. What is Contingent Valuation Method? What are the advantages and disadvantages of this method? 5+5
-

2022

ECONOMICS — HONOURS

Paper : DSE-A-2

[Economic History of India (1857-1947)]

Full Marks : 65

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer **any ten** questions from the following : 2×10
- (a) What is 'colonisation'?
 - (b) What is 'de-industrialisation'?
 - (c) Mention any two features of 'New Guarantee System'.
 - (d) What were the main industries that India possessed in the late 19th century?
 - (e) Mention two main improvements of the New Guarantee System over the Old Guarantee System.
 - (f) What was the Sterling Exchange Standard of 1931-47?
 - (g) Mention any two causes of decline of handicrafts under British rule.
 - (h) What is Ottawa Agreement?
 - (i) How did the introduction of the money economy play a role in the commercialization of Indian agriculture?
 - (j) What are Home Charges?
 - (k) Mention two reasons that led to the move towards protective trade after World War I.
 - (l) Mention two effects that commercialization had on the socio-economic structure of the Indian rural society.
 - (m) How did the land revenue policy of the British affect Indian farmers?
 - (n) What is 'Silver Exchange Standard'?
 - (o) What do you understand by 'Monetary Policy'?

Group - B

2. Answer **any three** questions from the followings : 5×3
- (a) Write a short note on 'Ryotwari System'.
 - (b) What are the main recommendations of Hilton-Young Commission?

Please Turn Over

- (c) Why the 'Permanent Settlement Policy' had been labelled as "one of the great wrongs" of the British government?
- (d) What do you understand by Railway vs. Irrigation controversy?
- (e) What are the main features of the Old Guarantee System?

Group - C

3. Answer *any three* questions from the followings :

10×3

- (a) Discuss the causes behind the origin and development of the Managing Agency System in the development of Indian industries during the British period.
 - (b) Describe the ways in which the transition from subsistence agriculture to commercial agriculture transformed the Indian agriculture.
 - (c) Critically discuss the 'Drain Theory' in the context of India's economic history.
 - (d) Discuss the effects of railway construction in British India.
 - (e) Give an outline of the changes in Indian land ownership and tenancy system introduced in the British period.
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2022

ECONOMICS — HONOURS

Paper : DSE-A(2)-1

(Money and Financial Market)

Full Marks : 65

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Group - A

1. Answer **any ten** questions : 2×10
- (a) What is yield to maturity?
 - (b) State any two role of financial system in economic development.
 - (c) What are the possible shapes of a yield curve?
 - (d) Distinguish between CRR and SLR.
 - (e) Can the interest rate be Zero? Explain.
 - (f) State the relationship between interest rate and bond price.
 - (g) Define Broad Money.
 - (h) What is zero coupon bond?
 - (i) What do you mean by risk sharing?
 - (j) Explain the notion of present value of a bond with the help of an example.
 - (k) The return on a bond will be necessarily equal to the rate of interest.– Do you agree? Explain.
 - (l) Define money multiplier.
 - (m) What are financial derivatives?
 - (n) What are the qualitative instruments of monetary policy?
 - (o) What do you mean by Liquidity Adjustment Facility (LAF)?

Group - B

Answer **any three** questions.

5×3

- 2. What is the role of financial intermediaries in the financial system?
- 3. Explain the concept of adverse selection in financial market with suitable examples.

Please Turn Over

4. Write a short note on measures of money supply in India.
5. What are the advantages of mutual funds as investment for small savers?
6. What are the sources that results in interest rate differentials?

Group - C

Answer **any three** questions.

7. Discuss the major recommendations of the 1st and 2nd Narasimham Committee. How far these recommendations guided banking sector reforms in India? 6+4
 8. (a) Define high powered money.
(b) Show that money supply is equal to the money multiplier times monetary base. 2+8
 9. (a) Distinguish between money market and capital market.
(b) Give a brief outline of the major money market instruments in India. 3+7
 10. (a) Explain the role of central bank in controlling the flow of credit in the economy in order to combat inflation.
(b) What are banking and non-bankings financial intermediaries? 7+3
 11. (a) What is the relation between nominal and real interest rate?
(b) What is term structure of interest rate? Critically explain the Expectation Theory on term structure of interest rate. 2+(1+7)
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2022

ECONOMICS — HONOURS

Paper : SEC-B(2)-1

(Research Methodology)

Full Marks : 80

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Group - A

1. Answer **any ten** questions : 2×10
- (a) State the meaning of research.
 - (b) What is the necessity of defining a research problem?
 - (c) Why do we need to review the existing literature?
 - (d) What are the features of a research design?
 - (e) Distinguish between population and sample.
 - (f) What is multi-stage sampling?
 - (g) Mention two advantages of the observation method of data collection.
 - (h) Why is tabulation considered essential in a research study?
 - (i) Under what circumstances would you recommend a stratified or cluster sampling?
 - (j) What is Likert's scale?
 - (k) What is the role of statistical inference?
 - (l) What is ANOVA and mention one use of ANOVA.
 - (m) What are the endnotes in a research paper?
 - (n) What is the difference between reference and bibliography?
 - (o) What are the conditions in which Type-I error occurs?

Group - B

2. Answer **any four** questions :
- (a) Mention different steps involved in a research process. 5
 - (b) How do you define a research problem? Illustrate with examples. 2+3
 - (c) Distinguish between : 5
 - (i) Applied and fundamental research
 - (ii) Conceptual and empirical research.

Please Turn Over

- (d) What are the various sources of error in measurements? 5
- (e) Differentiate between bivariate analysis and multivariate analysis. 5
- (f) 'Reliability is a necessary but not sufficient condition for validity'-express your opinion. 5

Group - C

Answer *any four* questions.

3. (a) What factor does a researcher take into account in selecting the methods for data collection?
 (b) "Empirical research in India in particular creates so many problems for the researchers". State the problems that are usually faced by such researchers. 5+5
4. Briefly enumerate different methods of collecting data. Which one do you consider as the most suitable method for conducting enquiry regarding family welfare programme in India? Explain with reasons. 5+5
5. (a) The procedure of testing hypothesis requires a researcher to adopt several steps. Describe in brief all such steps.
 (b) Discuss the significant role of statistical inference in empirical research. 5+5
6. (a) Examine the importance of Chi-Square test in economic research.
 (b) Following data on the mode of transport people use to get to their workplace, were obtained from a survey of 100 office-goers in a city :

Auto	Bus	Train	Taxi	Private Car
24	22	25	15	14

What can be the suitable diagram for representing above data and why?

- (c) What is meant by the power of a test? 4+3+3
7. (a) Discuss common sections of an ideal research paper in economics.
 (b) Explain why interpretation is considered to be a fundamental component of research process. 6+4
8. Write short notes on *any two* : 5×2
- (a) Criteria of a good research.
- (b) Difference between sampling and non-sampling error.
- (c) Use of non-linear differential equation for stability analysis.
- (d) Advantages and disadvantages of interview method.
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