

**SECOND SEMESTER M.A. DEGREE (REGULAR/SUPPLEMENTARY)  
EXAMINATION, APRIL 2022**

(CBCSS)

Econometrics

ECM 2C 08—PROBABILITY AND PROBABILITY DISTRIBUTIONS

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

**General Instructions**

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**Part A**

*Multiple Choice Questions. Answer all questions.*

*Each question carries 1/5 weightage.*

1. The area under the curve for each chi-square distribution is :  
(a) 0.5. (b) 1.  
(c) Unknown. (d) Infinite.
2. The shape of the F distribution depends on \_\_\_\_\_.  
(a) Degrees of Freedom of numerator.  
(b) Degrees of Freedom of denominator.  
(c) Neither the degrees of Freedom of numerator nor denominator.  
(d) Degrees of Freedom of both numerator nor denominator.
3. *t*-distribution is a \_\_\_\_\_.  
(a) Skewed distribution. (b) Uni modal distribution.  
(c) Either (a) or (b). (d) None of these.

**Turn over**

4. If a population is normally distributed, then regardless of the sample size, the sample means of the sample taken from the population are :
- (a) Normally distributed.
  - (b) Not necessarily normally distributed.
  - (c) Either (a) or (b).
  - (d) None of these.
5. A function of the sample value is a \_\_\_\_\_.
- (a) Statistic.
  - (b) Parameter.
  - (c) Statistical inference.
  - (d) None of these.
6. The parameters of an uniform distribution are :
- (a)  $(a, b)$ .
  - (b)  $(a + b)/2$ .
  - (c)  $1/b - a + 1$
  - (d) None of these.
7. On average, 20 percent of the emergency room patients at General Hospital lack health insurance. In a random sample of four patients, what is the probability that two will be uninsured ?
- (a) 0.6.
  - (b) 0.8.
  - (c) 0.15.
  - (d) None of these.
8. Poisson distribution is always :
- (a) Bell shaped.
  - (b) Rightly skewed.
  - (c) Negatively skewed.
  - (d) None of these.
9. A Bernoulli's trial is an experiment having only \_\_\_\_\_ possible outcomes.
- (a) Two.
  - (b) More than two.
  - (c) Either (a) or (b).
  - (d) None of these.
10. If we draw a card from a pack, what is the probability that the card is either ace or a king.
- (a)  $2/13$ .
  - (b)  $1/2$ .
  - (c)  $13/56$ .
  - (d) None of these.
11. \_\_\_\_\_ provides the method of revising probabilities to reflect new information.
- (a) Baye's theorem.
  - (b) Addition theorem.
  - (c) Multiplication Theorem.
  - (d) None of these.
12. Waiting time for an event that occurs periodically is :
- (a) Skewed towards left.
  - (b) Skewed towards right.
  - (c) Uniformly distributed.
  - (d) None of these.
13. A numerical measure of the sample is called :
- (a) Parameter.
  - (b) A statistic.
  - (c) Mean.
  - (d) None of these.

14. The population is normal and  $\sigma$  is unknown but the sample standard deviation  $s$  is known, the test statistic is \_\_\_\_\_.
- (a) Z. (b)  $t$ .  
(c) F. (d) None of these.
15. An uncertain quantity whose value depends on chance is \_\_\_\_\_.
- (a) Event. (b) Random variable.  
(c) Variable. (d) None of these.

(15  $\times$  1/5 = 3 weightage)**Part B (Very Short Questions)***Answer any five questions.**Each question carries a weightage of 1.*

16. Find
- $E(x)$
- of the following probability distribution :

No. of heads (X) :	0	1	2	3
Probability :	1/8	3/8	3/8	1/8

17. Define Sample Space ?

18. (i) The probability
- $b$
- that Ashok can solve a problem is
- $4/5$
- ; (ii) Amal can solve a the problem is
- $2/3$
- ; and (iii) Abdul can solve it is
- $3/7$
- . If all of them try independently, find the probability that the problem will be solved ?

19. Write a note on random variable ?

20. Six coins are tossed in succession. Find the probability of getting more than 4 heads by applying binomial probability law.

21. Distinguish between probability distribution function and cumulative distribution function.

22. In a examination testing IQ, the results are presented in a (2x2) table. Check whether the test result has any relation with the sex of the candidate using suitable statistical test at 5% per cent level.

SEX	Pass	Fail
Male	42	2
Female	14	6

23. Explain Gamma distribution ?

(5  $\times$  1 = 5 weightage)**Part C (Short Answer Questions)***Answer any seven questions.**Each question carries 2 weightage.*

24. Explain joint probability distribution.

Turn over

25. Can the following samples be regarded as coming from same normal population with equality of variances ?

Sample	size	Mean	Sum of the squares of deviations from mean
1	10	12	120
2	12	15	314

26. Define Binomial distribution. Explain its properties ?
27. Prove the interrelationship that exists between  $t$ , F Chi square and Z.
28. What do you meant by sampling distribution ?
29. If a card drawn from a pack of cards is black, represented by the event A, the probability of the event B that the card drawn is ace of spade. Find the probability of P(B/A).
30. The per capita yield of particular crop in a field is paid is normally distributed around a mean of 70 quintals and with a standard deviation of 5 quintals. What extend of the land can yield (i) Between 69 and 72 quintals ; and (ii) less than 63 quintals if the total land under the crop is 1000 acres.
31. Write a note on Addition theorem of probability.
32. Explain Geometric distribution.
33. Explain Expected Value of X with its properties.

(7 × 2 = 14 weightage)

#### Part D

*Essay Questions. Answer any two questions.  
Each question carries 4 weightage.*

34. The data below show the infiltration rate (cm/h) at an upstream and a downstream of the experimental plots. Test whether the average difference in infiltration rate upstream and downstream is significant or not at 5 % :

Infiltration rate upstream	53	28	31	48	50	42
Infiltration rate downstream	58	29	30	55	56	45

35. Fit Poisson distribution for the following data and calculate theoretical frequencies.

Deaths (x)	0	1	2	3	4	Total
Frequencies	122	60	15	2	1	200

36. (a) Define Conditional probability; independent and dependent events.
- (b) In a production unit, it is found that on an average 20 % of the items produced turns out to be defective. If 10 items are selected at random, find the probability that : (i) Exactly two will be defective ; (ii) 2 Or more will be defective ; (iii) More than 5 will be defective.
37. Briefly discuss the different continuous probability distributions ?

(2 × 4 = 8 weightage)

**SECOND SEMESTER M.A. DEGREE (REGULAR/SUPPLEMENTARY)  
EXAMINATION, APRIL 2022**

(CBCSS)

Econometrics

ECM 2C 07—FINANCIAL MARKETS

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

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**Part A (Multiple Choice Questions)**

*Answer all questions.*

*Each question carries 1/5 weightage.*

1. A \_\_\_\_\_ is a foreign exchange transaction that involves trading principal and interest in one currency for the same in another currency.
  - (a) Stock Futures.
  - (b) Foreign Currency Convertible Bonds.
  - (c) Commodity futures.
  - (d) Foreign currency swap.
2. Which of the following statements is not true with regard to Treasury bills ?
  - (a) Are issued in the form of a promissory note:
  - (b) They are highly liquid and have assured yield.
  - (c) They carry high risk of default.
  - (d) They are available for a minimum amount of ₹ 25,000 and in multiples thereof.

**Turn over**

3. Which of the following statements is not true with regard to capital market ?
- (a) The funds are raised for a short period of time.
  - (b) Both debt and equity funds can be raised.
  - (c) It is classified into two types.
  - (d) All of the above.
4. When was the Securities Trading Corporation of India established ?
- (a) 1956.
  - (b) 1986.
  - (c) 1996.
  - (d) 1994.
5. \_\_\_\_\_ refers to a certificate issued by a U.S. bank that represents shares in foreign stock.
- (a) American Depository Receipts.
  - (b) Global Depository Receipts.
  - (c) Foreign Currency Convertible bonds.
  - (d) Euronotes.
6. Digital technology has helped to transform the financial services industry, changing how we save, borrow, invest, and pay for goods. This is referred to as \_\_\_\_\_.
- (a) Financial innovation.
  - (b) Financial inclusion.
  - (c) Financial growth.
  - (d) Financial integration.
7. Which of the following is not a credit rating agency ?
- (a) CRISIL.
  - (b) ICRA.
  - (c) NIKKEI.
  - (d) CARE.
8. When was Cochin Stock Exchange was incorporated ?
- (a) 1978.
  - (b) 1950.
  - (c) 1991.
  - (d) 2005.
9. The \_\_\_\_\_ rate is a target set by the central bank, but the actual market rate for federal fund reserves is determined by this overnight inter-bank lending market.
- (a) Call money.
  - (b) Bill of Exchange.
  - (c) Federal Funds.
  - (d) Commercial Bills.

10. \_\_\_\_\_ refers generally to buying or selling a security, in breach of a fiduciary duty or other relationship of trust and confidence, on the basis of material, nonpublic information about the security.
- (a) Insider trading. (b) Investor Protection.  
(c) Foreign Institutional Investment. (d) Participatory notes.
11. The \_\_\_\_\_ believes that the borrowed security's price will decline, enabling it to be bought back at a lower price for a profit.
- (a) Short seller. (b) Margin trading.  
(c) Securities lending. (d) Securities borrowing.
12. \_\_\_\_\_ is a process whereby individual investors buy more stocks than they can afford to.
- (a) Short seller. (b) Margin trading.  
(c) Securities lending. (d) Securities borrowing.
13. \_\_\_\_\_ is a process by which a non-profit member-owned mutual organization is transformed into a for profit shareholder corporation.
- (a) Demutualization of stock exchanges.  
(b) Dematerialisation of accounts.  
(c) Trading in stock market.  
(d) Discounting of shares
14. Investors can speculate on the direction of interest rates, or else use the contracts to hedge against changes in rates. This is possible for the following derivative :
- (a) Call Options. (b) Put Options.  
(c) Interest rate futures. (d) Foreign currency swaps.
15. When was the forward trading in the Indian Capital market introduced ?
- (a) 2000. (b) 2001.  
(c) 2002. (d) 2003.

(15 × 1/5 = 3 weightage)

**Turn over**

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

*Answer any five questions.*

*Each question carries 1 weightage.*

16. What is certificate of deposit ?
17. What are the three roles of financial intermediaries ?
18. What is the role of multi commodity exchange ?
19. What is a Portfolio ?
20. What is meant by 'Listing of Securities' ?
21. What is a treasury bill ?
22. What is meant by Global Depository Receipts ?
23. Define financial intermediary.

(5 × 1 = 5 weightage)

**Part C (Short Answer Questions)**

*Answer any seven questions.*

*Each question carries 2 weightage.*

24. What are non-performing assets (NPA) ? What are the implications of NPA ?
25. What is meant by buyback of Shares ?
26. What is a Government Security (G-Sec) ?
27. What is SEBI and what is its role ?
28. What are the risks involved in investing in Mutual Funds ?
29. Write a short note on Investment Information and Credit Rating Agency (ICRA).
30. What is the function of Securities Market ?
31. Distinguish between primary market and secondary market.
32. What are the functions of the Stock Holding Corporation of India ?
33. Distinguish between Calls and Puts options.

(7 × 2 = 14 weightage)

**Part D (Essay Questions)**

*Answer any two questions.*

*Each question carries 4 weightage.*

34. Describe the structure of Indian money market.
35. Describe the functions of financial markets.
36. Explain the functioning of Swaps along with the different types of swaps.
37. Describe the role of SEBI and what are its functions and powers of it ?

(2 × 4 = 8 weightage)

**SECOND SEMESTER M.A. DEGREE [REGULAR/SUPPLEMENTARY]  
EXAMINATION, APRIL 2022**

(CBCSS)

Econometrics

ECM 2C 06—INDIAN ECONOMY : PROBLEMS AND POLICIES

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

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**Part A (Multiple Choice Questions)**

*Answer **all** questions.*

*Each question carries 1/5 weightage.*

1. The primary objective of the credit control techniques of the RBI is
  - a) Output maximization.
  - b) Employment generation.
  - c) Price stability.
  - d) Financial inclusion.
2. Who was the Finance Minister of India when the economic reforms took place under the New Economic Policy 1991 ?
  - a) Dr. Manmohan Singh.
  - b) P. Chidambaram.
  - c) V.P. Singh.
  - d) Atal Bihari Vajpayee.
3. The concept of Five-Year Plans in the Constitution of India was borrowed from :
  - a) England.
  - b) U.S.S.R.
  - c) United States.
  - d) Germany.

**Turn over**

4. Which of the following institution calculates Gross Domestic Product (GDP) in India ?
  - a) National Statistical Office.
  - b) Ministry of Commerce and Industry.
  - c) Indian Statistical Institute.
  - d) Reserve Bank of India.
5. Which of the following sector contributes lowest to India's GDP ?
  - a) Primary/Agriculture and Allied Sector.
  - b) Secondary /Industrial Sector.
  - c) Tertiary/ Service Sector.
  - d) Both Secondary and Tertiary Sectors.
6. Which type of farming is practiced in areas of high population pressure on land ?
  - a) Extensive Subsistence Farming.
  - b) Intensive Subsistence Farming.
  - c) Primitive Subsistence Farming.
  - d) Commercial Farming.
7. Economic planning is a subject in the :
  - a) Concurrent List.
  - b) State List.
  - c) Union List.
  - d) Unspecified in any list.
8. Growth rate of Kerala economy in the year 2021-2022 :
  - a) 5.5%.
  - b) 7.1%.
  - c) 8.2%.
  - d) 6.8%.
9. India opted for 'Mixed Economy' in :
  - a) Framing of the Constitution.
  - b) Second Five Year Plan.
  - c) Industrial Policy of 1948.
  - d) None of the above.
10. Unemployment which occurs when workers move from one job to another job is known as :
  - a) Seasonal Unemployment.
  - b) Frictional Unemployment.
  - c) Cyclical Unemployment.
  - d) Technological Unemployment.
11. Which of these financial sector reforms were introduced in India under the New Economic Policy (NEP) in 1991 ?
  - a) Change in the Monopolies and Restrictive Trade Practices (MRTP) Act.
  - b) Freedom for importing of capital goods.
  - c) Reduction in the Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio.
  - d) None of the above.

12. The Food For Work programme was renamed as :
- Rural Landless Employment Guarantee Programme (RLEGP).
  - National Rural Employment Programme (NREP).
  - Jawahar Rozgar Yojana (RZY).
  - Integrated Rural Development Programme (IRDP).
13. Which of the following governmental steps has proved relatively effective in controlling double digit rate of inflation in the Indian economy ?
- Containing budgetary deficits and unproductive expenditure.
  - Streamlined public distribution system.
  - Enhanced rate of production of all consumer goods.
  - Pursuing an export oriented strategy.
14. The highest sector wise contribution to gross domestic saving comes from :
- Private Corporate Sector.
  - Household Sector.
  - Public Sector.
  - Co-operative Sector.
15. Which of the following was not a part of the structural adjustment programs under the New Economic Policy (NEP) in 1991 ?
- Fiscal reforms.
  - Tax reforms.
  - Balance of payment adjustment.
  - Industrial reforms.

(15 × 1/5 = 3 weightage)

### Part B (Very Short Answer Questions)

*Answer any five questions.*

*Each question carries a weightage of 1.*

- Define squared poverty gap index.
- Define Consumer Price Index.
- What is Balance of Trade ?
- Write on SEBI.
- Briefly explain Current Weekly Status.
- Write on BSE.
- What do you mean by Suryamitra Skill Development Programme ?
- Briefly explain Minimum Support Price.

(5 × 1 = 5 weightage)

**Turn over**

**Part C (Short Answer Questions)**

*Answer any seven questions.*

*Each question carries a weightage of 2.*

24. What are the achievements of planning in India ?
25. Explain the effects of Green Revolution.
26. What are the major PPP models ?
27. What are the causes of poverty in India ?
28. Elucidate the supply side causes of inflation in India.
29. What are the major initiatives under New Industrial Policy 1991 ?
30. Write on Pradhan Mantri Jan Dhan Yojana.
31. Critically examine Kerala Model of Development.
32. What are the reasons of migration to Kerala ?
33. What make NITI Aayog different from Planning Commission.

(7 × 2 = 14 weightage)

**Part D( Long Essay Questions)**

*Answer any two questions.*

*Each question carries a weightage of 4.*

34. What are the reasons and consequences of income inequality in India?
35. Elucidate the major recommendations of Narasimham Committee-I (1991).
36. Examine India's response to global climate change.
37. Write an essay on industrial policies in India.

(2 × 4 = 8 weightage)

**SECOND SEMESTER M.A. DEGREE (REGULAR/SUPPLEMENTARY)  
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(CBCSS)

Econometrics

ECM 2C 05—ECONOMETRIC THEORY—I

(2020 Admission onwards)

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**Part A (Multiple Choice Questions)**

*Answer all questions.*

*Each question carries a weightage of 0.20.*

1. The variance of the error term, given the explanatory variables, is constant, known as :
  - (a) Auto correlation.
  - (b) Homoskedasticity.
  - (c) Heteroskedasticity.
  - (d) Multicollinearity.
2. The bias that arises from including an irrelevant variable in a model is known as :
  - (a) Spurious Correlation.
  - (b) Stochastic Process.
  - (c) Simultaneous Bias.
  - (d) Specification Bias.
3. \_\_\_\_\_ is a common measure of spread in the distribution of a random variable.
  - (a) Standard Deviation.
  - (b) Mean.
  - (c) Median.
  - (d) Covariance.
4. A test against a two - sided alternative is :
  - (a) Two tailed test.
  - (b) Normality Test.
  - (c) R square.
  - (d) Regression.

**Turn over**

5. 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.
6. The smallest significance level at which the null hypothesis can be rejected :
- (a)  $t$ - value.
  - (b)  $Z$ -value.
  - (c)  $p$ -value.
  - (d)  $F$ -value.
7. \_\_\_\_\_ a goodness-of-fit measure in multiple regression analysis.
- (a) Autocorrelation.
  - (b) Coefficient of Determination.
  - (c) Adjusted R - Squared.
  - (d) R - Squared.
8. A probability distribution commonly used in statistics and econometrics for modelling a population is known as :
- (a) Binomial distribution.
  - (b) Normal distribution.
  - (c) Poisson Distribution.
  - (d) None of the above.
9. \_\_\_\_\_ 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.
10. In multiple regression, one independent variable is an exact linear function of one or more other independent variables is called :
- (a) Imperfect Collinearity.
  - (b) Perfect Collinearity.
  - (c) No collinearity.
  - (d) Auto correlation.
11. \_\_\_\_\_ statistic is used to test multiple hypotheses about the parameters in a multiple regression model.
- (a)  $Z$ .
  - (b)  $t$ .
  - (c)  $F$ .
  - (d) None of the above.
12. A test for heteroskedasticity is :
- (a) White Test.
  - (b) Heckit Method.
  - (c) Durbin-Watson (DW) Statistic.
  - (d) Dickey-Fuller (DF) Test.

13. \_\_\_\_\_ is a data set constructed from repeated cross sections overtime.
- (a) Time series data. (b) Cross Sectional data.  
(c) Panel data. (d) Data frequency.
14. A \_\_\_\_\_ variable takes on the value zero or one :
- (a) Endogenous variable. (b) Exogenous variable.  
(c) Discrete variable. (d) Dummy variable.
15. Rejecting the null hypothesis when it is true :
- (a) Type I Error. (b) Type II Error.  
(c) Two - sided alternative. (d) Trending Process.

(15 × 1/5 = 3 weightage)

### Part B (Very Short Answer Questions)

*Answer any five questions.*

*Each question carries a weightage of 1.*

16. Define Sample regression function.
17. Write a note on Auxiliary regressions.
18. Define Regression.
19. What do you mean by Linearity in the Variables ?
20. Define Parameter.
21. What do you mean by p Value ?
22. What do you mean by a null hypothesis ?
23. Define Heteroskedasticity.

(5 × 1 = 5 weightage)

### Part C (Short Answer Questions)

*Answer any seven questions.*

*Each question carries a weightage of 2.*

24. Explain the Scope and limitations of econometric approach.
25. What are the assumptions of Classical Linear Regression model ? Explain.
26. Explain the reason for the occurrence of heteroskedasticity problem.
27. Explain the use of Dummy variables in economic analysis.
28. Explain White Test.

Turn over

29. Explain the significance of stochastic disturbance term.
30. Explain the maximum likelihood method.
31. Explain the method of detecting autocorrelation.
32. Distinguish between simple and partial correlation coefficient.
33. Explain the nature and sources of Multicollinearity.

(7 × 2 = 14 weightage)

#### Part D (Essay Questions)

*Answer any two questions.*

*Each question carries a weightage of 4.*

34. What distinguishes Econometrics from purely mathematical economics and from economic theory? Briefly discuss the steps involved in econometric analysis?
35. Explain ANOVA models and ANCOVA models.
36. What is meant by 'specification error' in a regression model? Indicate the different types of specification error, and how you would test for them.
37. Briefly discuss about the Multiple Coefficient of Determination R square and Adjusted R Square.

(2 × 4 = 8 weightage)

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APRIL 2021**

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ECM 2C 08—PROBABILITY AND PROBABILITY DISTRIBUTIONS

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**Part A (Multiple Choice Questions)***Answer all questions.**Each question carries 1/5 weightage.*

1. Choose the correct answer :

Statement 1: The shape of the chisquare distribution depends on the degrees of freedom

Statement 2: Chi square test is an example of non-parametric test.

- (a) Only statement 1 is correct.
  - (b) Only statement 2 is correct.
  - (c) neither statement 1 nor statement 2 is correct.
  - (d) Both the statements are correct.
2. F test is always ———— tail test.
    - (a) Two.
    - (b) Right.
    - (c) Left.
    - (d) Either left or right.
  3. The name associated with 't'distribution is ————.
    - (a) Fisher.
    - (b) Gosset.
    - (c) Poisson.
    - (d) None of these.

**Turn over**

4. A measure that describes the entire population :
- (a) Statistic. (b) Parameter.  
(c) Mean. (d) None of these.
5. A table used to summarize observed and expected frequencies for a test of independence is :
- (a) Contingency table. (b) Goodness of fit.  
(c) Multinomial. (d) None of these.
6. In an uniform probability distribution, the total area under the curve is \_\_\_\_\_.
- (a) Unknown. (b) One.  
(c) Infinite. (d) None of these.
7. If the probability of successes is less than 0.5, the binomial distribution :
- (a) Normally distributed. (b) Skewed towards left.  
(c) Skewed towards right. (d) Either (a) or (b).
8. \_\_\_\_\_ Distribution is leptokurtic.
- (a) Poisson. (b) Binomial.  
(c) Either (a) or (b). (d) Neither (a) and (b).
9. An \_\_\_\_\_ is any subset of outcomes in the sample space.
- (a) Event. (b) Random variable.  
(c) Probability distribution function. (d) None of these.
10. Choose the correct answer :
- Statement 1 : Binomial distribution is the most popular discrete distribution.  
Statement 2 : The origin of binomial distribution lies in Bernoulli's trials.
- (a) Only statement 1 is correct.  
(b) Only statement 2 is correct.  
(c) Neither statement 1 nor statement 2 is correct.  
(d) Both the statements are correct.
11. Find the probability of drawing an ace or a spade from a pack of cards :
- (a)  $1/52$ . (b)  $13/52$ .  
(c)  $16/52$ . (d) None of these.
12. \_\_\_\_\_ is the probability distribution of a sample statistic.
- (a) Mean. (b) Standard Error.  
(c) Sampling Distribution. (d) None of these.

13. Lognormal variate is a \_\_\_\_\_variable.
- (a) Continuous (b) Discrete.  
(c) Either (a) or (b). (d) None of these.
14. \_\_\_\_\_ is an example of nonparametric test.
- (a) Chi square. (b)  $t$ .  
(c) F. (d) None of these.
15. Choose the correct answer :
- Statement 1 : Bayes Theorem provides us with another formula for computing conditional probability,  $P(A/B)$ .
- Statement 2 : If two events are not mutually exclusive they must be independent events.
- (a) Only statement 1 is correct.  
(b) Only statement 2 is correct.  
(c) Neither statement 1 nor statement 2 is correct.  
(d) Both the statements are correct.

(15 × 1/5 = 3 weightage)

### Part B (Very Short Questions)

*Answer any five questions.  
Each question carries a weightage of 1.*

16. Find the mathematical expectation of the number of points if a balanced dice is thrown.
17. Define Independent event ?
18. If  $P(A) = 2/3$  and  $P(B) = 1/3$ , find the values of : (i)  $P(A/B)$  ; (ii)  $P(B/A)$ .
19. Write a note on Conditional probability ?
20. Given the probability of defective screws is  $1/6$ . Find the probability for the binomial distribution of defective screws in a total of 180 : (i) The mean ; and (ii) The standard deviation.
21. Distinguish between Characteristic function and Moment generating function .
22. The eye sight of 1000 randomly selected people from a town were tested and the  $(2 \times 2)$  contingency table is shown below. Can we conclude at 5 % level of significance that the sex has no bearing on the quality of eye sight ?
- |        | <i>Poor Eye sight</i> | <i>Good Eye sight</i> |
|--------|-----------------------|-----------------------|
| Male   | 200                   | 350                   |
| Female | 200                   | 250                   |
23. Explain lognormal distribution ?

(5 × 1 = 5 weightage)

Turn over

### Part C (Short Answer Questions)

Answer any seven questions.

Each question carries 2 weightage.

24. The wages of contract workers in a factory is paid on weekly basis is normally distributed around a mean of Rs 70 and with a standard deviation of Rs. 5. If there are 1000 workers (i) estimate the number of workers whose weekly wages will be : (i) Between 70 and 72 ; (ii) More than 75.
25. Write the parameters of the following distributions : (a) Normal ; and (b) Poisson.
26. Explain Bernoulli's theorem.
27. In one sample of 10 observations, the sum of the squares of deviations of the sample values from sample mean was 120 and in another sample of 12 observations it was 314. Test whether the difference is significant at 5 % level. (Apply F test).
28. Explain Baye's theorem.
29. Discuss the relation between  $t$ , Chi square, F and Z.
30. The life expectancy of people in the year of 1970 in Brazil is expected to be 50 years. A survey was conducted in 11 regions of Brazil and the data obtained are given below. Do the data confirm the expected view ?  
Life Expectancy (years) : 54.2, 50.4, 44.2, 49.7, 55.4, 57, 58.2, 56.6, 61.9, 57.5, and 53.4.
31. Write a note on Multiplication theorem of probability.
32. Define normal distribution. Explain its properties ?
33. It is known that the number of breaks in a coil of 100 meters insulated electric wire, on an average is 2. Let X denotes the number of breaks in a 100 metre insulated wire. Find the poisson probability of exactly 4 breaks in 100 metre wire. Apply poisson distribution ( $\alpha = 0.5$ ).

(7 × 2 = 14 weightage)

### Part D (Essay Questions)

Answer any two questions.

Each questions carries 4 weightage.

34. The following table gives the pulsality index of 11 patients. Test whether there is a significant increase on the average in PI values, after seizure as compared to during seizure.  
PI value during seizure : 0.45 0.54 0.48 0.62 0.48 0.60 0.45 0.46 0.35 0.40 0.44  
PI value After seizure : 0.60 0.65 0.63 0.78 0.63 0.80 0.69 0.62 0.68 0.50 0.57
35. Fit a binomial distribution to the following data :
 

X	:	0	1	2	3	4	Total
f	:	28	62	46	10	4	150
36. (a) Describe the complement of an event and the intersection and union of two events.  
(b) In an examination 30 % of the students has failed in mathematics, 20% of the students have failed in Chemistry and 10 % have failed in both Mathematics and Chemistry. A student is selected at random : (i) What is the probability that the student have failed in Mathematics if it is known that he has failed in Chemistry ; and (ii) What is the probability that the student has failed either in mathematics or in chemistry ?
37. Briefly discuss the different discrete probability distributions ?

(2 × 4 = 8 weightage)

**SECOND SEMESTER M.A. DEGREE (REGULAR) EXAMINATION****APRIL 2021**

(CBCSS)

Econometrics

ECM 2C 07—FINANCIAL MARKETS

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

**General Instructions**

1. *In cases where choices are provided, students can attend all questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

**Part A (Multiple Choice Questions)***Answer all questions.**Each question carries a weightage of 1/5.*

1. \_\_\_\_\_ are forward contracts where one stream of future interest payments is exchanged for another based on a specified principal amount.
  - (a) Foreign currency swaps.
  - (b) Interest rate swaps.
  - (c) Put Options.
  - (d) Futures.
2. Which of the following statements is not true with regard to the money market ?
  - (a) It involves low market risk.
  - (b) It is situated at specific locations.
  - (c) Deals in unsecured and short-term debt instruments.
  - (d) The instruments traded are highly liquid.

**Turn over**

3. Which of the following statements is not true with regard to Call money ?
- (a) It is short-term finance repayable on demand.
  - (b) Its maturity period ranges from one day to fifteen days.
  - (c) There is a direct relationship between call rates and other short-term money market instruments.
  - (d) It is used for inter-bank transactions.
4. \_\_\_\_\_ was promoted by RBI with the main objective of fostering an active secondary market in Government of India Securities and Public Sector bonds.
- (a) Stock Holding Corporation of India.
  - (b) Securities Trading Corporation of India.
  - (c) Securities and Exchange Board of India.
  - (d) None of the above.
5. \_\_\_\_\_ is a foreign currency denominated convertible bond issued by an Indian company abroad, which the holder can convert into equity shares.
- (a) American Depository Receipts.
  - (b) Global Depository Receipts.
  - (c) Foreign Currency Convertible bonds.
  - (d) Euronotes.
6. \_\_\_\_\_ is a standardized contract that obliges the buyer to purchase some underlying commodity at a predetermined future price and date.
- (a) Commodity futures contract.
  - (b) Put Options.
  - (c) Call Options.
  - (d) Swaps.
7. \_\_\_\_\_ has come via advances in financial instruments, technology, and payment systems.
- (a) Financial innovation.
  - (b) Financial inclusion.
  - (c) Financial growth.
  - (d) Financial integration.
8. How many companies are included in the NIFTY of India ?
- (a) 30.
  - (b) 50.
  - (c) 111.
  - (d) 25.
9. \_\_\_\_\_ trade on a futures exchange and a contract's price settles after the end of every trading session.
- (a) Futures contracts.
  - (b) Swaps.
  - (c) Eurobonds.
  - (d) Eurodollars.

10. \_\_\_\_\_ refer to excess reserves held by financial institutions, over and above the mandated reserve requirements of the central bank.
- (a) Call money. (b) Bill of Exchange.  
(c) Federal Funds. (d) Commercial Bills.
11. The risk of losing money invested in mutual funds is called :
- (a) Capital risk. (b) Scheme risk.  
(c) Credit risk. (d) Market risk.
12. The \_\_\_\_\_ is a form of payment that is guaranteed by a bank rather than an individual account holder.
- (a) Banker's Acceptance. (b) Negotiable certificate of deposits.  
(c) Interbank market. (d) Commercial Paper.
13. \_\_\_\_\_ are financial instruments required by investors or hedge funds to invest in Indian securities without having to register with the Securities and Exchange Board of India (SEBI).
- (a) Investor Protection. (b) Participatory notes.  
(c) Foreign Institutional Investment. (d) None of the above.
14. \_\_\_\_\_ allow the holder to buy an underlying security at the stated strike price by the expiration date.
- (a) Call Options. (b) Put Options.  
(c) Interest rate swaps. (d) Foreign currency swaps.
15. \_\_\_\_\_ an organization that acts as both the issuer and guarantor for options and futures contracts.
- (a) International Monetary fund. (b) London Stock Exchange.  
(c) Options Clearing Corporation. (d) Reserve Bank of India.

(15 × 1/5 = 3 weightage)

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

*Answer any five questions.*

*Each question carries a weightage of 1.*

16. What is Dematerialization ?
17. What is credit rating ?
18. What are offshore funds ?
19. What is financial inclusion ?
20. What is a Bond ?

**Turn over**

21. What is an American Depository Receipt ?
22. What is a Derivative ?
23. What is an Initial Public Offer (IPO) ?

(5 × 1 = 5 weightage)

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

*Answer any seven questions.*

*Each question carries a weightage of 2.*

24. Write a note on Investment banks.
25. What are the advantages and disadvantages of Foreign Institutional Investments (FII) ?
26. What is the role of the 'Primary Market'.
27. Which are the factors that influence the price of a stock ?
28. Which all institutions act as investment intermediaries ? Give a brief description.
29. What are the features of debt instruments ?
30. What are Mutual funds ? What are the risks involved in Mutual Funds.
31. Explain in brief the important money market instruments.
32. write a short note on Credit Analysis and Research limited (CARE).
33. Write a short note on money market reforms in India since 1991.

(7 × 2 = 14 weightage)

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

*Answer any two questions.*

*Each question carries a weightage of 4.*

34. Explain the process of multiple credit creation by commercial banks and also explain its limitations.
35. Describe the emergence and the current status of the Eurocurrency market.
36. Explain the capital market reforms in India since 1991.
37. Describe the types of options and the uses of options.

(2 × 4 = 8 weightage)

SECOND SEMESTER M.A. DEGREE (REGULAR) EXAMINATION, APRIL 2021  
(CBCSS)

Econometrics

ECM 2C 06—INDIAN ECONOMY : PROBLEMS AND POLICIES

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

**General Instructions**

1. *In cases where choices are provided, students can attend all questions in each section.*
2. *The minimum number of questions to be attended from the Section/Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section/sub part/sub division may be ignored.*
4. *There will be an overall ceiling for each Section/Part that is equivalent to the maximum weightage of the Section/Part.*

**Part A (Multiple Choice Questions)**

*Answer all questions.*

*Each question carries 1/5 weightage.*

1. The process of transferring the ownership, management and control of a public sector to the private sector is known as :
  - a) Globalisation.
  - b) Liberalisation.
  - c) Privatisation.
  - d) None of the above.
2. Who was the Finance Minister of India when the economic reforms took place under the New Economic Policy 1991 ?
  - a) Dr. Manmohan Singh.
  - b) P Chidambaram.
  - c) V P Singh.
  - d) Atal Bihari Vajpayee.
3. The concept of Five-Year Plans in the Constitution of India was borrowed from :
  - a) England.
  - b) U.S.S.R.
  - c) United States.
  - d) Germany.
4. Which of the following institution calculates Gross Domestic Product (GDP) in India ?
  - a) National Statistical Office.
  - b) Ministry of Commerce and Industry.
  - c) Indian Statistical Institute.
  - d) Reserve Bank of India.

**Turn over**

5. Which of the following sector contributes lowest to India's GDP ?
- a) Primary/Agriculture and Allied Sector.
  - b) Secondary /Industrial Sector.
  - c) Tertiary/ Service Sector.
  - d) Both Secondary and Tertiary Sectors.
6. Which type of farming is practiced in areas of high population pressure on land ?
- a) Extensive Subsistence Farming.
  - b) Intensive Subsistence Farming.
  - c) Primitive Subsistence Farming.
  - d) Commercial Farming.
7. Economic planning is a subject in the :
- a) Concurrent List.
  - b) State List.
  - c) Union List.
  - d) Unspecified in any list.
8. Growth rate of Kerala economy in the year 2021 -2022 :
- a) 5.5%.
  - b) 7.1%.
  - c) 8.2%.
  - d) 6.8%.
9. India opted for 'Mixed Economy' in :
- a) Framing of the Constitution.
  - b) Second Five Year Plan.
  - c) Industrial Policy of 1948.
  - d) None of the above.
10. Unemployment which occurs when workers move from one job to another job is known as :
- a) Seasonal Unemployment.
  - b) Frictional Unemployment.
  - c) Cyclical Unemployment.
  - d) Technological Unemployment.
11. Which of these financial sector reforms were introduced in India under the New Economic Policy (NEP) in 1991 ?
- a) Change in the Monopolies and Restrictive Trade Practices (MRTP) Act.
  - b) Freedom for importing of capital goods.
  - c) Reduction in the Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio.
  - d) None of the above.

12. The Food For Work programme was renamed as :
- Rural Landless Employment Guarantee Programme (RLEGP).
  - National Rural Employment Programme (NREP).
  - Jawahar Rozgar Yojana (RZY).
  - Integrated Rural Development Programme (IRDP).
13. Which of the following governmental steps has proved relatively effective in controlling double digit rate of inflation in the Indian economy ?
- Containing budgetary deficits and unproductive expenditure.
  - Streamlined public distribution system.
  - Enhanced rate of production of all consumer goods.
  - Pursuing an export oriented strategy.
14. The highest sector wise contribution to gross domestic saving comes from :
- Private Corporate Sector.
  - Household Sector.
  - Public Sector.
  - Cooperative Sector.
15. Which of the following was not a part of the structural adjustment programs under the New Economic Policy (NEP) in 1991 ?
- Fiscal reforms.
  - Tax reforms.
  - Balance of payment adjustment.
  - Industrial reforms.

(15 × 1/5 = 3 weightage)

### Part B (Very Short Answer Questions)

*Answer any five questions.*

*Each question carries a weightage of 1.*

- Define Squared Poverty gap index.
- Define Consumer Price Index.
- What is Balance of Trade ?
- Write on SEBI.
- Briefly explain Current Weekly Status.
- Write on BSE.
- What do you meant by Suryamitra Skill Development Programme ?
- Briefly explain Make in India initiative.

(5 × 1 = 5 weightage)

**Turn over**

**Part C (Short Answer Questions)**

*Answer any seven questions.*

*Each question carries a weightage of 2.*

24. What are the achievements of planning in India ?
25. Explain the effects of Green Revolution.
26. What are the major PPP models ?
27. What are the causes of poverty in India ?
28. Elucidate the supply side causes of inflation in India.
29. What are the major initiatives under New Industrial Policy 1991 ?
30. Write on Pradhan Mantri Jan Dhan Yojana.
31. Critically examine Kerala Model of Development.
32. What are the reasons of migration to Kerala ?
33. What make NITI Aayog different from Planning Commission.

(7 × 2 = 14 weightage)

**Part D (Long Essay Questions)**

*Answer any two questions.*

*Each question carries a weightage of 4.*

34. Examine the effects of black money in India. What are the measures taken by the Government of India to curb black money ?
35. Elucidate the major recommendations of Narasimham Committee-I (1991).
36. Examine India's response to global climate change.
37. Write an essay on industrial policies in India.

(2 × 4 = 8 weightage)

**SECOND SEMESTER M.A. DEGREE (REGULAR) EXAMINATION****APRIL 2021**

(CBCSS)

Econometrics

ECM 2C 05—ECONOMETRIC THEORY—I

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

**General Instructions**

1. *In cases where choices are provided, students can attend all questions in each section.*
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3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

**Part A (Multiple Choice Questions)***Answer all questions.**Each question carries a weightage of 1/5.*

1. 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.
2. The variance of the error term, given the explanatory variables, is not constant, known as :
  - a) Auto correlation.
  - b) Homoskedasticity.
  - c) Heteroskedasticity.
  - d) Multicollinearity.
3. Which among the following is a test for autocorrelation ?
  - a) White Test
  - b) Heckit Method.
  - c) Durbin-Watson (DW) Statistic
  - d) Dickey-Fuller (DF) Test.

**Turn over**

4. A measure of linear dependence between two random variables is :
- a) Covariance.
  - b) Correlation Co-efficient.
  - c) Covariate.
  - d) Conditional Variance.
5. \_\_\_\_\_ is an unknown value that describes a population relationship.
- a) Estimate.
  - b) Parameter.
  - c) Estimator.
  - d) Error term.
6. \_\_\_\_\_ a goodness-of-fit measure in multiple regression analysis.
- a) Autocorrelation.
  - b) Co-efficient of Determination.
  - c) Adjusted R - Squared.
  - d) R - Squared.
7. The difference between the actual value and the fitted (or predicted) value is known as :
- a) Response Variable.
  - b) Sample Covariance..
  - c) Residual.
  - d) Sample Variance.
8. A sequence of random variables indexed by time is called a :
- a) Cross Sectional analysis.
  - b) Panel Data analysis.
  - c) Time series process.
  - d) Regression analysis.
9. The sum of 'n' numbers divided by 'n' is.
- a) Mode.
  - b) Median.
  - c) Average.
  - d) Base Period.
10. In Multiple Regression, the partial effect of one explanatory variable depends on the value of a different explanatory variable is
- a) Intercept shift.
  - b) Langrange Multiplier Statistic.
  - c) Interaction Effect.
  - d) Intercept Parameter.
11. \_\_\_\_\_ is a variable that takes on non-negative integer values.
- a) Count Variable.
  - b) Control Variable.
  - c) Binary Variable.
  - d) Exogenous Variable.
12. A function whose slope is not constant is :
- a) Nonlinear function.
  - b) Normal distribution.
  - c) Linear function.
  - d) Intercept shift.



26. Distinguish between Population Regression Function and Sample Regression Function.
27. Explain the Dummy Variable Trap. Illustrate your answer with an example.
28. Discuss the properties of OLS.
29. Briefly discuss ANOVA.
30. Distinguish between type I error and type II error.
31. Write a brief note on Durbin Watson Statistic.
32. What do you mean by Goodness of Fit measure ? Explain.
33. Explain the Piecewise Linear Regression.

(7 × 2 = 14 weightage)

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

*Answer any two questions.*

*Each question carries a weightage of 4.*

34. Elaborate BLUE properties. State and prove that the OLS estimators are BLUE.
35. Explain the methodology of Econometrics.
36. Discuss the reasons for the occurrence of multicollinearity and explain the remedies for it.
37. Explain the assumptions of Classical Linear Regression model.

(2 × 4 = 8 weightage)