

(Pages : 4)

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Reg. No. : .....

Name : .....

**Sixth Semester B.A. Degree Examination, April 2023**

**First Degree Programme under CBCSS**

**Economics**

**Core Course XIII**

**EC 1643 : BASIC TOOLS FOR ECONOMICS – II**

**(2015-2018 Admission)**

Time : 3 Hours

Max. Marks : 80

**SECTION – I**

Answer all questions. Answer in one or two sentences.

1. What is meant by perfect correlation?
2. Define Partial Correlation
3. What is Quantity index numbers
4. Describe Splicing of index numbers
5. What is meant by standard error?
6. Define Venn diagram
7. What is meant by Equally Likely Events?
8. Define Sample Space

P.T.O.

9. What is Axiomatic Approach of Probability theory
10. Write down the properties of probability

(10 × 1 = 10 Marks)

SECTION – II

Answer any **eight** questions not exceeding **one** paragraph. Each question carries **2** marks.

11. Distinguish between dependent variable and independent variable
12. Discuss the applications of Correlation in Economics
13. Describe Multiple Correlation
14. Discuss Simple aggregative Method of Index number
15. What are the Tests of index numbers?
16. Describe the inverse probability
17. Define Discrete probability distribution
18. A bag contains five white and four red balls. Find probability of drawing a red ball
19. What do you mean by distribution of a random variable?
20. If 2 letters are selected randomly from letter "STATISTICS" what is the probability of getting 2 S.
21. Define poisson distribution
22. Describe the standard normal distribution

(8 × 2 = 16 Marks)

SECTION – III

Answer any six of the following. Each question carries 4 marks.

23. Calculate the Karl Pearson's correlation Coefficient for the following data :

$x$ : 2 3 5 5 6 8

$y$ : 9 8 8 6 5 3

24. Examine the Applications of regression analysis

25. Describe the method of least squares

26. Index numbers are called Economic barometers. Why?

27. Compute Laspeyzer's Index Number from the following data :

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

28. State Addition theorem of probability

29. The blood groups of 200 people are distributed as follows: 50 have type A blood, 65 have B blood type, 70 have O blood type and 15 have type AB blood. If a person from this group is selected at random, what is the probability that this person has O blood type?

30. Describe binomial Distribution. Write down the expressions for its mean and variance

31. The weekly wages of 1000 workers are normally distributed with a mean 70 and S.D 5. Estimate the number of workers whose wages will be lie between 69 and 72.

(6 × 4 = 24 Marks)

SECTION – IV

Answer any **two** of the following. Each answer should not exceed **4** pages. Each question carries **15** marks.

32. Fit Regression line by the principle of least squares to the following data

x: 80 100 120 140 160 180 200 220 240 260

y: 70 65 90 95 110 115 120 140 155 150

33. Briefly explain the Methods of Constructing Index Numbers

34. What are the theorems of probability? Explain the Bay's Theorem with an example

35. What is Normal distribution? Explain its properties and usefulness.

(2 × 15 = 30 Marks)