

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4(3) C04—MATHEMATICAL TOOLS FOR ECONOMICS—III AND IV

Time : Two Hours and a Half

Maximum : 80 Marks

Section A (Short Answer Questions)

Answer at least ten questions.

Each question carries 3 marks.

All questions can be attended.

Overall Ceiling 30.

1. Find $\lim_{x \rightarrow 4} \frac{3x^2 - 5x}{x + 6}$.

2. Differentiate each of the following function using the Power function rule.

(i) $f(x) = 5x^{-2}$; and (ii) $y = -9x^{-4}$.

3. Use of implicit differentiation to find the derivative $\frac{dy}{dx}$ for following equation :

$$3y^5 - 6y^4 + 5x^6 = 243.$$

4. What is an inflection point ?

5. Derive the MR function for the non-linear demand schedule $p = 80 - q^{0.5}$.

6. What do you mean by Optimization ?

7. Describe the important rules of partial differentiation.

8. If $y = 14x + 3z^2$, find the partial derivatives of this function with respect to x and z .

9. If $y = \frac{4x^2}{8 + 0.2x}$. What is $\frac{dy}{dx}$?

Turn over

- Write a short note on Returns to scale.
- Define Marginal Productivity of capital and labour.
- Determine the following integrals, (i) $\int x^5 dx$; and (ii) $\int 4x^{-2} dx$.
- The rate of net investment is $I = 40t^{3/5}$ and capital stock at $t = 75$. Find capital function K.
- What is the Power rule in Integration ?
- What is Homogeneous production function ?

(10 × 3 = 30 marks)

Section B (Short Essay Questions)

Answer at least five questions.

Each question carries 6 marks.

All questions can be attended.

Overall Ceiling 30.

- Explain the important rules of differentiation.
- Find the marginal and average functions for the following total function.
Evaluate them at $Q = 3$ and $Q = 5$. Total Revenue = $12Q - Q^2$.
- Find $\frac{dy}{dx}$ if $y = (x - 4)^5 + \log 3x + 7e^{x-1}$.
- Find the first, second and cross partial derivatives for $z = 7x^3 + 9xy + 2y^5$.
- Given $Q = 700 - 2P + 0.02Y$, Where $P = 25$ and $Y = 5000$. Find (i) The price elasticity of demand ;
and (ii) The income elasticity of demand.
- Determine the following integrals, (i) $\int \ln x dx$; and (ii) $\int (2x^2 + x^3) dx$.
- Briefly explain Lagrange multiplier method.
- Explain the relationship between TC, AC and MC Concepts.

(5 × 6 = 30 marks)

Section C (Long Essay Questions)

Answer any **two** questions.

Each question carries 10 marks.

24. Find the second order derivative of the following functions and evaluate it at $x = 2$.

(i) $f(x) = x^6 + 3x^4 + x$; and (ii) $y = (2x + 3)(8x^2 - 6)$.

25. A firm faces the production function $Q = 12 K^{0.4} L^{0.4}$ and can buy the inputs K and L at prices per unit of Rupees 40 and Rupees 5 respectively. If it has budget of Rupees 800 what combination of K and L should it use in order to produce the maximum possible output ?
26. (i) Explain the important marginal concepts in Economic Analysis.
(ii) Explain the concept of price, cross and income elasticity of demand.
27. Maximize a function $y = 5x_1x_2$ subject to $x_1 + 2x_2 = 8$. Solve this function using Lagrange multiplier method.

(2 × 10 = 20 marks)

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**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4 (3) C 03—BANKING—II

Time : Two Hours and a Half

Maximum : 80 Marks

Section A*Answer at least ten questions.**Each question carries 3 marks.**All questions can be attended.**Overall Ceiling 30.*

1. Write a note on Mudra Bank.
2. Define and explain MCLR.
3. Distinguish between SLR and CRR.
4. Distinguish between Repo and Reverse Repo rate.
5. Write a brief note on Basel Norm III.
6. What do you mean by Local Area Bank ?
7. Explain the importance of Rural Banking in India.
8. What is NPA ?
9. Write a note on the importance of Capital Adequacy Norms.
10. What are the economic impacts of high interest rate ?
11. What do you mean by refinancing ?
12. Why do we regard RBI as the Apex Bank of India ?
13. What do you mean by MSF ?
14. What is LAF ?
15. What is NBF1 ?

(10 × 3 = 30 marks)

Turn over

Section B

Answer at least five questions.

Each question carries 6 marks.

All questions can be attended.

Overall Ceiling 30.

16. Explain the three tier structure of Co-operative banks.
17. What are the reasons for recent increase of NPA ?
18. Explain the functions of SIDBI.
19. Explain the Classification of Assets by banks.
20. What are the role and importance of development banks in India ?
21. Explain the recommendations of Narasimham Committee II.
22. Distinguish between the activities of Co-operative banks and Commercial banks.
23. Write a brief note on currency Note issue system in India.

(5 × 6 = 30 marks)

Section C

Answer any two question.

Each question carries 10 marks.

24. Explain the features and functions of IFCI and IDBI.
25. What are the functions of RBI ? Explain the monetary measures and its operation.
26. What were the recommendations of Narasimham Committee Report I.
27. Narrate the role and functions of NABARD.

(2 × 10 = 20 marks)

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4 (3) C02—CO-OPERATION—II

Time : Two Hours and a Half

Maximum : 80 Marks

Section A (Short Answer Questions)

Answer at least ten questions.

Each question carries 3 marks.

All questions can be attended.

Overall Ceiling 30.

1. List out the objectives of NAFED.
2. Define Decentralization.
3. Examine the functions of RRB.
4. Define co-operative joint farming society.
5. What is NCDC ?
6. What is Co-operative tenant farming society ?
7. Define PACS.
8. State Participatory planning.
9. What is NABARD ?
10. Define NHGs.
11. What is NCCT ?
12. Distinguish between marginal and small farmers.
13. Define an industrial co-operative.
14. What is meant by organic farming ?
15. List out the objectives of urban co-operative credit societies.

(10 × 3 = 30 marks)

Turn over

Section B (Short Essay Questions)

Answer at least five questions.

Each question carries 6 marks.

All questions can be attended.

Overall Ceiling 30.

16. Discuss the advantages and disadvantages of co-operative marketing ?
17. What are the different types of co-operative farming society ?
18. Discuss the objectives of Urban Co-operative Banks.
19. Elucidate the role of NAFED in agricultural marketing.
20. Explain the role of CAPE Human resource management of co-operatives.
21. Discuss the characteristics of a good SHG.
22. Trace the origin of co-operative movements in Kerala.
23. Examine the role of dairy co-operatives in the white revolution of India.

(5 × 6 = 30 marks)

Section C (Long Essay Questions)

Answer any two questions.

Each question carries 10 marks.

24. Analyze the structure, objectives and functions of consumer's co-operatives.
25. Examine the role of Kudumbashree in women empowerment.
26. Briefly explain the role of co-operatives in farming, storage, ware housing and marketing of agricultural produce.
27. Examine the need and significance of human resource development in co-operative sector.

(2 × 10 = 20 marks)

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4 (3) C 01—INTRODUCTORY ECONOMICS—II

Time : Two Hours and a Half

Maximum : 80 Marks

Section A (Short Answer Questions)

Answer at least ten questions.

Each question carries 3 marks.

All questions can be attended.

Overall Ceiling 30.

1. What do you mean by Laissez-Faire economy ?
2. What is Public Expenditure ?
3. Distinguish between Public Finance and Private Finance.
4. Define flexible exchange rate system.
5. What are the demographic challenges of India ?
6. Analyze the importance of public spending on education.
7. Write a note on the benefits of economic growth ?
8. What are the services offered by the Commercial banks ?
9. Write a note on the importance of banks.
10. What is meant by Balance of Trade (BoT) ?
11. What do you mean by Balance of Payments (BoP) ?
12. What is fiscal policy ?
13. List the functions of money.
14. What are the instruments of monetary policy ?
15. What are the effects of inflation ?

(10 × 3 = 30 marks)

Turn over

Section B (Short Essay Questions)

Answer at least five questions.

Each question carries 6 marks.

All questions can be attended.

Overall Ceiling 30.

16. Explain the importance of Finance Commission.
17. Note the significance of FRBM Act.
18. Distinguish between Revenue and Capital expenditure.
19. Explain the principle of maximum social advantage.
20. Explain the impact of public debt on economic growth.
21. Distinguish between repo rate and reverse repo rate.
22. What are the types of advances offered by the Commercial banks ?
23. Examine the importance of banks in growth and development of an economy.

(5 × 6 = 30 marks)

Section C (Long Essay Questions)

Answer any two questions.

Each question carries 10 marks.

24. Explain BoP and its importance. What are the types accounts in BoP ? Explain the items included in each account of the BoP.
25. Explain the results of Population Census of India -2011.
26. Explain Fischer's quantity theory of money.
27. Distinguish between fiscal and monetary policy. Describe the fiscal and monetary policy instruments and its operation.

(2 × 10 = 20 marks)

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4B 06—MACROECONOMICS—II

(Multiple Choice Questions for SDE Candidates)

Time : 15 Minutes**Total No. of Questions : 20****Maximum : 20 Marks****INSTRUCTIONS TO THE CANDIDATE**

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. The candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer-book.
4. The MCQ question paper will be supplied after the completion of the descriptive examination.

ECO 4B 06—MACROECONOMICS—II

(Multiple Choice Questions for SDE Candidates)

- The main type of unemployment referred by the Classicals :
 - Voluntary.
 - Involuntary.
 - Both.
 - None.
- The main type of unemployment referred by the Post-Keynesians :
 - Voluntary.
 - Involuntary.
 - Natural rate.
 - None.
- The concept of disguised unemployment is developed by :
 - Keynes.
 - Adam Smith.
 - Nurkse.
 - Samuelson.
- Long run Phillips Curve is :
 - Parallel.
 - Horizontal.
 - Vertical.
 - Kinked.
- A business cycle has :
 - Three phases.
 - Four phases.
 - Five Phases.
 - Six phases.
- Which of the following is not an objective of monetary policy ?
 - Price stability.
 - Balance of Payments equilibrium.
 - Economic growth.
 - Reduction in export.
- Which of the following is not a quantitative credit control measure ?
 - Bank rate.
 - Cash reserve ratio.
 - Regulation of margin requirement.
 - Open Market operation.

8. The lowest point in the business cycle is referred to as the :
- (A) Expansion. (B) Boom.
(C) Trough. (D) Peak.
9. When aggregate economic activity is declining, the economy is said to be in :
- (A) A contraction. (B) An expansion.
(C) A trough. (D) A turning point.
10. The LM curve has a _____ slope.
- (A) Positive. (B) Negative.
(C) Parallel. (D) No slope.
11. ISLM is used to determine :
- (A) Income. (B) Interest.
(C) Both. (D) All.
12. The relationship between income and interest in the IS curve is :
- (A) Direct. (B) Indirect.
(C) No relation. (D) None.
13. In the IS curve which are the variables are in equilibrium ?
- (A) Investment. (B) Saving.
(C) Both. (D) None.
14. Great depression happened in the year of _____.
- (A) 1929. (B) 1932.
(C) 1940. (D) 2008.

Turn over

15. The great depression was caused by what major event ?
- (A) An increase in federal spending.
 - (B) The stock market crash.
 - (C) Automobile workers going on strike.
 - (D) President Hoover announcing a war.
16. Great Depression was between _____ and _____.
- (A) 1929, 1939.
 - (B) 1930, 1950.
 - (C) 1928, 1930.
 - (D) 1930, 1940.
17. The term business cycle refers to _____.
- (A) Fluctuations in aggregate economic activity over time.
 - (B) Ups and down in the production of goods.
 - (C) Increasing unemployment.
 - (D) Declining savings.
18. Expansion phase all but one of the following characteristics :
- (A) Increase in national output.
 - (B) Increase in consumer spending.
 - (C) Excess production capacity of industries.
 - (D) Expansion of bank credit.
19. Which one of the following is not the characteristic of business cycle?
- (A) They are recurrent.
 - (B) They are not at regular intervals.
 - (C) They have uniform causes.
 - (D) All the above.
20. An unrealistically low unemployment target will most likely result in
- (A) Inflation.
 - (B) An unemployment rate falling below the natural rate.
 - (C) Excessive monetary growth.
 - (D) All of the above.

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4B 06—MACROECONOMICS—II

Time : Two Hours and a Half

Maximum : 80 Marks

Section A (Short Answer Questions)

Answer at least ten questions.

Each question carries 3 marks.

All questions can be attended.

Overall Ceiling 30.

1. What is meant by Trade-off ?
2. Define headline inflation.
3. What is meant by deflator ?
4. Define Sacrifice ratio.
5. What is public spending ?
6. Explain ex-post saving.
7. Explain the relationship between bond price and interest rate.
8. Distinguish between monetary policy and fiscal policy.
9. What is investment multiplier ?
10. Distinguish between WPI and CPI.
11. What is meant by wage-price spiral ?
12. Define cyclical unemployment.
13. What is meant by Usual Status Unemployment ?
14. What is 'Trough' point in business cycle ?
15. What is meant by Quantitative easing ?

(10 × 3 = 30 marks)

Turn over

Section B (Short Essay Questions)

Answer at least five questions.

Each question carries 6 marks.

All questions can be attended.

Overall Ceiling 30.

16. What determines the slope of IS curve ?
17. What are the important properties of LM curve ?
18. Distinguish between structural and demand pull theory of inflation.
19. Critically examine the Okun's law.
20. What are the important phases of business cycle ?
21. What are the different types and methods of measurement of unemployment in India.
22. Examine the counter-cyclical fiscal policy measures of business cycle ?
23. What is meant by monetary transmission mechanism ?

(5 × 6 = 30 marks)

Section C (Long Essay Questions)

Answer any two questions.

Each question carries 10 marks.

24. What is NAIRU ? Critically examine the short run and long run Phillips curve.
25. Examine the importance of simultaneous equilibrium of goods and money market in an economy.
26. Make a comparative study of Hawtrey's and Hayek's theory of business cycle.
27. What are the important fiscal and monetary policy instruments ? Discuss the effectiveness of these policies in combating inflation.

(2 × 10 = 20 marks)

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4B 05—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—II

(Multiple Choice Questions for SDE Candidates)

Time : 15 Minutes**Total No. of Questions : 20****Maximum : 20 Marks****INSTRUCTIONS TO THE CANDIDATE**

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. The candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer-book.
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ECO 4B 05—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—II

(Multiple Choice Questions for SDE Candidates)

1. A good index number is one which satisfies :

- (1) Unit test. (2) Time reversal test.
(3) Factor reversal test.

Which of the following is correct ?

- (A) 1 only. (B) 2 only.
(C) 2 & 3. (D) 1, 2 & 3.

2. Consumer price index number indicates :

- (A) The General price level. (B) The Wholesale price level.
(C) Export price. (D) All of these.

3. The principle of least squares can be used for finding _____.

- (A) Cyclical variation. (B) Irregular variation.
(C) Seasonal variation. (D) Secular trend.

4. The day to day irregularities in business activity are the example of :

- (A) Secular trend. (B) Seasonal fluctuations.
(C) Cyclical fluctuations. (D) Random or erratic fluctuations.

5. Method of moving average is used to measure _____.

- (A) Secular trend. (B) Seasonal Variations.
(C) Cyclical variation. (D) Irregular Variation.

6. A lock-out in a factory for a month is associated with the component of time series :

- (A) Trend. (B) Seasonal variation.
(C) Cyclic variation. (D) Irregular variation.

7. Consumer price index number is constructed for :

- (A) A well defined section of people. (B) Workers only.
(C) All people. (D) All the above.

8. Which one is not the test of index Number ?
- (A) Unit test. (B) Time reversal test.
(C) Triangular test. (D) Factor reversal test.
9. Test to determine whether a given method will work both forward & backward :
- (A) Unit test. (B) Factor reversal test.
(C) Time reversal test. (D) None.
10. Data which are collected, observed or recorded at successive intervals of time is known as _____.
- (A) Index Numbers. (B) Time series.
(C) Regression. (D) Correlation.
11. Earthquake is an example of :
- (A) Secular trend. (B) Seasonal variation.
(C) Cyclical variation. (D) Irregular variation.
12. Derivative of e^x is :
- (A) xe^{x-1} . (B) e^x .
(C) $\log e^x$. (D) $\frac{1}{e^x}$.
13. $\frac{d}{dx} x^{-3}$ is :
- (A) $3x^{-4}$. (B) $-3x^{-2}$.
(C) $3x^{-4}$. (D) $3x^{-2}$.
14. $\frac{d}{dx} x \log x$ is :
- (A) $\frac{1}{x}$. (B) $1 + \log x$.
(C) $1 \log x$. (D) None of these.

Turn over

15. A function is said to be minimum :
- (A) $f' = 0$ and $f'' > 0$. (B) $f' = 0$ and $f'' < 0$.
(C) $f' > 0$ and $f'' = 0$. (D) $f' < 0$ and $f'' = 0$.
16. At $x = 2$ the function $-3x^2 + 12 + 6$ is :
- (A) Maximum. (B) Minimum.
(C) Point of Inflection. (D) None of the above.
17. Increasing function if and only if its derivatives on (a, b) is :
- (A) Negative. (B) Non - Negative.
(C) Non-positive. (D) None of the above.
18. _____ - probability is the probability of a single event without consideration of Any other event.
- (A) Conditional event. (B) Compound event.
(C) Marginal event. (D) None of the above.
19. Complete count of the heads of people of a country is known as :
- (A) Census. (B) Vital statistics.
(C) Demography. (D) None of the above.
20. The registration of vital statistics in India suffers from :
- (A) Incomplete reporting. (B) Incomplete coverage.
(C) Lack of accuracy. (D) All the above.

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4B 05—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—II

Time : Two Hours and a Half

Maximum : 80 Marks

Section A (Short Answer Questions)

Answer at least ten questions.

Each question carries 3 marks.

All questions can be attended.

Overall Ceiling 30.

1. Evaluate the limit of the function :

$$\lim_{x \rightarrow 3} \frac{x^2 - 2x - 3}{x^2 + x - 12}$$

2. Find the $\frac{dy}{dx}$ of the following functions :

(i) $y = 5x^4$; (ii) $y = 5e^{3x}$; (iii) $y = \frac{5}{2x^2}$; and (iv) $y = 4x^{-5}$.

3. What are the important conditions for Maxima and Minima ?
4. Explain the relationship between AR, MR and Elasticity.
5. Distinguish between WPI and CPI.
6. Mention the three important characteristics of Index Numbers.
7. What is Factor reversal test ?
8. What do you mean by Principle of least squares ?
9. Define Infant Mortality rate.
10. What is Sex ratio ?

Turn over

11. Name different types of fertility rates.
12. Explain the term (i) Sample space ; and (ii) Sample point.
13. Explain Classical definition of Probability.
14. A box contains 2 white socks and 2 blue socks. Two socks are drawn at random.
Find the probability 'p' they are match (same colour).
15. What is a mutually exclusive event ?

(10 × 3 = 30 marks)

Section B (Short Essay Questions)*Answer at least five questions.**Each question carries 6 marks.**All questions can be attended.**Overall Ceiling 30.*

16. Find if $y = \frac{x^2 - 1}{x^2 + 1}$.
17. The cost function for the production of 'x' units of an item is given by $10 - 4x^2 + 3x^3$.
Find (i) Average cost ; and (ii) Marginal cost.
18. What are the general uses of index numbers ?
19. Calculate the index number for 2019 taking 2009 as base by price relative method using Arithmetic Mean :

Commodities	A	B	C	D
Price in Rs. (2009)	10	20	30	40
Price in Rs. (2019)	13	17	60	70

20. What are the important measurements of Mortality ?
21. Explain the concept of base shifting, splicing and deflating.
22. Two coins are tossed, what is the probability of getting (i) Both heads ; (ii) One head ; (iii) At least one head ; (iv) No head.
23. The letters of the word "STATISTICS" are written on 10 identical cards. If two cards are drawn at random, what is the probability that (i) one 'S' and one 'I' will occur ; (ii) two 'T' will occur.

(5 × 6 = 30 marks)

Section C (Long Essay Questions)

Answer any two questions.

Each question carries 10 marks.

24. What are the important components of Time Series ?
25. Calculate weighted index number by (i) Laspey's method ; (ii) Paasche's method ; (iii) Fisher index method ; and (iv) Marshall-Edge worth method from the data given below :

Commodity	Price		Quantity	
	Base Year	Current Year	Base Year	Current Year
A	4	7	10	8
B	5	9	8	6
C	6	8	15	12
D	2	1	5	6

26. Briefly elaborate the main indicators of Vital statistics.
27. Examine the function $f(x) = (x-1)^3(x+1)^2$ for maxima and minima.

(2 × 10 = 20 marks)

FOURTH SEMESTER (CUCBCSS-UG) DEGREE EXAMINATION, APRIL 2021**Economics****ECO 3C 04 AND ECO 4C 04—MATHEMATICAL TOOLS FOR ECONOMICS—III AND IV****(Multiple Choice Questions for SDE Candidates)****Time : 15 Minutes****Total No. of Questions : 20****Maximum : 20 Marks****INSTRUCTIONS TO THE CANDIDATE**

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. The candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer-book.
4. The MCQ question paper will be supplied after the completion of the descriptive examination.

ECO 3C 04 AND ECO 4C 04—MATHEMATICAL TOOLS FOR ECONOMICS—III AND IV

(Multiple Choice Questions for SDE Candidates)

1. Derivative of x^{-4} is :

- (A) $-4x^{-3}$. (B) $-\frac{4}{x^5}$.
(C) $-4x^3$. (D) $4x^3$.

2. If $y = e^x$ then the $\frac{dy}{dx}$ is :

- (A) xe^{x-1} . (B) xe .
(C) ex^{-1} . (D) e^x .

3. An equation which does not directly express 'y' in terms of 'x' is called :

- (A) Derivative of a function. (B) Explicit function.
(C) Implicit function. (D) Common function.

4. A function that increases or decreases over its entire domain is called :

- (A) Increasing function. (B) Decreasing function.
(C) Constant function. (D) Monotonic function.

5. A point in the domain of a function where the derivative equals zero or undefined is called :

- (A) Maximum. (B) Minimum.
(C) Critical value. (D) Inflection point.

6. The point of inflection is a point where the graph of the function changes :

- (A) From convex to concave.
(B) Concave to convex.
(C) Convex to concave or concave to convex.
(D) Any of the above.

7. A function is said to be maximum at $x = a$ if :

- (A) $\frac{dy}{dx} > 0$. (B) $\frac{dy}{dx} < 0$.
(C) $\frac{d^2y}{dx^2} > 0$. (D) $\frac{d^2y}{dx^2} < 0$.

8. At $x = 1$ the function $y = 3x^2 - 6x + 10$ attain :
- (A) Maximum. (B) Minimum.
(C) Inflection point. (D) Monotonous.
9. When $AR = 20$ and $MR = -60$, the price elasticity of demand is :
- (A) $\frac{1}{4}$. (B) $-\frac{1}{2}$.
(C) 40. (D) 80.
10. Definite integral is defined as :
- (A) The value of the integral at the upper limit less its value at the lower limit.
(B) The value of the integral at the upper limit plus its value at the lower limit.
(C) The value of the integral at the lower limit less its value at the upper limit.
(D) The value of the integral at the upper limit multiplied by its value at the upper limit.
11. By Young's theorem, if both cross partial derivatives are continuous, they will be :
- (A) Different. (B) Not exist.
(C) Identical. (D) None of these.
12. In the Lagrange function, λ represents :
- (A) Constraint. (B) Lagrange multiplier.
(C) Objective function. (D) None of these.
13. A partial differential measures the change in the :
- (A) Dependent variables resulting from a small change in one of the independent variables and assumes the other independent variables are constant.
(B) Independent variables keeping dependent variable constant.
(C) Dependent variables due to a change in all the independent variables.
(D) None of these.
14. Which of the following is an example for implicit function ?
- (A) $y = 2x + 5$. (B) $8x^2 + 10xy + 5 = 0$.
(C) $x = 9y + 10$. (D) None of these.

Turn over

15. The integral of a constant K is :
- (A) K . (B) $Kx + c$.
(C) 0 . (D) Cannot be determined.
16. The integral of the negative of a function equals :
- (A) The negative of the integral of that function.
(B) The integral of that function itself.
(C) Inverse of that function.
(D) None of these.
17. The integral of $6x^5$ is :
- (A) $x^6 + c$. (B) $1/6 x^6 + c$.
(C) $x^5 + c$. (D) $x + c$.
18. Reversing the order of the limits :
- (A) Changes the sign of the definite integral.
(B) Changes the value of the integral.
(C) Not affects value or sign of definite integral.
(D) All the above.
19. An equation which expresses an explicit or implicit relationship between a function and one or more of its derivative or differentials is called :
- (A) Integral equation. (B) Differential equation.
(C) Implicit equation. (D) None of these.
20. Optimisation refers to :
- (A) Minimisation. (B) Maximisation.
(C) Minimisation or Maximisation. (D) None of the above.

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Economics

ECO 3C 04 AND ECO 4C 04—MATHEMATICAL TOOLS FOR ECONOMICS—III AND IV

Time : Three Hours

Maximum : 80 Marks

Section A

*Answer all questions.**Each question carries ½ mark.*

PART I

1. The limit value of $\frac{x^2-1}{x-1}$ as $x \rightarrow 1$:

- (a) 0.
(c) 2.

- (b) 1.
(d) 4.

2. $\frac{1}{x^2-4}$ is discontinuous at :

- (a) $x = 0$.
(c) $x = -2$.

- (b) $x = 2$.
(d) At $x = 2$ and $x = -2$.

3. The derivative of $\log x$ with respect to x is :

- (a) $\frac{1}{x}$.
(c) e^x .

- (b) x .
(d) None.

4. The derivative of $x^2 + 2xy + y^2 = 4$ is :

- (a) 1.
(c) -1.

- (b) 0.
(d) -2.

5. Optimisation means :

- (a) Maximisation.
(c) None of them.

- (b) Minimisation.
(d) Any of them.

Turn over

6. If the total revenue function is given as $R = 3x^2 - 2x$, MR is:

(a) $x^2 - 2$.

(b) $6x$.

(c) $6x - 2$.

(d) $6x + 2$.

PART II

7. If the utility function $u = 5xy - y^2$; then the marginal utility of x is:

(a) $5x$.

(b) $5y - 2y$.

(c) $5y$.

(d) $5x - 2y$.

8. Profit is the difference between:

(a) TR and AR.

(b) AR and MR.

(c) MR and MC.

(d) TR and TC.

9. $\int 5 dx = \underline{\hspace{2cm}}$.

(a) $5x + C$.

(b) 5 .

(c) x .

(d) $5x^5$.

10. If $MC = 3 - 2x - x^2$, then the Total Cost is:

(a) $2x^2 - x^3$.

(b) $3x - x^2 - \frac{x^3}{3} + C$.

(c) $x^2 - \frac{x^3}{3} + C$.

(d) $3x - 2x^2 - x^3$.

11. The area beneath the curve $y = f(x)$ between a and b is given by:

(a) $\int_a^b f(x) dx$.

(b) $\int_b^a f(x) dx$.

(c) $\int_a^b x dx$.

(d) $\int_b^a x dx$.

12. In the linear homogeneous production function ($Q = A L^\alpha K^\beta$), if $\alpha + \beta = 1$ then the production will operate under :
- Constant returns to scale.
 - Diminishing returns to scale.
 - Increasing returns to scale.
 - None of these.

(12 × ½ = 6 marks)

Section B (Very Short Answer Questions)**PART I***Answer any five questions.**Each question carries 2 marks.*

- Define point of inflexion.
- Show that $f(x) = 3x^2 + 2x - 1$ is continuous at $x = 2$.
- Define marginal revenue.
- Find $f(2)$ and $f'(2)$ for the function $f(x) = 3x^3 + 4x^2 + 5$.
- What is a homogeneous function ?
- Define concave of an interval.

(5 × 2 = 10 marks)

PART II*Answer any five questions.**Each question carries 2 marks.*

- If $u = xy + yz + zx$, find $\frac{\partial u}{\partial x}$, $\frac{\partial u}{\partial y}$ and $\frac{\partial u}{\partial z}$.
- What is consumer's surplus ?
- Integrate $x^3 - x + 1$.

Turn over

22. If $U = f(x, y)$, then explain the conditions for minima.
23. Compute Marginal Productivity of Labour for the production function

$$U = 2L^2k + 3LK^3 + 6L + 9K.$$

24. Evaluate $\int e^{7x} dx$.

(5 × 2 = 10 marks)

Section C (Short Essay / Problem)

PART I

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

25. Find $\lim_{x \rightarrow 2} (x^3 + 2x + 1)$.
26. Find the differential co-efficient of :

(a) $y = (x^3 + 3)(2x^2 - 3x^3)$; and (b) $y = \frac{x-2}{x^3}$.

27. Find the maxima and minima of the function $y = 2x^3 - 6x$.
28. Given the Demand and Supply function as $D = 9p + 20$ and $S = 11p + 14$, find out the price and output level of the market.

(3 × 5 = 15 marks)

PART II

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

29. For the Total Utility function $U = (3x + 7y)(x - 5)$, find marginal utility of x and y at $x = 2$ and $y = 1$.
30. If AR is Rs. 30 and the price elasticity is 4, find MR.

31. If the Marginal Revenue Function $R = 9 - 4x^2$, find out the Total Revenue function.
32. Integrate the following functions :

(a) $4x^2(x^3 + 5)^3$; and (b) $\int_2^4 (3x - 2)^2$.

(3 × 5 = 15 marks)

Section D (Essay Questions)

PART I

Answer any one question.

The question carries 12 marks.

33. Given the following Revenue and Cost functions for a firm $R = 100q - 2q^2$ and $C = 50 + 2q$, find the equilibrium level of output, price, total revenue, total cost and profit.
34. Solve for consumer's equilibrium, if the utility function $U = 8x_1x_2$, price of commodity x_1 (p_1) = Rs. 2 and price of commodity x_2 (p_2) = Rs. 6 and consumer's money income (m) = Rs. 30. Also prove the conditions for maximization.

(1 × 12 = 12 marks)

PART II

Answer any one question.

The question carries 12 marks.

35. Investigate the maximum or minimum value of the following function

$$z = 48 - 4x^2 - 2y^2 + 16x + 12y.$$

36. Explain the method of Lagrange's multiplier.

(1 × 12 = 12 marks)

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, APRIL 2021

Economics

ECO 3C 03 AND ECO 4C 03—BANKING III AND IV

Time : Three Hours

Maximum : 80 Marks

*Answers may be written either in English or in Malayalam.***Part A***Answer all twelve questions.*

- Qualitative instruments of monetary policy does not include :
 - Margin requirements.
 - Direct action.
 - Moral suasion.
 - Open market operations.
- Who regulates the money circulation in India ?
 - RBI.
 - SBI.
 - NABARD.
 - Commercial Banks.
- RBI was nationalized in :
 - 1935.
 - 1949.
 - 1956.
 - 1964.
- IDBI was established in :
 - 1948.
 - 1955.
 - 1964.
 - 1982.
- SLR stands for :
 - Single lens route.
 - Statutory Liquidity Ratio.
 - Statutory Liability Ratio.
 - None of these.
- Under which of the following methods of note issue, RBI issues currency notes :
 - Minimum Reserve System.
 - Minimum Fiduciary System.
 - Fixed Fiduciary System.
 - Proportional Reserve System.

Turn over

7. Name of the national level financial institution established for the financing of agriculture and rural development :
- (a) SBI. (b) Imperial bank.
(c) NABARD. (d) UTI.
8. Total number of public sector banks in India :
- (a) 20. (b) 21.
(c) 22. (d) 23.
9. 14 major commercial banks were nationalized in :
- (a) 1969. (b) 1980.
(c) 1976. (d) 1991.
10. Which is not included in the priority sector ?
- (a) Agriculture. (b) SSI.
(c) Housing finance. (d) Large scale industries.
11. Who sponsors Regional Rural Banks ?
- (a) Government of India. (b) RBI.
(c) Nationalised commercial banks. (d) None of these.
12. The major objective of government to appoint Narasimham Committee :
- (a) To improve customer service. (b) To strengthen banking system.
(c) To strengthen the credit portfolio. (d) None of these.

(12 × ½ = 6 marks)

Part B (Very Short Answer Type Questions)

Answer any ten questions.

13. Define credit control.
14. What is meant by capital market ?
15. Write a note on bank rate.
16. Write a note on NIDC.
17. Write a note on SEBI.
18. What is central bank ?
19. Write a note on cooperative bank.

20. What is Land development bank ?
21. What is Regional Rural Banks ?
22. What are the objectives of NABARD ?
23. What is meant by public sector banks ?
24. Explain the problems of RRBs.

(10 × 2 = 20 marks)

Part C (Short Essays)

Answer any six questions.

25. Explain the qualitative methods of credit control.
26. Explain the important functions of IDBI.
27. Explain the note issue system in India.
28. Write a note on Development Banks.
29. What are the functions of regional rural banks.
30. Explain the recommendations of Narasimham committee II.
31. Explain the organization and structure of land development banks in India.
32. Explain the problems faced by cooperative banks.

(6 × 5 = 30 marks)

Part D (Essay Questions)

Answer any two questions.

33. What is meant by credit control policy of central bank ? What are its objectives ?
34. Explain the functions of RBI.
35. Explain the impact of financial liberalization in India.
36. Discuss the objectives and functions of NABARD.

(2 × 12 = 24 marks)

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION, APRIL 2021

Economics

ECO 3C 02 AND ECO 4C 02—CO-OPERATION III AND IV

Time : Three Hours

Maximum : 80 Marks

*Answers may be written either in English or in Malayalam.***Part A***Answer all twelve questions.**Each question carries ½ mark.*

- 1) State farm is a feature of _____ ?
 - (a) UK.
 - (b) USSR.
 - (c) USA.
 - (d) UAE.
- 2) Balwant Mehta Committee was on _____ ?
 - (a) 1980.
 - (b) 1990.
 - (c) 1970.
 - (d) 1960.
- 3) 'Anand Pattern' co-operatives were famous for _____ ?
 - (a) Dairy.
 - (b) Vegetables.
 - (c) Coir.
 - (d) Jute.
- 4) EEZ is connected with _____ ?
 - (a) Fisheries.
 - (b) Clean bill.
 - (c) Sight bill.
 - (d) All the above.
- 5) In India housing co-operative movement was started in _____ ?
 - (a) UP.
 - (b) MP.
 - (c) Mysore.
 - (d) Cochin.
- 6) Organisational effort on co-operative education started in _____ ?
 - (a) Mumbai.
 - (b) Madras.
 - (c) Cochin.
 - (d) Kolkata.

Turn over

- 7) _____ is the premier institute for HRD in Co-operatives ?
(a) Denmark. (b) Pune.
(c) Goa. (d) All the above.
- 8) Swaminathan report on co-operative education and training was on _____ ?
(a) 1972. (b) 1977.
(c) 1973. (d) 1975.
- 9) _____ is running programmes for co-operative education?
(a) NSUI. (b) NCUI.
(c) NCL. (d) NIUI.
- 10) The ICA commission was on _____ ?
(a) 1988. (b) 1977.
(c) 1966. (d) 1999.
- 11) Education of the members of co-operatives was recommended by _____ commission ?
(a) DAD (b) ADD.
(c) AIC. (d) ICA.
- 12) New Delhi is the centre for _____ ?
(a) NDDE. (b) NCCE.
(c) NCDE. (d) NDCE.

(12 × ½ = 6 marks)

Part B (Very Short Answer Type Questions)

SECTION I

*Answer any five questions.
Each question carries 2 marks.*

- 13) What are the problems of industrial co-operatives in India ?
- 14) State the objectives of NCHF.
- 15) Define co-operative housing.
- 16) Explain the nature of crop insurance in Kerala.
- 17) Define co-operative marketing in the Kerala context.
- 18) State the nature of NCCF.

(5 × 2 = 10 marks)

Part D (Essay Questions)**SECTION I**

*Answer any one question.
The question carries 12 marks.*

- 33) Explain the nature and importance of Indian agricultural co-operation.
34) Prepare a note on non-agricultural co-operation.

(1 × 12 = 12 marks)

SECTION II

*Answer any one question.
The question carries 12 marks.*

- 35) Prepare a note on co-operative education and training.
36) Explain the features of Vaidyanathan Commission Report.

(1 × 12 = 12 marks)

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SECTION II

*Answer any five questions.
Each question carries 2 marks.*

- 19) What is the meaning of Co-operative training ?
- 20) What are the problems of Co-operative training in India ?
- 21) Explain the role of HRD in the Indian Co-operatives.
- 22) Explain the nature of relationship between co-operatives and SHGs in Kerala.
- 23) Explain the role of co-operative movement in the Kerala context.
- 24) State the history of co-operative movement in Kerala.

(5 × 2 = 10 marks)

Part C (Short Essay Questions)

SECTION I

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

- 25) Explain the co-operative farming experiments in foreign countries.
- 26) Explain the co-operative agricultural produce storage.
- 27) Briefly explain the co-operatives for weaker sections in India.
- 28) Explain the dairy co-operatives under operation flood programme.

(3 × 5 = 15 marks)

SECTION II

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

- 29) Briefly explain the objectives of consumers' co-operatives in India.
- 30) Explain the different types of housing co-operatives.
- 31) What are the achievements of Kudumbasree in Kerala ?
- 32) Explain the components of the co-operative education programme of NCUI.

(3 × 5 = 15 marks)

Turn over

**FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021****Economics****ECO 3C 01 AND ECO 4C 01—ESSENTIALS OF ECONOMICS—MONEY, BANKING,
FINANCE AND TRADE AND INDIAN ECONOMY****(Multiple Choice Questions for SDE Candidates)****Time : 15 Minutes****Total No. of Questions : 20****Maximum : 20 Marks****INSTRUCTIONS TO THE CANDIDATE**

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. The candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer-book.
4. The MCQ question paper will be supplied after the completion of the descriptive examination.

ECO 3C 01 AND ECO 4C 01—ESSENTIALS OF ECONOMICS—MONEY, BANKING,
FINANCE AND TRADE AND INDIAN ECONOMY

(Multiple Choice Questions for SDE Candidates)

1. A decrease in the domestic currency price of foreign currency is :
(A) Depreciation. (B) Appreciation.
(C) Euro currency. (D) Hedging.
2. Balance of payment consist of :
(A) Trade in visible. (B) Trade in invisibles.
(C) International capital flows. (D) All of the above.
3. Transaction in travel, transportation and insurance between countries is included under :
(A) Merchandise. (B) Official reserves.
(C) Invisibles. (D) None of the above.
4. Under fixed exchange rate system, when domestic currency is moved to a higher parity in terms of vehicle currency is :
(A) Appreciation. (B) Depreciation.
(C) Devaluation. (D) Revaluation.
5. Price revenue is popularly known as :
(A) Market borrowing. (B) Government borrowing.
(C) Commercial revenue. (D) Surplus of public undertakings.
6. The basic principle of Public Finance is :
(A) Maximum social advantage. (B) Welfare of the government.
(C) Welfare of the individual. (D) All the above.
7. When income and expenditure of the government are equal, the budget is :
(A) Deficit. (B) Surplus.
(C) Balanced. (D) None of the above.

8. The contribution of Primary sector to GDP in 2011-12 is :
- (A) 13.9. (B) 14.5.
(C) 56.5. (D) 29.1.
9. Which is the largest contributing sector to India's GDP ?
- (A) Agriculture. (B) Industry.
(C) Service. (D) None.
10. In the service sector which subsector shows highest growth rate ?
- (A) Trade, hotels and restaurants.
(B) Financing, Insurance, Real Estate.
(C) Community, Social and Personal services.
(D) Transport, storage and communication.
11. The literacy rate of Kerala in 2011 :
- (A) 91.91. (B) 90.92.
(C) 93.91. (D) 95.94.
12. The threats to Tourism industry in Kerala does not include :
- (A) Global warming. (B) Changing weather patterns.
(C) Safe. (D) All.
13. TRYSEM was established in :
- (A) 1996. (B) 1990.
(C) 1980. (D) 1979.
14. Which of the following is an urban employment generation programme ?
- (A) MGNREGS. (B) SGSY.
(C) SJSRY. (D) PMGSY.
15. Which of the following Five Year Plans was terminated one year before its completion ?
- (A) Second. (B) Third.
(C) Fourth. (D) Fifth.

Turn over

16. The Second Five Year Plan laid more stress upon :
- (A) Agriculture.
 - (B) Industrialization.
 - (C) Removing poverty.
 - (D) Self reliance.
17. For internal financing of Five Year Plans, the government depends on :
- (A) Taxation only.
 - (B) Taxation and public borrowing.
 - (C) Public borrowing and deficit financing.
 - (D) Taxation, public borrowing and deficit financing.
18. A major shift in the Eighth Five Year Plan from it preceding ones was :
- (A) The concentration of investment in infrastructural sector.
 - (B) Major investment in agriculture with a view to promoting exports.
 - (C) Major investment in sectors where industrial sickness has been a chronic problem.
 - (D) The significant reduction in public sector outlays.
19. Which one of the following is related to the commodity money ?
- (A) Stones.
 - (B) Cattles.
 - (C) Grains.
 - (D) All of the above.
20. Find the odd man out with reference to money :
- (A) Copper.
 - (B) Silver.
 - (C) Cattles.
 - (D) Gold.

**FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

**ECO 3C 01 AND ECO 4C 01—ESSENTIALS OF ECONOMICS—MONEY, BANKING,
FINANCE AND TRADE AND INDIAN ECONOMY**

Time : Three Hours

Maximum : 80 Marks

Section A (Objective Type Questions)

PART I

Answer all questions.

Each question carries ½ mark.

- Who is the present governor of the RBI ?
 - Raghuram Rajan.
 - Urjit Patel.
 - C.Rangarajan.
 - Bimal Jalan.
- A situation when a recession is accompanied by inflation :
 - Hyper Inflation.
 - Creeping inflation.
 - Stagflation.
 - Reflation.
- The following is not a function of the central bank :
 - Issue of currency.
 - Banker to government.
 - Accepting deposits.
 - Control of credit.
- M3 consist of :
 - Currency with public + demand deposits+ other deposits.
 - M1 plus time deposits with commercial and cooperative banks.
 - M2 plus time deposits with commercial and co-operative banks.
 - M2 plus post office savings account.
- The following is a direct tax :
 - Excise duty.
 - VAT.
 - Corporate tax.
 - Sales tax.

Turn over

6. The economic transactions of residents of a country with the residents of rest of the world is included in the following account :
- a) Budget account.
 - b) Balance of trade account.
 - c) Foreign exchange account.
 - d) Balance of payment account.

PART II

7. Blue revolution refers to the increase in the production of which of the following :
- a) Milk.
 - b) Oilseeds.
 - c) Fish.
 - d) Egg.
8. Industrialization became the main objective from which five year plan onwards ?
- a) First.
 - b) Second.
 - c) Third.
 - d) Fourth.
9. The annual plan was introduced in India during which time period ?
- a) 1956-59.
 - b) 1961-64.
 - c) 1966-69.
 - d) 1974-77.
10. Sex ratio of Kerala in 2011 census is :
- a) 1084.
 - b) 1056.
 - c) 984.
 - d) 1121.
11. Who advocated people's plan in India ?
- a) P.C. Mahalanobis.
 - b) Jawaharlal Nehru.
 - c) Amartya Sen.
 - d) M.N Roy.
12. The following unemployment occurs when the marginal productivity of labour is zero :
- a) Open unemployment
 - b) Under employment.
 - c) Structural unemployment.
 - d) Disguised unemployment.

(12 × ½ = 6 marks)

PART II

Answer any three questions.

29. What are the objectives of planning in India ?
30. Briefly examine the various types of unemployment in India.
31. Compare the contribution of various sectors in terms of output and employment to the Indian economy.
32. Examine the impact of migration on Kerala economy.

(6 × 5 = 30 marks)

Section D (Essay Questions)

PART I

Answer any one question.

33. Explain how the various instalments of monetary policy are used by the central bank for economic stability ?
34. Critically evaluate Fischer's quantity theory of money.

PART II

Answer any one question.

35. Poverty is a major challenge facing the Indian economy. What are its causes and what remedial and policy measures are undertaken by the government for the removal of poverty.
36. Examine the paradox of Kerala's development experience. What are its major achievements and drawbacks ?

(2 × 12 = 24 marks)

Section B (Very Short Answer Questions)

PART I

Answer any five questions.

13. What is monetary policy ?
14. State the agency functions of commercial banks.
15. State two differences between central bank and commercial bank
16. How does currency appreciation affect exports ?
17. State the functions of money.
18. Distinguish between devaluation and depreciation.

PART II

Answer any five questions.

19. What is underemployment ?
20. What is regional inequality ?
21. State two objectives of land reforms in India.
22. What are the components of Green revolution ?
23. Write a note on India's First Five year Plan.
24. Name any four poverty alleviation programmes in India.

(10 × 2 = 20 marks)

Section C (Short Essay Questions)

PART I

Answer any three questions.

25. Explain the various sources of revenue for the government.
26. What are the measures of money supply in India.
27. Distinguish between balance of trade and balance of payments.
28. What is foreign exchange rate and how is it determined ?

Turn over

**FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021****Economics****ECO 4B 06—COMPUTER APPLICATION FOR ECONOMIC ANALYSIS****(Multiple Choice Questions for SDE Candidates)****Time : 15 Minutes****Total No. of Questions : 20****Maximum : 20 Marks****INSTRUCTIONS TO THE CANDIDATE**

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. The candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer-book.
4. The MCQ question paper will be supplied after the completion of the descriptive examination.

ECO 4B 06—COMPUTER APPLICATION FOR ECONOMIC ANALYSIS

(Multiple Choice Questions for SDE Candidates)

- Which of the items below are considered removable storage media ?
 - Removable hard disk cartridges.
 - (Magneto-optical) disk.
 - Flexible disks cartridges.
 - All of the above.
- The brain of any computer system is :
 - ALU.
 - Memory.
 - CPU.
 - Control unit.
- The word length of a computer is measured in :
 - Bytes.
 - Millimetres.
 - Meters.
 - Bits.
- Signals can be analog or digital and a computer that processes the both type of signals is known as :
 - Analog computer.
 - Digital Computer.
 - Hybrid Computer.
 - Mainframe Computer.
- Which generation of computer is still under development ?
 - Fourth Generation.
 - Fifth Generation.
 - Sixth Generation.
 - Seventh Generation.
- Software in computer :
 - Enhances the capabilities of the hardware machine
 - Increase the speed of central processing unit.
 - Both of above.
 - None of above.
- The key board shortcut for making fonts bold is :
 - Ctrl + C.
 - Ctrl + B.
 - Ctrl + X.
 - Alt + B.

16. Quadratic trend line is polynomial of order :
- (A) 1. (B) 2.
(C) 3. (D) 4.
17. Which among the following is used as model selection criteria for trend lines ?
- (A) Correlation co-efficient. (B) Constant.
(C) Slope. (D) R^2 .
18. The title slide consists of :
- (A) Title Place holder.
(B) Subtitle Place holder.
(C) Both Title and subtitle Place holders.
(D) None of the above.
19. Which of the following is not an option of transition ?
- (A) Wipes. (B) Push and cover.
(C) Random. (D) Orijel.
20. Which tab is not available on left panel when you open a presentation ?
- (A) Outline. (B) Slides.
(C) Notes. (D) All of above.

8. Which of the following is not a font style ?
- (A) Bold. (B) Superscript.
(C) Regular. (D) Italics.
9. From where you can access save command :
- (A) Home tab. (B) Insert tab.
(C) Review tab. (D) None of above.
10. Essential business letter elements include the _____.
- (A) Date line and inside address. (B) Message.
(C) Signature bloc. (D) All of above.
11. A command under a group is known as _____.
- (A) Button. (B) Tab.
(C) Ribbon. (D) None of above.
12. _____ useful to display trend of an economic variable over a time period
- (A) Line chart. (B) Bar chart.
(C) Pie Chart. (D) Scatter plot.
13. Which of the following is forecasting tool ?
- (A) Moving Average. (B) Variance.
(C) Linear trend line. (D) Cubic trend line.
14. _____ means the structure or order of the elements of a formula
- (A) Operator. (B) Cell.
(C) Formula Syntax. (D) Operand.
15. In Excel spread sheet, the currently active cell is indicated by :
- (A) Cell Pointer. (B) Formula bar.
(C) Toolbar. (D) None of the above.

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(Pages : 4)

Name.....

Reg. No.....

**FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

Economics

ECO 4B 06—COMPUTER APPLICATION FOR ECONOMIC ANALYSIS

Time : Three Hours

Maximum : 80 Marks

Part A (Objective Type Questions)

Attempt all questions.

Each question carries ½ mark.

- Which of the following memory is non-volatile ?
 - SRAM.
 - DRAM.
 - ROM.
 - RAM.
- GUI stands for :
 - Graph user interface.
 - Graphical Universal Interface.
 - Graphical Unique Interface.
 - Graphical User Interface
- Any data or instruction entered into the memory of a computer is considered as :
 - Storage.
 - Information.
 - Input.
 - Output.
- Time during which a job is processed by the computer is :
 - Execution time.
 - Delay time.
 - Real time.
 - Waiting time.
- Which component in a computer is the raw data fed ?
 - Mass memory.
 - Main memory.
 - Logic unit.
 - Arithmetic unit.

Turn over

6. The memory sizes in mainframe computers and advanced technology micro computers are expressed as :
- (a) Bits. (b) Bytes.
(c) Kilobytes. (d) Megabytes.
7. A memory bus is mainly used for communication between :
- (a) Processor and memory. (b) Processor and I/O devices.
(c) I/O devices and memory. (d) Input device and output device.
8. A collection of related instructions organized for a common purpose is referred to as :
- (a) File. (b) Database.
(c) Program. (d) None of the above.
9. Computer system comprises of major units :
- (a) input unit, output unit, control unit.
(b) input unit, output unit, control unit and storage.
(c) input unit, output unit, central processing unit and storage unit.
(d) input, output and storage units.
10. Replacing a word with another word throughout the document can be done :
- (a) Cut and Paste. (b) Find and Replace.
(c) Copy and Paste. (d) Go.
11. Which of the following is not a font style ?
- (a) Bold. (b) Superscript.
(c) Regular. (d) Italics.
12. The extension of database file in excel is :
- (a) .doc. (b) .xls.
(c) .bmp. (d) .pdf.

(12 × ½ = 6 marks)

Part D

Answer any two questions.

Each question carries 12 marks.

Answer need not more than 500 words each.

33. Explain different types of E-Commerce.
34. Draw block diagram of computer organisation and explain each components and its functions.
35. How do you prepare a PowerPoint presentation ? Explain.
36. What is malicious software ? How can it be removed from PC ?

(2 × 12 = 24 marks)

Part B

Answer any ten questions of the following.

Each question carries 2 marks.

13. Define Word Processor.
14. What is a computer virus ?
15. What is secondary memory and give examples ?
16. What is a menu bar ?
17. How a new blank document is created in MS Word ?
18. Write down the steps to use Autofill in excel.
19. What is function library in Excel ?
20. What is a slide transition ?
21. What is a wizard in a presentation ?
22. Define Worldwide Web.
23. What do you mean by online shopping ?
24. Write down the advantages and disadvantages of E-payments.

(10 × 2 = 20 marks)

Part C

Answer any six questions of the following.

Each question carries 5 marks.

25. Distinguish microprocessor and CPU.
26. What are different types of operating system ? Explain.
27. What is a computer and what are its characteristics ?
28. How do you insert video file in a Power Point presentation ?
29. Explain the procedure to compose, attach, and send a same e-mail to multiple address.
30. How do you use formulas and functions in excel ?
31. How does system software differ from application software ? Give examples.
32. Examine the meaning and scope of internet.

(6 × 5 = 30 marks)

Turn over

**FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021****Economics****ECO 4B 05—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—II****(Multiple Choice Questions for SDE Candidates)****Time : 15 Minutes****Total No. of Questions : 20****Maximum : 20 Marks****INSTRUCTIONS TO THE CANDIDATE**

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. The candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer-book.
4. The MCQ question paper will be supplied after the completion of the descriptive examination.

ECO 4B 05—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—II

(Multiple Choice Questions for SDE Candidates)

1. Which one of the following statement is correct ?

- (1) Laspeyres' index shows an upward bias.
- (2) Paastes' index shows an upward bias.
- (3) Laspeyres' index shows an downward bias.
- (4) Paasches' index shows an downward bias.

- (A) 1 and 4.
- (B) 1 only.
- (C) 2 and 3.
- (D) 3 and 4.

2. Which one of the following index numbers is based on Geometric Mean ?

- (A) Laspeyres index number.
- (B) Fischer's index number.
- (C) Paasches index number.
- (D) Bowley's index number.

3. The price index that uses base year quantities as weights is called _____.

- (A) Paasches index.
- (B) Laspeyres index.
- (C) Fischer's index.
- (D) Whole sale price index.

4. Which of the following statement is not correct ?

Fishers' index :

- (A) Lies between Laspeyres' (L) and Paasches' index.
- (B) Is the Arithmetic mean of L and P.
- (C) Is the Geometric mean of L and P.
- (D) Is equal to L or P if $L = P$.

5. Laspeyres index measures change in :

- (A) Fixed market basket.
- (B) Current consumption.
- (C) Both fixed and current market basket.
- (D) None.

6. Marketing allowances for the effect of changing price levels is called _____.
- (A) Splicing. (B) Base shifting.
(C) Deflating. (D) None of these.
7. The consumer price index numbers is also known as _____.
- (A) Cost of living index number. (B) Price of living index.
(C) Retail index. (D) All the above.
8. The method which is not used for estimating seasonal components of a time series :
- (A) Ratio to trend method. (B) Link relative method.
(C) Method of simple average. (D) Method of least squares.
9. Paasches index number is based on :
- (A) Base year quantity. (B) Current year quantity.
(C) Dan year quantity. (D) None.
10. The derivative of e^{x^2} is :
- (A) e^{x^2} . (B) e^{2x} .
(C) $2e^x$. (D) $2x e^{x^2}$.
11. Derivative of $\frac{1}{x^2}$ is :
- (A) $-x^2$. (B) $-2x^{-3}$.
(C) $2x^{-3}$. (D) None of these.
12. A function is said to be minimum :
- (A) $f' = 0$ and $f'' > 0$. (B) $f' = 0$ and $f'' < 0$.
(C) $f' > 0$ and $f'' = 0$. (D) $f' < 0$ and $f'' = 0$.
13. When Revenue is maximum if $R = 3000 - (3 - x)^2$:
- (A) - 9. (B) 9.
(C) - 3. (D) 3.

Turn over

14. The events A and B are exhaustive if,
- (A) $A \cup B = A$. (B) $A \cup B = B$.
- (C) $A \cup B = S$. (D) All of the above.
15. A box contains 15 papers which are numbered from 1 to 15. A paper is drawn random, find the probability that the number is :
- (A) $\frac{7}{15}$. (B) $\frac{15}{7}$.
- (C) $\frac{6}{15}$. (D) $\frac{5}{158}$.
16. The probability of an event always lies in the range of :
- (A) 0 to 2. (B) 0 to 3.
- (C) Less than 1. (D) 0 to 1.
17. The outcomes in an experiment are called :
- (A) Trial. (B) Event.
- (C) Experiment. (D) Random experiment.
18. Complete count of the heads of people of a country is known as :
- (A) Census. (B) Vital statistics.
- (C) Demography. (D) None of the above.
19. The registration of births, deaths and marriages are :
- (A) A fancy of society. (B) A part of medical research.
- (C) A legal document. (D) All the above.
20. Registration of vital statistics is organized at the apex by :
- (A) Director General. (B) Registrar General.
- (C) Census Commissioner. (D) All the above.

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2021

Economics

ECO 4B 05—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—II

Time : Three Hours

Maximum : 80 Marks

*Use of Calculator is permitted.***Part A***Answer all the questions.**Each question carries ½ mark.*

1. $\frac{dz}{dx}$ if $z = 1 - 3xy$ is :

a) $1 - 3x$.

b) $1 - 3y$.

c) $-3x$.

d) $-3y$.

2. $\lim_{x \rightarrow 2} \frac{x^2 - 4}{x - 2}$ is :

a) 0.

b) 4.

c) 8.

d) 16.

3. The total cost function is $\frac{1}{3}Q^3 + 20$. The marginal cost function is

a) $3Q^2 + 20$.

b) Q^2 .

c) 20.

d) $3Q^2 + Q$.

4. Which index number satisfies the time reversal test ?
- a) Laspeyres's Index number.
 - b) Paasche's index number.
 - c) Fischer's index number.
 - d) None of these.
5. When all the commodities are given equal weightage we get ?
- a) Weighted Index number.
 - b) Fisher's index number.
 - c) Simple index number
 - d) None of these.
6. Geometric mean of Paasche's Index Number and Laspeyres's Index Number is :
- a) Marshall-Edgeworth Index number.
 - b) Kelly's index number .
 - c) Fischer's index number.
 - d) None of these.
7. The expected number of children that a woman will bear in her lifetime is called :
- a) Age-specific fertility rate.
 - b) General fertility rate.
 - c) Total fertility rate.
 - d) None of these.
8. Which is useful to analyse the death by cause ?
- a) Age-specific death rate.
 - b) Cause-specific death rate.
 - c) Crude death rate.
 - d) None of these.
9. Which among these is an important indicator of maternal health ?
- a) Age-specific fertility rate.
 - b) Maternal mortality rate.
 - c) Total fertility rate.
 - d) General fertility rate.
10. The approach to probability that defines it as a limit function is :
- a) Classical probability.
 - b) Empirical probability.
 - c) Subjective probability.
 - d) None of these.
11. When two events A and B are independent ?
- a) $P(A \cap B) = P(A)P(B)$.
 - b) $P(A \cap B) = 0$.
 - c) $P(A \cap B) = P(A) + P(B)$.
 - d) $P(A \cap B) = 1$.

12. Your intuition of the chance of a rain on a particular day is an example of :
- a) Classical probability.
 - b) Empirical probability.
 - c) Subjective probability.
 - d) None of these.

(12 × ½ = 6 marks)

Part B (Very Short Questions)

Answer any ten questions.

Each question carries 2 marks.

13. What is the product rule for differentiation ?
14. What is price elasticity of demand ?
15. Differentiate $y = 58x^2 (3x^2 + 7x - 5)$.
16. What is Splicing ?
17. What is Kelly's Index Number ?
18. What are seasonal variations ?
19. What is crude death rate ?
20. What is maternal mortality rate ?
21. What do you mean by sex ratio ?
22. What are exhaustive events ?
23. What is addition theorem for probability for mutually exclusive events ?
24. Define Sample Space with an example.

(10 × 2 = 20 marks)

Part C (Short Essay Questions)

Answer any six questions.

Each question carries 5 marks.

25. Differentiate $y = \frac{2x^3 + 7}{3x^2 - 5}$.
26. The total utility function of a consumer who consumes Q units is given by $TU = -3Q^2 + 48Q + 40$.
Find the marginal utility when the consumption is 8 units.

Turn over

27. What is secular trend ?
28. What is time series analysis ? Explain its uses ?
29. What is general fertility rate and specific fertility rate.
30. What is the use of vital statistics ?
31. What is Baye's Theorem ?
32. Explain empirical definition of probability.

(6 × 5 = 30 marks)

Part D (Essay Questions)

*Answer any two questions.
Each question carries 12 marks.*

33. How maxima and minima are used in Economic analysis ?
34. Examine whether Laspeyer's, Paasche's and Fisher's formulae satisfy factor reversal test using the following data :

Commodity	2005		2008	
	Price	Quantity	Price	Quantity
A	2	3	3	2
B	8	2	9	3
C	5	5	6	5
D	4	2	5	3
E	3	4	4	2

35. Explain different mortality rates.
36. There are 28 girls and 22 boys in a BA class. If two students are selected at random, what is the probability that (i) both are boys ? (ii) Both are girls ? (iii) One is a boy and other is a girl ?

(2 × 12 = 24 marks)