TB214645W **Reg. No :.....**

Name :.....

INTEGRATED M.A . PROGRAMME IN SOCIAL SCIENCES – ECONOMICS EXAMINATION, MARCH 2023

(2020 & 2021 Admission Regular)

SEMESTER IV - CORE COURSE (ECONOMICS)

EC04C14IM20 - QUANTITATIVE METHODS IN ECONOMICS – II

Time : 3 Hours **Maximum Weight : 30**

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. What are regression coefficients?
2. Define regression equations.
3. What is an Ideal Index Number?
4. Define Laspeyer's Formula.
5. What is a Graphic Method?
6. Define Time Series.
7. Difference between dependent and independent events.
8. Write the three basic axioms of axiomatic approach of probability.
9.
    1. Examine whether the following is a probability distribution.

f(x)=0.2	for x =-1
f(x)=0.3	for x=0
f(x)=0.1	for x=1
f(x)=0.2	for x=2
f(x)=0.2	for x=3
f(x)=0	otherwise

10. Write the probability distribution of the experiment of throwing a die once by taking the number turning up as the random variable.

Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. Write the properties of regression lines.
12. Find Fisher's Index Number from the following data.

Items	Price		Value	
	2020	2021	2020	2021
A	5	8	15	32
B	4	9	24	72
C	10	13	70	65

[Hint: Convert the value into quantity by the formula: Quantity = Value/Price]

13. What are the merits and demerits of semi average method?
14. Explain briefly the importance of Time Series Analysis.
15. Write a short note on the components of Time Series.
16. A box contains 3 red balls,4 blue balls and 7 green balls. If a ball is drawn at random from the box, what is the probability that it is a i)a red ball ii) a blue ball iii) a green ball
17. Explain the addition and multiplication theorems of probability.
18. Difference between marginal probability function and conditional probability function.

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Price index of wheat(x) and cereals(y) at twelve successive seasons are given below

x	87	84	88	102	101	84	72	84	83	98	97	100
y	88	79	83	97	96	90	82	84	88	100	80	102

    i. Fit the regression lines of x on y and y on x.

    ii. Suggest what value of y when x I expected to be 110

20. Explain in detail the Weighted Aggregative Method of Index numbers and also prove Time and Factor Reversal Test.
21. How do you measure Trend? Explain in detail.
22. A speaks truth in 70% cases and B in 85% cases. In what percentage of cases are they likely to contradict each other in stating the same fact.