Mid-West University

Examinations Management Office

Birendranagar, Surkhet

End - Semester Examination, 2081

Subject: DE 531 – Statistics for Economics 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 Question **1 x10 =10**

1. What is time series?
2. How can you define seasonal variation?
3. Write down the three utility of index number.
4. What is poverty index (PI)?
5. Define probability distribution of random variable.
6. A coin is tossed 8 times considering head as success. Find mean and standard deviation.
7. What are the point estimation and interval estimation?
8. What is multiple correlation and regression?
9. How can you define editing and saving data?
10. What is MS-Excel?

Attempt any THREE of the Following Short Questions. **3x8=24**

11. Write the three merits and demerits of moving average method. Calculate three yearly moving average from the following data and draw the graphs of both the actual and trend values and also find the short-term fluctuation:

Year:	2071	2072	2073	2074	2075	2076	2077	2078
Production (000 tons)	40	50	45	55	80	90	115	95

12. Define discrete and continuous random variable. Suppose that the life in hours of a certain kind of radio tube has the probability density function

$$f(x) = \frac{100}{x^2}, when\ x \geq 100$$

$$= 0, when\ x < 100.$$

Find probability of

i) a tube lasts for first 150 hours.

ii) a tube lasts 200 to 300 hours.

13. Describe the important properties of good estimation.
14. Discuss and describe the fundamental features of SPSS.

Attempt any TWO of the Following Long Questions. **2x13 =26**

15. Construct Fisher/s ideal and show that how it satisfies factor reversal test and time reversal test.

Commodity	Base Years		Current year	
	Price	Quantity	Price	Quantity
A	6	50	10	56
B	2	100	2	120
C	4	60	6	60
D	10	30	12	24
E	8	40	12	36

16. Write down the any five characteristics of Binomial and Normal distribution. Four coin are tossed simultaneously, what is the probability of getting
    i) 2 heads and 2 tails
    ii) At least 2 heads
    iii) At most one head.
17. Define multiple and partial correlation coefficient. Past experience shows the following result of productivity per hector with the respective uses of chemical fertilizers and seeds. Calculate the coefficient of multiple correlations.

Year	2015	2016	2017	2018	2019	2020
Fertilizer Kgs (X_1)	45	30	70	75	65	80
Seeds Kgs (X_2)	2	1.8	3	2.5	2	3
Productivity (Y)	2000	2100	1800	1900	2400	2500

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