Mid-West University

Examinations Management Office

Birendranagar, Surkhet

End Semester (Alternative/Physical) Examinations -2078

Bachelor level/ B.Sc CSIT/ 2nd Semester   Full Marks : 60
Time: 3hrs   Pass Marks : 30
 Subject : Statistics (MAT424)

Candidates are required to give their answer in their own words as far as practicable. The figures in the margin indicate full marks.

Attempt all questions   **[6×10=60]**

1. Write any two different between primary and secondary data. Explain the major function of statistics. Arithmetic mean of 98 items is 50. Two items 60 and 70 were left out at the time of calculation. What is the correct mean of all the items?

2. What is histogram? How can you construct it? Construct a histogram from the following grouped frequency distribution.

Class interval	5-10	10-15	15-20	20-25	25-30	30-35
frequency	2	5	7	12	6	3

3. Define measures of skewness and measure of kurtosis. Calculate first four central moments from the following data.

C.I	2-4	4-6	6-8	8-10	10-12
F	2	4	7	3	1

OR

The running capacity of two horses is given below, state which is more consistent and why?

Horse A	250	255	280	290	295	300
Horse B	280	282	290	293	298	295

4. Define factor reversal test and time reversal test. From the following prove that the Fishers ideal index satisfies both the time reversal test and factor reversal test.

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

5. State and prove baye's theorem. In a certain factory machines I, II, and III are all producing springs of the same length. Of their production, machines I, II, and III are all produce 2%, 1% and 3% defective springs respectively. Of the total production of springs in the factory, machines I produces 35%, machines II produces 25% and machines III produces 40%. If one spring is selected at random from the total springs produced in a day, find (a) the probability that it is defective, (b) the conditional probability that it was produced by machine III.

OR

What will be the value of median of moderately asymmetrical distribution? If the median and mode are 30 and 24 respectively.From the following grouped frequency distribution calculate the person's coefficient of skewness.

C.I	0-10	10-20	20-30	30-40	40-50	50-60
F	13	15	18	23	19	12

6. Define additive method of time series analysis. Obtain three yearly moving averages for the following data, plot also the actual data and trend line by using method of moving averages.

year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Sale(RS in mil)	10	15	20	25	15	12	15	24	15	21	18	24

THE END