

**THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**

(CCSS)

M.A. Financial Economics

FEC 3E 03—PROJECT APPRAISAL AND FINANCE

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A**

*Answer all questions.  
Each question carries 1 mark.*

**Multiple Choice Questions :**

1. Which of the following is an example of a capital investment project ?
  - (a) Replacement of worn out equipment.
  - (b) Expansion of production facilities.
  - (c) Development of employee training programmes.
  - (d) All the above.
2. Which of the following is an appropriate way of measuring cash flows ?
  - (a) Treat depreciation as negative.
  - (b) Consider only incremental costs and revenues.
  - (c) Consider only after-tax cash flows.
  - (d) All the above.
3. The process of planning expenditures that will influence the operation of a firm over a number of is called :
  - (a) Investment.
  - (b) Capital budgeting.
  - (c) Net present valuation.
  - (d) Dividend valuation.
4. Which of the following is a form of capital as the term is used in economics ?
  - (a) Education.
  - (b) Money.
  - (c) House owned by individuals.
  - (d) Factories owned by businesses.

**Turn over**

5. Which of the following is a source of internal sources of investment funding ?
- (a) Issuing bonds. (b) Sale of stocks.  
(c) Undistributed profits. (d) All the above.
6. Which of the following sources of funds for capital investment involves a tax adjustment to determine the cost of capital ?
- (a) Retained profits. (b) Issuing debts.  
(c) Issuing common stock. (d) All the above.
7. The net present value of a project is equal to :
- (a) The present value of all net cash flows that result from the project.  
(b) The present value of all revenues minus the present value of all costs that results from the project.  
(c) The present value of all future net cash flows that result from the project minus the initial investment required to start the project.  
(d) All the above.
8. The review of projects after they been implemented is called :
- (a) Capital budgeting. (b) Post audit.  
(c) Blame spreading. (d) Context correlation.
9. What does CPM stand for ?
- (a) Critical path management.  
(b) Critical path method.  
(c) Control path method.  
(d) Control path management.
10. Which from the following represents the correct project cycle ?
- (a) Planning→Initiating→Executing→Closing.  
(b) Planning→Executing→Initiating→Closing.  
(c) Initiating→Planning→Executing→Closing.  
(d) Initiating→Executing→Planning→Closing.

(10 × 1 = 10 marks)

**Part B (Very Short Answer Questions)**

*Answer any five questions.  
Each question carries 2 marks.  
Answer in one or two sentences*

11. Define project life cycle.
12. Define accounting
13. What is IRR ?
14. What is cost budgeting ?
15. Define network technique.
16. What do you mean by surplus of PSUs ?
17. Define small savings.
18. What is public-private-partnership ?

(5 × 2 = 10 marks)

**Part C (Short Answer Questions)**

*Answer any eight questions.  
Each question carries 5 marks.*

19. What is the importance of discounting in cash flow analysis ?
20. Discuss post-project evaluation.
21. What is the role of tax planning in project financing ?
22. Define project identification
23. What are the uses of CPM ?
24. What are the different measures of project returns ?
25. Elaborate on time-cost trade off.
26. Define social cost benefit analysis.
27. What is securitisation of project loans ?
28. What is the financial viability of a project ?
29. What are debt instruments ?
30. Discuss cost budgeting.

(8 × 5 = 40 marks)

**Turn over**

**Part D**

*Answer any two questions.*

*Each question carries 10 marks.*

31. What are the major sources of project finance in both public and private sectors ?
32. What are the challenges of PPP models in India ? Give examples.
33. Discuss different phases of project planning and formulation.
34. Explain PERT. Its evolution and relevance in Indian corporate sector.

(2 × 10 = 20 marks)

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**THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**

(CCSS)

M.A. Financial Economics

FEC 3E 02—TECHNIQUES OF SECURITY AND PORTFOLIO ANALYSIS

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A***Answer all questions.**Each question carries 1 mark.***Multiple Choice Questions :**

1. Primary and secondary markets :

- |                               |                           |
|-------------------------------|---------------------------|
| a) Compete with each other's. | b) Complement each other. |
| c) Function independently.    | d) Control each other.    |

2. The Sensex has :

- |               |               |
|---------------|---------------|
| a) 25 Stocks. | b) 30 Stocks. |
| c) 33 Stocks. | d) 35 Stocks. |

3. The value of the bonds depends on :

- |                                |                       |
|--------------------------------|-----------------------|
| a) The Coupon rate.            | b) Years to maturity. |
| c) Expected yield to maturity. | d) All the above.     |

4. The government made cut in the interest rate by 25 basis points. This means there is a change of :

- |           |            |
|-----------|------------|
| a) 25%.   | b) 2.5%.   |
| c) 0.25%. | d) 0.025%. |

5. Simple diversification means :

- |  |
|--|
| a) Purchase of more than 15 stocks.            |
| b) Purchase of treasury bills.                 |
| c) Purchase of fewer than 15 stocks at random. |
| d) Purchase of large varieties of assets.      |

**Turn over**

6. Risk lover's utility curve has :
- a) Positive slope.
  - b) Negative slope.
  - c) Convex to the origin.
  - d) Negative slope and convex to the origin.
7. On the Capital Market line lie :
- a) All efficient and inefficient portfolios.
  - b) Only the efficient portfolios.
  - c) All the efficient portfolios and securities.
  - d) All portfolios and securities.
8. The investors by investing in the mutual funds get :
- a) Professional Management.
  - b) Diversification.
  - c) Return potential.
  - d) All the above.
9. According to stock market psychology :
- a) Investors forget the past.
  - b) History repeats itself.
  - c) More faith is placed in predictions of the future.
  - d) a) and b).
10. A support level exists at a :
- a) Price fixed by the stock exchange brokers.
  - b) Price fixed by the regulatory authority of the stock exchanges.
  - c) Price where considerable demand is created.
  - d) Low price where stock would be available.

(10 × 1 = 10 marks)

**Part B (Very Short Answer Questions)**

*Answer any five questions.*

*Each question carries 2 marks.*

*Answer in one or two sentences each.*

11. What is Capital Market ?
12. What is yield to maturity ?
13. What is default risk ?

14. What is an Efficient Portfolio ?
15. What is meant by a levered portfolio ?
16. What is meant by mutual funds ?
17. What is the significance of support level ?
18. What are oscillators ?

(5 × 2 = 10 marks)

### **Part C (Short Answer Questions)**

*Answer any eight questions.  
Each question carries 5 marks.*

19. What are the objectives of investment ?
20. What are the advantages of equity shares in comparison with debentures ?
21. Differentiate between investment and speculation.
22. "Bond prices vary inversely with changes in market interest rates". Explain with examples.
23. Explain hedging with help of a suitable example.
24. What is simple diversification ? Can it reduce systematic and total risk ?
25. Discuss the impact of covariance or correlation between securities in a portfolio on the portfolio risk.
26. How are utility curves helpful in determining an efficient portfolio ?
27. What is rupee cost averaging ? What are the benefits ?
28. Distinguish between CAPM and APT.
29. Explain the concept of Elliot wave theory.
30. Give an account of different kinds of candlesticks.

(8 × 5 = 40 marks)

### **Part D (Essay Type Questions)**

*Answer any two questions.  
Each question carries 10 marks.*

31. Explain about the various money market instruments.
32. How does risk reduction takes place when securities are combined in to a portfolio ? Explain with illustration.
33. Compare and contrast CML and SML.
34. What are market indicators ? Explain the use of any two market indicators in Technical analysis.

(2 × 10 = 20 marks)

**THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**

(CCSS)

M.A. Financial Economics

FEC 3E 01—ECONOMICS OF GROWTH AND DEVELOPMENT

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A**

*Answer all questions.  
Each question carries 1 mark.*

1. The Physical Quality of Life Index (PQLI) combines three indicators. They are :
  - (a) Infant mortality, life expectancy and adult literacy rate.
  - (b) Crime rate, clean environment and quality of housing.
  - (c) Air pollution rate, water pollution rate and sanitation.
  - (d) Health, education and environment.
2. The Human Development Index (HDI) summarizes a great deal of social performance in a single composite index, combining :
  - (a) Disparity reduction rate, human resource development rate and the composite index.
  - (b) Longevity, education and living standard.
  - (c) Minimum schooling, adult literacy and tertiary educational attainment.
  - (d) Human resource training, development and R and D.
3. Rostow's economic stages are :
  - (a) the preconditions for takeoff, the takeoff, the drive to maturity, and the age of creative destruction.
  - (b) the traditional society, the preconditions for takeoff, the takeoff, the drive to maturity, and the age of high mass consumption.
  - (c) the preconditions for consumption, the replication, the drive to maturity, and the age of high mass consumption.
  - (d) the learning curve, the age of high mass consumption, post-takeoff, and the drive to maturity.



4. Who put forward the theory of social dualism ?
- (a) A. Lewis. (b) G. Myrdal.  
(c) J. H. Boeke. (d) A. O. Hirshman.
5. The 'big-push' strategy of development was first advocated by :
- (a) Rosenstein-Rodan. (b) Simon Kuznets.  
(c) W. A. Lewis. (d) A. O. Hirshman.
6. Which growth model inspired the use of capital-output ratio for development planning ?
- (a) The Harrod-Domar model. (b) Solow's model.  
(c) Kaldor's model. (d) Feldman's model.
7. Identify the model which is concerned with the 'golden age' equilibrium :
- (a) Kaldor model. (b) Joan Robinson model.  
(c) Keynesian model. (d) Domar model.
8. Marx attributed the capitalist crisis to :
- (a) High rate of wages. (b) Falling rate of profit.  
(c) Inflationary pressures. (d) Exploitation of labor.
9. In the Solow model, if capital is in the steady state, output :
- (a) Will continue to grow.  
(b) Is also in the steady state.  
(c) Will continue to grow, but its rate of growth will slow down.  
(d) Will decline, but its rate of growth will be positive.
10. India's First Five Year Plan was based on :
- (a) Mahalanobis model. (b) Feldman model.  
(c) Harrod-Domar model. (d) Leontief model.

(10 × 1 = 10 marks)

**Part B (Very Short Answer Questions)**

*Answer any five questions.*

*Each question carries 2 marks.*

*Answer in one or two sentences each.*

11. Explain Social Dualism.
12. What is Backwash effect.
13. What is inverted U hypothesis ?
14. Explain development.
15. What is Deprivation Index ?
16. Explain Gini Coefficient.
17. What is Capital Output Ratio ?
18. Explain Palma Ratio.

(5 × 2 = 10 marks)

**Part C (Short Answer Questions)**

*Answer any eight questions.*

*Each question carries 5 marks.*

19. Explain Human Poverty Index.
20. What are the main tenets of endogenous growth theory ?
21. What is Golden age according to Robinson ?
22. What differentiate wage goods model from Mahalanobis model ?
23. Explain circular cumulative causation theory.
24. Explain the role of institutions in economic growth.
25. How does Hirschman explain linkages in economic growth ?
26. Explain the various concepts of dualism in development.
27. Explain Prior Savings Theory.
28. Explain two-gap analysis in the context of developing countries.
29. Explain Piketty's contribution to the literature on Inequality.
30. What are the basic features of underdevelopment ?

(8 × 5 = 40 marks)

**Turn over**

**Part D (Write Essays)**

*Answer any two questions.*

*Each question carries 10 marks.*

31. Critically analyse Harrod - Domar model of growth in the context of Indian development experience.
32. Explain the various indicators of development - their relevance, merits and lacunae.
33. Explain the Marxian critique of capitalism.
34. Explain convergence in the context of Solow Growth Model.

(2 × 10 = 20 marks)

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**THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**

(CCSS)

M.A. Financial Economics

FEC 3C 12—ADVANCED FINANCIAL ECONOMICS

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A***Answer all questions.**Each question carries 1 mark.***Multiple Choice Questions :**

1. Which of the following gives the buyer the right to sell a specified quantity of an underlying index at a pre-decided price ?
  - (a) Call option.
  - (b) Put option.
  - (c) Forwards.
  - (d) Futures.
2. The process of purchasing or acquiring one company by another is called :
  - (a) Take over.
  - (b) Acquisition.
  - (c) Disinvestment.
  - (d) Amalgamation.
3. Black-scholes is a pricing model to determine :
  - (a) Share price.
  - (b) Futures price.
  - (c) Option price.
  - (d) Bond price.
4. Narasimhan Committee was set up in :
  - (a) 1991.
  - (b) 1993.
  - (c) 1994.
  - (d) 1989.
5. Random walk hypothesis is related to :
  - (a) Modigliani.
  - (b) Louis Bachelier.
  - (c) Charles Dow.
  - (d) Morgan.

**Turn over**

6. Who among the following developed a capital structure theory of choice ?
- (a) Waltor. (b) Modigliani-Miller.  
(c) Burton Malkiel. (d) Elliot.
7. IFCI was established in the year :
- (a) 1948. (b) 1951.  
(c) 1956. (d) 1945.
8. The bill which does not require any acceptance is called :
- (a) Promissory note. (b) Treasury bill.  
(c) Certificate of deposit. (d) Bonds.
9. A speculator who buys and sells stocks in short timeframes to make quick profits :
- (a) Bear. (b) Bulls.  
(c) Stag. (d) Lame duck.
10. Credit Rating Information Services of India Limited CRISIL was established in the Year :
- (a) 1987. (b) 1989.  
(c) 1991. (d) 1986.

(10 × 1 = 10 marks)

**Part B (Very Short Answer Questions)**

*Answer any five questions.*

*Each question carries 2 marks.*

*Answer in one or two sentences each.*

11. Futures Contract.
12. Distinguish between acquisition and take overs.
13. What is preferential shares ?
14. Agency Cost.
15. Dividend.
16. Bonus Shares.
17. Capital efficiency.
18. IPO.

(5 × 2 = 10 marks)

**Part C (Short Answer Questions)**

*Answer any eight questions.*

*Each question carries 5 marks.*

19. What are the features of Efficient market hypothesis ?
20. Discuss about pricing of futures.
21. What are various choices in financing ?
22. What do you meant by Signalling hypothesis.
23. Briefly explain the theory of Value at Risk.
24. Discuss Gordon's model of dividend policy.
25. What is meant by real options ?
26. Examine the role of SEBI in regulating stock market.
27. Discuss about empirical models and anomalies.
28. Distinguish between European and American options.
29. Write a note on theories of Merger.
30. What are the different forms of dividend.

(8 × 5 = 40 marks)

**Part D (Essay Type Questions)**

*Answer any two questions.*

*Each question carries 10 marks.*

31. Critically discuss about financial sector reforms in India.
32. Explain binomial approach and Black-Scholes model of option pricing.
33. Discuss about market efficiency and rational expectations.
34. Briefly explain Modigliani-Miller Irrelevance Hypothesis of Choice.

(2 × 10 = 20 marks)

**THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**

(CCSS)

M.A. Financial Economics

FEC 3C 11—INTERNATIONAL FINANCE

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A***Answer all questions.**Each question carries 1 mark.*

1. Which of the following may be participants in the foreign exchange markets ?
  - a) Bank and non-bank foreign exchange dealers.
  - b) Central banks and treasuries.
  - c) Speculators and arbitragers.
  - d) All of the above.
2. Exchange rate between two countries is defined as :
  - a) Amount of currency that must be paid in order to obtain a unit of another currency.
  - b) Difference between total exports and imports within a country.
  - c) Price at which sales and purchase of different goods take place.
  - d) Ratio of import price to export price.
3. By definition, currency appreciation occurs when :
  - a) The value of all currencies fall relative to gold.
  - b) The value of all currencies rise relative to gold.
  - c) The value of one currency rises relative to another currency.
  - d) The value of one currency falls relative to another currency.
4. The term Euro currency market refers to :
  - a) Countries which have adopted Euro as their currency.
  - b) The international forex market.
  - c) The market in which Euro is exchanged for other currencies.
  - d) None of the above.

**Turn over**

5. Hedging is used by companies to :
- Decrease the variability of tax paid.
  - Decrease the spread between spot and forward market quotes.
  - Increase the variability of expected cash flows.
  - Decrease the variability of expected cash flows.
6. The J-curve effect refers to the observation that ?
- GDP usually decreases before it increases after a currency depreciation.
  - The trade balance usually gets worse before it improves after a currency depreciation.
  - The trade balance usually gets better before it gets worse after a currency appreciation.
  - GDP usually decreases before it increases after a currency appreciation.
7. If one anticipates that the rupee is going to appreciate against the US dollar, one might speculate by \_\_\_\_\_ rupee call options or \_\_\_\_\_ rupee put options.
- Buying ; buying.
  - Selling ; buying.
  - Selling ; selling.
  - Buying ; selling.
8. A simultaneous purchase and sale of foreign exchange for two different dates is called :
- Currency devalue.
  - Currency swap.
  - Currency valuation.
  - Currency exchange.
9. IMF was formally established in the year :
- 1940.
  - 1945.
  - 1947.
  - 1972.
10. An arbitrageur in foreign exchange is a person who ?
- Earns illegal profit by manipulating foreign exchange.
  - Causes differences in exchange rates in different geographic markets.
  - Simultaneously buys large amounts of a currency in one market and sell it in another market.
  - None of the above.

(10 × 1 = 10 marks)



**Part B (Very Short Answer Questions)**

*Answer any five questions.*

*Each question carries 2 marks.*

*Answer in one or two sentences each.*

11. What is PPP theory ?
12. How is real exchange rate determined ?
13. What is official reserve account ?
14. How are exchange rate and rate and interest rate connected ?
15. What is optimum currency area ?
16. What is forward market ?
17. Explain the advantages of flexible exchange rate system.
18. What do you mean by Currency Convertibility ?

(5 × 2 = 10 marks)

**Part C (Short Answer Questions)**

*Answer any eight questions.*

*Each question carries 5 marks.*

19. Explain the emergence of Bretton Woods system.
20. How effective was the unification of Europe under a single currency ?
21. Explain the perils of financial globalization.
22. What role does IMF play in economic development ?
23. Explain the difference between gold standard and gold exchange standard.
24. Explain the collapse of Asian tigers in 1998.
25. Explain elasticity approach to BoP.
26. What role did sub-prime mortgages played in global financial crisis of 2008 ?
27. Explain the causes of exchange rate overshooting.
28. What causes disequilibrium in Balance of Payments ?
29. Explain the impact covid 19 pandemic on international finance.

(8 × 5 = 40 marks)

**Turn over**

**Part D (Write Essays)**

*Answer any two questions.*

*Each question carries 10 marks.*

30. What is the significance of Arbitrage, Hedging and Speculation in the foreign exchange market ?
31. Examine the role of World Bank IMF in the present world economy.
32. Explain Global Financial Crisis of 2008.
33. What are the benefits, consequences and impact of financial globalization ?

(2 × 10 = 20 marks)

**THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**

(CCSS)

M.A. Financial Economics

FEC 3C 10—BASIC ECONOMETRICS

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A***Answer all questions.**Each question carries 1 mark.***Multiple Choice Questions :**

1. The bias that arises from using OLS to estimate an equation in a simultaneous equation model is :
  - a) Spurious Correlation.
  - b) Stochastic Process.
  - c) Simultaneous Bias.
  - d) Structural Equation.
2. A test against a two - sided alternative :
  - a) Two tailed test.
  - b) Trend - Stationary process.
  - c) Two stage Least Squares.
  - d) Vector Autoregressive Model.
3. The failure to reject the null hypothesis when it is false :
  - a) Type I Error.
  - b) Type II Error.
  - c) Two sided alternative.
  - d) Trending Process.
4. In Multiple Regression analysis, the number of observations minus the number of estimated parameters is known as :
  - a) Dependent variable.
  - b) Continuous Random variable.
  - c) Differences in slope.
  - d) Degrees of freedom.
5. \_\_\_\_\_ a goodness-of-fit measure in multiple regression analysis.
  - a) Autocorrelation.
  - b) Coefficient of Determination.
  - c) Adjusted R—Squared.
  - d) R —Squared.

**Turn over**

6. \_\_\_\_\_ is a test for heteroskedasticity where the squared OLS residuals are regressed on the explanatory variables in the model.
- a) Breusch-Pagan Test                      b) Breusch-Godfrey Test  
c) Durbin-Watson (DW) Statistic        d) Goodness-of-Fit Measure
7. An instrumental variables estimator where the IV for an endogenous explanatory variable is obtained as the fitted value from regressing the endogenous explanatory variable on all exogenous variables is known as :
- a) 2SLS Estimator.                          b) 3SLS Estimator.  
c) Indirect Least square.                  d) Instrumental Variables (IV) Estimator.
8. A dynamic model where one or more explanatory variables are allowed to have lagged effects on the dependent variable is known as :
- a) Infinite Distributed Lag Model.        b) Finite Distributed Lag Model.  
c) Instrumental Variable.                  d) Level-Log Model.
9. A model that jointly determines two or more endogenous variables, where each endogenous variable can be a function of other endogenous variables as well as of exogenous variables and an error term is called :
- a) Static model.                              b) Dynamic model.  
c) Simultaneous equation model.        d) Simple linear regression model.
10. In models with endogenous explanatory variables, an equation where the number of instrumental variables is strictly greater than the number of endogenous explanatory variables is known as :
- a) Overidentified Equation.                b) Overidentifying Restrictions.  
c) Overspecifying a Model.                d) Overdispersion.

(10 × 1 = 10 marks)

**Part B (Very Short Answer Questions)**

*Answer any five questions.*

*Each question carries 2 marks.*

*Answer in one or two sentences each.*

11. Distinguish between regression and correlation.
12. Write a note on OLS.

13. Explain point estimator and interval estimator.
14. Distinguish between type I error and type II error.
15. Explain Linearity in the Variables.
16. Define Dummy Variable.
17. Distinguish between cross sectional data and panel data.
18. Describe the F test.

(5 × 2 = 10 marks)

### Part C (Short Answer Questions)

*Answer any eight questions.*

*Each question carries 5 marks.*

19. Explain the assumptions of Classical Linear Regression model.
20. Distinguish between finite and infinite distributive lag models with examples.
21. Explain the reason for the occurrence of heteroskedasticity problem
22. Discuss Durbin Watson Statistic.
23. Briefly state Geometric Distributed Lag Model.
24. Explain Goodness of Fit measure.
25. Explain Rank and order condition.
26. Distinguish between a Structural model and a reduced form model with a suitable example.
27. Explain the use of Dummy variables in economic analysis.
28. Explain the Scope and limitations of econometric approach
29. Explain White Test.
30. Write a short note on Simultaneous Equation Model

(8 × 5 = 40 marks)

### Part D (Essay Type Questions)

*Answer any two questions.*

*Each question carries 10 marks.*

31. Elaborate the methodology of econometrics and the application of econometric techniques.
32. Explain the reasons for the occurrence of multicollinearity and discuss the remedies for it.

**Turn over**

33. Briefly discuss on Instrument Variable and its uses.
34. The following table gives the quantities of commodity Z bought for sale in year 1960 to 1970 and corresponding price :

Year	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Quantity	770	785	790	795	800	805	810	820	840	850
Price	18	16	15	15	12	10	10	7	9	6

Estimate the linear demand function for commodity Z and obtain  $r^2$ .

(2 × 10 = 20 marks)

**THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**

(CCSS)

M.A. Financial Economics

FEC 3C 10—BASIC ECONOMETRICS

(2018 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A***Answer all questions.**Each question carries 1 mark.***Multiple Choice Questions :**

1. Mathematical expression of economic theory is known as :

- (a) Null hypothesis. (b) Alternative hypothesis.  
(c) Model. (d) Estimation.

2. Suppose that annual observations on GDP in India are available over a period of 15 years. What type of data are these ?

- (a) Cross-sectional. (b) Time series.  
(c) Panel. (d) Qualitative.

3. The sample mean of the residuals will be :

- (a) 0. (b) - 1.  
(c) + 1. (d) Ranges from - 1 to + 1.

4. An estimator  $\hat{\beta}$  is said to be an unbiased estimator of  $\beta$ , if :

- (a)  $E(\hat{\beta}) - \beta = 0$ . (b)  $E(\hat{\beta}) - \beta > 0$ .  
(c)  $E(\hat{\beta}) - \beta < 0$ . (d)  $E(\hat{\beta}) - \beta = 0$ .

**Turn over**

5. Multicollinearity occurs when :
- (a) The residuals are correlated.
  - (b) Time is involved in the analysis.
  - (c) The independent variables are correlated.
  - (d) The residuals are not constant for all Y values.
6. If there is heteroscedasticity, the OLS estimators are :
- (a) Biased.
  - (b) Inconsistent.
  - (c) BLUE.
  - (d) Inefficient.
7. If the autocorrelation co-efficient  $\rho = 0$ , the value of Durbin-Watson  $d$ -statistic is :
- (a) 4.
  - (b) 2.
  - (c) 1.
  - (d) 0.
8. In distributed lag model, the current and lagged values of regressors are \_\_\_\_\_ variables.
- (a) Explanatory.
  - (b) Random.
  - (c) Stochastic.
  - (d) Dependent.
9. If a qualitative variable has 'm' categories, we can introduce only \_\_\_\_\_ dummy variables when an intercept is absent in the model.
- (a)  $m - 1$ .
  - (b)  $m$ .
  - (c)  $m + 1$ .
  - (d)  $2m$ .
10. Indirect least square procedure of estimation is appropriate when simultaneous equations are :
- (a) Over identified.
  - (b) Under identified.
  - (c) Exactly identified.
  - (d) Identified.

(10 × 1 = 10 marks)

**Part B (Very Short Answer Questions)**

*Answer any five questions.*

*Each question carries 2 marks.*

*Answer in one or two sentences each.*

11. Define pooled data with an example.
12. Define a model. What do you mean by single-equation model and multi-equation model ?



13. Define consistent estimator.
14. Distinguish between significance level and power of a test.
15. Define Regression.
16. Define variance inflating factor.
17. Discuss the concept of dummy variables.
18. What do you mean by a reduced-form equation ?

(5 × 2 = 10 marks)

### Part C (Short Answer Questions)

*Answer any eight questions.*

*Each question carries 5 marks.*

19. Why econometrics is considered as a separate discipline ?
20. Explain population regression function and sample regression function.
21. Explain the method of ordinary least squares.
22. Explain the assumptions of classical linear regression model.
23. Discuss the sources of multicollinearity.
24. Explain the method of generalized least squares.
25. Discuss the dummy variable regression model with an example. Explain the features of this model.
26. Discuss the reasons for autocorrelation.
27. Explain distributed lag models.
28. Explain ILS method and the steps involved in it.
29. Explain Spearman's rank correlation test.
30. Discuss the desirable properties of an econometric model.
31. Given the following sample data on two variables, X and Y :

$$\sum X_i = 1775, \sum Y_i = 1350, \sum X_i^2 = 335225, \sum Y_i^2 = 187800, \sum X_i Y_i = 249700$$

and sample size = 10.

Estimate the linear regression of Y on X.

(8 × 5 = 40 marks)

**Turn over**

**Part D (Essay Type Questions)**

*Answer any two questions.*

*Each question carries 10 marks.*

32. Explain the classical methodology of econometrics.
33. Explain the concept of ANOVA in econometrics.
34. Obtain the coefficient of determination for the following data :

Income (X)	10	20	30	40	50
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Consumption (Y) :	10	18	16	20	26
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35. Discuss the procedure of Durbin-Watson test of autocorrelation.

(2 × 10 = 20 marks)