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1B3N19163 (Pages : 4) Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Economics Degree Examination, November 2019

BECO3B03 – Quantitative Methods for Economic Analysis I

(2018 Admission onwards)

Time: 3 hours Max. Marks: 80

Part A

(Answer all questions, each question carries ½ mark)

Multiple Choices:

1. Which of the following is not a function
   a) $A = \{(1, 2), (2, 3), (3, 4), (4, 5)\}$
   b) $B = \{(1, 3), (0, 3), (2, 1), (4, 2)\}$
   c) $C = \{(1, 6), (2, 5), (1, 9), (4, 3)\}$
   d) $D = \{(1, 6), (2, 5), (3, 9), (4, 3)\}$
2. The graph of a linear function is
   a) Straight line parallel to X axis
   b) Straight line parallel to Y axis
   c) Straight line parallel to the Coordinate axis
   d) Straight line not parallel to the Coordinate axis
3. Which of the following statement is not an example of statistics?
   a) India has only 2.4 % of the world's area but accommodates about 18% of the world's population.
   b) Mr. John has $100 in his pocket
   c) In last world cup, India has won 8 matches and lost 2
   d) The average travel expenditure of the students in a college is 500
4. The arithmetic mean of a series is 15 and if 5 is added in all the items of this series, the new arithmetic mean will be?

   a)5 b)20 c)18 d)10

5. The geometric mean of the numbers 2, 4, 0, 16, 32 will be equal to :

   a)3.2 b)4 c)2 d)0

6. In a frequency distribution the standard deviation is 15.8, the value of median is more than mean by 4, what will be its coefficient of skewness?

   a)– 0.76 b)+ 0.76 c)– 0.86 d)+ 0.86

7. The value of coefficient determination (r^2) is always in the range of

a)+1 to -1 b)0 to -1 c)0 to +1 d)-1 to infinity

8. A simple regression is a regression model that contains

a) One dependent variable

b) One independent variable

c) More than one independent variable

d) both a and b

9. In a simple regression model, $b_{yx} = 0.62$ *and* $b_{xy}0.42$, then the correlation between X and Y is

a)0.26 b)0.51 c)1

d)Can't be calculated using the information given.

10. Which one of the following indices satisfies both time reversal and factor reversal test?

a) Lasperyres index number

b) Fischer's index number

c) Paasches index number

d) Bowley's index number

11. The procedure of combining two or more overlapping series of index numbers into one continuous series is called?

a) Splicing

b) Base shifting

c) Deflating

d) None of these

12. Recurrent variations in time series that usually last longer than a year is known as

a) Seasonal variation

b) Secular trend

c) Irregular variation

d) Cyclical variation

(12 x ½=6 Marks)

Part B

(Answer any 10 questions, each question carries 2 mark)

13. What is the difference between descriptive and inferential statistics?

14. What is Lorenz Curve?

15. Define Correlation and its types?

16. Difference between scatter diagram and correlation graph?

17. Difference between correlation and regression?

18. What is an index number?

19. What is time reversal test?

20. Find out the slope of a line joining the segment (-3, 3) and (1, -3)

21. The single point of a graph is (4, 3) and the slope is 2. Find the equation of the line.

22. The rate of increasing in population of India during last three decades is 6%, 9% and 11%. Find the average growth of population in India.

23. Find out the coefficient of variation of natural numbers from 1 to 100.

24. In a distribution, if mean 528 and mode 525, then find out the value of median.

(10 x 2=20 Marks)

Part C

(Answer any 6 questions, each question carries 5 marks)

25. Discuss the term statistics, its function and its importance in economics.

26. Discuss the concept of kurtosis, types and its measurement.

27. What are the major problems in the construction of an index number?

28. What are the components of a time series?

29. Given a linear function 6Y+3X=0,find out X and Y intercept, graph the function and find out the slope.

30. The arithmetic mean, the mode and the median of a group of 75 observations were calculated to be 27, 34 and 29 respectively. It was later discovered that one observation was wrongly read as 43 instead of the correct value 53. Examine to what extend the calculated values of these three averages will be affected by the error?

31. Consider two variable Y and X. The standard deviation of Y and X are 14.90 and 23.57 respectively and the correlation coefficient between Y and X is 0.32. Find out the regression coefficient of Y on X and X on Y.

32. From the following data find out the Karl Pearson coefficient of correlation and interpret the result.

Y	12	9	8	10	16
X	14	8	6	9	3

(5 x 6=30 Marks)

Part D

(Answer any 2 questions, each question carries 12 mark)

33. What is central tendency and discuss the various methods of measuring central tendency? Why mean is the best measure and mode is the poorest measure of central tendency?

34. Calculate the Karl Pearson coefficient of Skewness from the following data and comment the result.

X	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	6	12	22	48	56	32	18	6

35. Calculate spearman rank correlation coefficient for the following data and interpret the coefficient.

X	68	64	75	50	64	80	75	40	55	64
Y	62	58	68	45	81	60	68	48	50	70

36. Using the following information, construct Fisher's index number and prove that Fisher index satisfy both TRT and FRT??

	2004 (Base Year)		2018 (Current Year)	
Commodity	Price	Quantity	Price	Quantity
A	10	10	20	25
B	35	3	40	10
C	30	5	20	15
D	10	20	8	20
E	40	2	40	5

(2 x 12=24 Marks)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Economics Degree Examination, November 2019

BECO3B04 – Macro Economics - I

(2018 Admission onwards)

Time: 3 hours Max. Marks: 80

Part A
Objective type questions
Answer all questions

1. Which among the following does not come under Ministry of Planning and Programme Implementation?

   a) National Sample Survey Organisation b) Central Statistical Organisation

   c) National Family Health Survey d) National Accounts Division

2. Who among the following argued that Inflation is anywhere everywhere is a monetary phenomenon?

   a) Milton Friedman b) Robert Lucas c) Keynes d) Adam Smith

3. Which among the following is not a component of aggregate expenditure?

   a) Government Expenditure b) Private Consumption Expenditure

   c) Net exports d) Transfer Payments

4. _____is considered as aggregate domestic income.

   a) GDP_{MP} b) NDP_{FC} c) NDP_{MP} d) NNP_{FC}

5. Identify the stock variable

   a) Wealth b) Income c) Profit d) Investment

6. Aggregate supply curve under classical system is _____

   a) Upward sloping b) Horizontal c) Vertical d) downward sloping

7. The proposition that changes in monetary sector will not affect real sector is known as____

   a) Classical dichotomy b) Money illusion c) Say's Law d) Velocity of money.

8. _____ argued a cut in wages will finally lead to state of full employment.

   a) Keynes b) A.C Pigou c) Ricardo d) Friedman

9. As stock of capital increases, Marginal Efficiency of Capital _____

   a) Increases b) Remains constant c) Declines d) None of the above

10. If the value of MPC is 0.80 then value of multiplier is _____

a) 2 b) 5 c) 4 d) 1

11. Which of the following is an exogenous variable under Keynesian System?

a) Aggregate Demand b) Private investment Expenditure

c) Private consumption Expenditure d) Aggregate supply

12. The tendency to maintain earlier level of consumption, when income falls is called as ___

a) Real Balance Effect b) Ratchet effect c) Money illusion d) Wealth effect

(12 x ½ = 6 Marks)

Part B

Very Short Answer Type Questions.

Answer any 10 questions.

13. What you mean by macroeconomic model?
14. Distinguish between stock and flow variable?
15. What you mean by inventory investment?
16. Define effective demand.
17. What is meant by laissez-faire policy?
18. What is neutrality of money under classical model?
19. To Keynes, why wages and prices are rigid?
20. Distinguish between real and Nominal Income.
21. Define Marginal propensity to consume?
22. What you mean by autonomous consumption?
23. Define relative income hypothesis?
24. What is meant by real balance effect?

(10 x 2 = 20 Marks)

Part C

Short Essay Type Questions.

Answer any 6 questions.

25. Briefly discuss major schools of macroeconomics.
26. Explain major categories of aggregate income.
27. Explain Keynesian theory of employment.
28. What are the subjective and objective factors affecting consumption function.
29. Discuss the quantity theory of money.

30. Compare the Keynesian and Classical Systems.

31. Explain classical theory of interest.

32. Briefly Explain how output is measured in terms of value added.

(6 x 5 = 30 Marks)

Part D

ESSAY Type Questions.

Answer any 2 questions.

33. Explain the scope and limitations of Macroeconomics.

34. Discuss the permanent income hypothesis of consumption and its criticisms.

35. Discuss the major postulates of Classical System in detail.

36. Explain how the changes in government expenditure affect the level of income in a three sector Keynesian Model.

(2 x 12 = 24 Marks)

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Economics Degree Examination, November 2019

BECO3C04 – Mathematical Methods for Economics III

(2018 Admission onwards)

Time: 1 ½ hours Max. Marks: 40

PART A

Answer ***all*** questions

A-Objective Type Questions

1. A function is decreasing at 'a' if

   (a) First derivative is positive at x=a (b) first derivative is negative at x=a

   (c) second derivative is positive at x=a (d) second derivative is negative at x=a

2. If the graph of the function lies completely below the tangent line ,then the function is

   (a) concave (b) convex (c) negatively sloped (d) positively sloped

3. Given the demand function P=30-2Q,then the marginal revenue is

   (a) -2 (b) -2Q (c) 30-4Q (d)-4Q

4. If 'K' is capital and 'L' is labour ,then dK/dL is called

   (a)Marginal Rate of Substitution (b) Marginal Rate of Technical Substitution

   (c) Capital Labour Ratio (d) None of the above

5. If both cross partial derivatives are continuous, by Young's theorem ,they will be

   (a) constant (b)identical (c) opposite sign (d) different

6. For a function of two or more independent variables, the total differential(dz) measures

   (a) Zxdx (b)Zydy (c) Zxdx.Zydy (d) Zxdx+Zydy

(6x½=3 Marks)

PART B

Very Short Answer Type Questions

Answer *any 6* questions

7. State the conditions for convexity of a function. Check whether the function $y=x^2$ is convex or concave.

8. State two cases where second derivative is used in mathematics.

9. How marginal revenue is obtained from total revenue function. If $R=75Q-4Q^2$,what will be MR function.

10. State the relationship between AC and MC

11. If demand function is Q=12-2P, what will be the price elasticity of demand when P=3 ?

12 Given Z=g(x,y).h(x,y),state the product rule ?

13. State the significance of Lagrange Multiplier with an example.

14. What is total derivative? How is it related with total differential?

(6×2=12 Marks)

Part C (Short Essay)
Answer *any Three* questions

15. For the function $Y= -(x-8)^4$, (a) find the critical values (b) test to see if at the critical value the function is at relative maxima, minima or possible inflection point.

16. Optimize the function $f(x)= -x^3+6x^2+15x-32$

17. Find the first order partial derivative, given the function $Z=\frac{6x+7y}{5x+3y}$

18. Find the total derivative ,given $Z=8x^2+3y^2$; x=4t and y=5t

(3×5=15 Marks)

Part D (Essay Questions)
Answer any *one* of the following questions

19. Given the total revenue function $TR=1400Q-6Q^2$ and total cost function TC=1500+80Q for a firm, Calculate the equilibrium price ,quantity and maximum profit.

20. Optimise the function $f(x,y)=26x-3x^2+5xy-6y^2+12y$ subject to 3x+y=170

(1×10=10 Marks)