

(Pages : 6)

L – 1365

Reg. No. : .....

Name : .....

Sixth Semester B.A. Degree Examination, March 2021

First Degree Programme under CBCSS

Economics

Core Course XIII

EC 1643 : BASIC TOOLS FOR ECONOMICS – II

(2018 Admission Regular)

Time : 3 Hours

Max. Marks : 80

SECTION – A

(Very Short Answer Type questions)

**One** word to maximum **two** sentences. Answer **all** questions. Each question carries **1** mark.

1. Spearman's Rank correlation
2. Standard error of estimate
3. Continuous random variable
4. Poisson distribution
5. Standard normal variate
6. Wholesale Price Index

P.T.O.

7. Infinite set
8. Venn diagram
9. Conditional probability
10. Simple Linear Regression.

**(10 × 1 = 10 Marks)**

SECTION – B

(Short Answer Type Questions)

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

11. Explain different types of Correlation.
12. Distinguish between CPI and WPI.
13. Explain the important uses of Index numbers.
14. Distinguish between Correlation and Regression.
15. What are the methods of constructing Index numbers?
16. Explain Index Numbers of Industrial Production.
17. A bag contains 4 white, 2 black, 3 yellow and 3 red balls. What is the probability of getting a white or a red ball at a random in a single draw of one?
18. Distinguish between Discrete and Continuous Random variables.
19. What are the important properties of Binomial distribution?

20. If Mean of a Poisson distribution is 1.5, Find Mode and Standard deviation.
21. Explain Bayes' Theorem.
22. Explain different types of Sets.
23. Explain various approaches to the definition of Probability.
24. Distinguish between linear and non-linear regressions.
25. Distinguish between Covariance and Variance.
26. What is deflating?

**(8 × 2 = 16 Marks)**

### SECTION – C

(Short Essay Questions)

Not to exceeding **120** words. Answer **any six** questions. Each question carries **4** marks.

27. Find out the regression coefficient of Y on X from the following data:

X	1	2	3	4	5
Y	160	180	140	180	200

28. Calculate Cost of living index number from the following:

Item	Base year price	Current year price	Weight
Food	39	47	4
Fuel	8	12	1
Clothing	14	18	3
House rent	12	15	2
Miscellaneous	25	30	1

29. Why are Index numbers called economic barometers?

30. Obtain the Rank correlation coefficient for the following data.

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

31. In a town 10 accidents took place in a span of 100 days. Assuming that number of accidents follows Poisson, find the probability that there will be 3 or more accidents in a day.

32. Eight coins were tossed together, 256 times. Find the expected frequencies of Heads. Find Mean and S.D.

33. Explain important properties of Normal distribution.

34. Explain Addition rule and Multiplication rule of Probability.

35. Point out the problems in the construction of Index numbers.

36. If  $A = \{1,2,3\}$ ,  $B = \{0, -1\}$  find all ordered pairs.

37. Explain the use and importance of Correlation and regression in Economic analysis.

38. If the two regression coefficients are  $-0.4$  and  $-0.9$ , find the coefficient of correlation.

**(6 × 4 = 24 Marks)**

SECTION – D

(Long Essay Questions)

Answer **any two** questions. Each question carries **15** marks.

39. From the following data, obtain the two regression equations:

X	91	97	108	121	67	124	51	73	111	57
Y	71	75	69	97	70	91	39	61	80	47

40. Calculate Correlation coefficient for the data given below:

X	35	36	40	38	37	39	41	40	36	38
Y	65	72	78	77	76	77	80	79	76	75

41. The scores of students in a test follow Normal distribution with Mean = 80 and SD = 15. A sample of 1000 students has been drawn from the population. Find

- (a) appropriate number of students scoring between 65 and 95.
- (b) the probability that a randomly chosen student has scores greater than 100.

42. If  $A = \{1,2,3,4,5,6,7\}$ ,  $B = \{2,4,5,8\}$  Find

- (a)  $A \cup B$
- (b)  $A \cap B$
- (c)  $A - B$
- (d)  $B - A$ .

43. Compute Fisher's and Marshall Edgeworth's Price index numbers for the following data.

Items	2010		2020	
	Price	Quantity	Price	Quantity
I	5	62	6	71
II	7	43	8	100
III	9	93	12	65

44. Fit a normal distribution to the data given below.

X	7	8	9	10	11	12	13	14	15
f	1	6	7	11	20	10	6	5	1

(2 × 15 = 30 Marks)

---