1B3N23051

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Reg. No:.....

Name: .....

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Economics Degree Examination, November 2023

BEC3B03 – Quantitative Methods for Economic Analysis – I

(2022 Admission onwards)

Time: 2 ½ hours

Max. Marks: 80

Section-A

(Each question carries 2 Marks.
Maximum Marks that can be scored in this section is 25)

1. Distinguish between primary data and secondary data in the context of statistical investigation.
2. Define the concept of trend in time series analysis.
3. Calculate GM and HM based on the values (10,15,20,25,30).
4. Describe Laspeyre's and Paasche's weighted index number methods. What are their main differences?
5. What are the advantages and disadvantages of using simple random sampling in research studies?
6. Define range as a measure of distance. Discuss its uses and limitations.
7. Given the following data:
   number of observations =50; arithmetic mean=100; variance = 484.
   Find the coefficient of variation?
8. Why is constructing an interview schedule important in the context of collecting primary data in economics?
9. Find median of the following data set (15,22,19,14,25,18,16,20,23,21).
10. Describe Stem and Leaf Plot and provide an example.
11. The daily temperatures (in degrees Celsius) for a city were recorded over a period of 10 days:(22,23,21,25,24,22,20,26,27,23),Calculate the standard deviation of the temperatures.
12. Why is Fisher's Index Number known as Ideal Index Number?
13. Define Kurtosis.
14. Define Grouping method of Mode. Find mode for the following data

Interval	Frequency
10-20	5
21-30	8
31-40	12
41-50	9
51-60	6

15. Draw a time series graph for following data and also draw the trend line.

Year	2001	2002	2003	2004	2005	2006	2007
Production	80	90	92	83	94	99	92

Section-B

(Each question carries 5 Marks. Maximum Marks that can be scored in this section is 35)

16. Compare the Lorenz curve and Gini coefficient as graphical measures of income inequality.
17. Distinguish between symmetrical and asymmetrical distributions.Describe absolute measures of skewness and discuss their relevance in identifying the skewness of a dataset.
18. From the following data, calculate Laspeyer's andPaasche's the price index number

Items	2002		2022	
	Price	Quantity	Price	Quantity
A	12	100	20	120
B	4	200	4	240
C	8	120	12	150
D	20	60	24	50

19. Describe the difference between a trend and a seasonality in time series analysis. Give an example of each.
20. Explain the concept of base shifting in the context of index numbers. How does it impact the interpretation of economic trends?
21. Explain the properties of arithmetic mean in measuring averages of quantitative variables including its strengths and limitations. CalculateArithmetic Mean for the following Data.

Class Interval	Frequency
10-20	5
20-30	8
30-40	12
40-50	15
50-60	10

22. Discuss qualitative and quantitative data in economics. Provide examples of each type from real-world economic scenarios.
23. Draw a trend line by the semi average method for the following data.

2002	2003	2004	2005	2006	2007	2008	2009
55	62	65	58	65	72	75	68

Section-C

(Answer any two Questions and each carry 10 marks)

24. Calculate the Fisher's ideal index for the year 2022and show that it satisfies both time reversal, factor reversal testand CT test?

Items	2010		2022	
	Price	Quantity	Price	Quantity
A	180	28	265	45
B	210	32	385	29
C	280	40	430	55
D	195	38	480	47
E	320	18	395	35
F	270	12	410	22

25. What are the fundamental principles of probability sampling methods and non-probability sampling methods? Discuss their advantages and limitations in research contexts.

26. Explain moment-based measures of skewness, focusing on Karl Pearson's beta and gamma measures. Calculate Karl Pearson's Coefficient of Skewness from the following data.

Wage Range	Number of Workers
0-10	8
10-20	12
20-30	10
30-40	15
40-50	11

27. Compare and contrast the Free Hand Curve Method, Semi-Average Method, and Moving Average Method for measuring trends in time series data. Describe the underlying principles of each method and discuss their advantages and limitations.

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Economics Degree Examination, November 2023

BEC3B04 – Indian Economic Development : National and regional – I

(2022 Admission onwards)

Time: 2 ½ hours

Max. Marks: 80

SECTION A

Short Answer Questions

Students can attempt all questions – Each question carries a maximum of 2 marks. Maximum marks in this section is 25.

1. How can you explain the phenomena of reverse migration?
2. Write a short note on MGNREGA.
3. What do you mean by globalization?
4. What is disguised unemployment?
5. Do you know Mahalanobis Plan?
6. Distinguish between National Income and Percapita income.
7. Define Work Force Participation Rate.
8. Can you bring out the crux of Sen-Bhagawati Debate?
9. State the arguments of Drain Theory.
10. What is fertility rate?
11. Write a note on NORKA ROOTS.
12. How can you elucidate the primary goal of 12th Five Year Plan in India?
13. Define mass poverty.
14. What is demographic disaster?
15. State the meaning of commercialization of agriculture.

SECTION B

Short Essay / Paragraph Questions

Students can attempt all questions. Each question carries a maximum of 5 marks. Maximum marks in this section is 35.

16. Explain the role of decentralized planning in Kerala.
17. Explain the economic impacts of British rule on Indian Economy.
18. Discuss the objectives and role of NITI Aayog in a country like India.
19. Examine the recent programmes initiated by the government of India to resolve the challenges of unemployment and poverty.
20. How did British policy destroyed the handicrafts sector of India?
21. Explain briefly the major achievements of five-year plans in India.
22. What is HDI? Bring out the performance of Indian states in HDI ranking.
23. Examine the objectives and components of India's New Economic Policy of 1991.

SECTION C

Long Essay Questions Answer any two questions.
Each question carries a maximum of 10 marks. Total Marks = 20

24. What do you mean by inclusive growth?Enumerate the strategies of Five-Year Planning in India.
25. Do you know the meaning of LPG programmes? Discuss the opportunities and challenges of Indian economy in the context of neo-liberal policies.
26. "Kerala model of development is the result of deliberate interventions". Comment on the statement in the context of sustainability issues of Kerala Economy.
27. Compare the Demographic Transition of India and Kerala.

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Third Semester BA Economics Degree Examination, November 2023

BEC3C03 – Mathematical Methods for Economics – III

(2022 Admission onwards)

Time: 1 ½ hours

Max. Marks: 40

Part A

(Very Short Answer Type Questions. Each question carries 2 marks)

1. Explain inflection point
2. Distinguish between concave and convex functions.
3. Find the second and third derivative of the following function: $ax^2 + bx + c$
4. Find marginal utility from the utility function: $U = 8x^2 - 3x + 8$
5. What is constrained optimisation method.
6. Calculate AR and MR function for the following Total Revenue Function when Q=2: $R = 20Q - 4Q^2$
7. Differentiate between price elasticity of demand and income elasticity of demand?

(Ceiling 10 marks)

Part B

(All Questions may be answered. Each question carries 5 marks)

8. Explain the significance of lagrange multiplier
9. Optimise the following function $P = -2q^3 + 15q^2 + 84q - 30$
10. Explain the relation between MR and price elasticity.
11. Find the relative extrema of the following function $Y = f(X) = X^3 - 12X^2 - 36X + 8$.
12. Given the demand function Q =7-2p, find the elasticity of demand and MR when p=1.

(Ceiling 20 marks)

PartC

(Short Answer Questions. Answer any one of the following questions)

13. Explain the rules of partial differentiation with suitable examples
14. A firm producing two goods has the profit function

$$\pi = 64x - 2x^2 + 4xy - 4y^2 + 32y - 14.$$

a) find the profit maximising level of output

b) what is the maximum profit

((1x10 = 10 marks)