

Mid-West University  
Examinations Management Office  
Birendranagar, Surkhet  
Chance - Examination, 2080

Subject: DE-531 Statistics for Economists II

FM: 60

Level/program: Master (M.A)

Semester: III

Time: 3 Hours

PM: 30

Candidates are required to answer the questions in their own words as far as practicable.

Attempt **ALL** of the following Very Short Answer Questions.

10x1=10

1. What is meant by wholesale price index?
2. Define point estimation.
3. Write the formula of Fisher's index number.
4. Define discrete random variable.
5. Find the mean of the binomial distribution when  $n = 16$  and  $p = 0.7$ ?
6. What are the types of estimates?
7. Write any two features of SPSS.
8. What are the types of correlation?
9. Write the formula of mean in continuous data.
10. Define type I errors.

Attempt any **THREE** of the Following Short Questions.

3x8=24

11. What is index number? Write the problems involved in construction of index number.
12. Find the mean of the random variable from the given probability density function:
  - i)  $f(x) = \frac{x}{3}, \quad 1 < x < 3$   
 $= 0$  otherwise
  - ii)  $f(x) = 6-x, \quad 0 < x < 5$   
 $= 0$  otherwise
13. Find the multiple correlation coefficient  $R_{1.23}$  from the following data.

$X_1$	6	8	11	15	18	24
$X_2$	5	9	7	10	3	13
$X_3$	9	11	19	17	8	4

14. Describe the properties of a good estimator.

Attempt any **TWO** of the Following Long Questions.

2x13 = 26

15. Fit a straight line trend by the method of least squares to the following data. Also, estimate the production for the year 2024.

Year	2016	2017	2018	2019	2020	2021	2022
Production (in '000 tons)	50	72	70	65	78	90	74

16. Five coins are tossed simultaneously. Find the probability of getting (i) exactly 4 heads (ii) at least one head.

17. Calculate the regression equation of Y on  $X_1$  and  $X_2$  using matrix method from the following data.

Y	7	11	16	12	19
$X_1$	10	9	13	15	21
$X_2$	13	21	22	25	24