Mid-West University
Examinations Management Office
Birendranagar, Surkhet
End Semester (Alternative/Physical) Examination-2078
Bachelor of Business Studies (BBS)
Semester - II

Subject: Business Statistics - I	Course Code: MGMT 321
Full Marks: 60 Pass Marks: 30	Time: 3 Hours

You are required to answer in your own words as far as applicable.
Attempt all of the following Questions: **6×10=60**

1. Draw ogives for the following data and locate the value of median. Also find the number of students scoring less than 35 marks of the number of students having marks 45 or more:

Marks	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No of students	2	4	6	8	6	4	2

2. The mean and standard deviation of a set of 100 observations were found to be 40 & 12 respectively. On checking, if was found that two observations were wrongly taken 23 & 15 instead of 43 & 18. Calculate the correct mean and standard deviation.

3. Using cramer's rule, solve the equations: $2x + y - z = 3$, $x + y + z = 1$, $x - 2y - 3z = 4$

OR

Solve graphically the following:
Maximize the profit $Z = Rs\ 450 \times 1 + Rs\ 700 \times 2$
Subject to the limitions
$x_1 + x_2 \le 36$, $5x1 + 2x2 \le 60$, $2x1 + 5x2 \le 100$
where x_1 , x_2 $\ge, 0$

4. Two dices are thrown at the same time. Find the probability that (i) the sum of two faces is 8 or 10, (ii) the first dice show 5 (iii) the first dice does not show 5   (iv) the sum of tow faces is greater than 12.

5. A manufacture produces their products, P,Q and R which he sells in two markets annual sales volumes are indicate as follows:

Markets	Products		
	P	Q	R
I	10000	18000	2000
II	6000	8000	20000

   a. If unit sale prices of P, Q & R are Rs 2.50, Rs 1.25 & Rs 1.50 respectively, find the total revenue in each market by matrix algebra.
   b. If unit cost of the above three commodities are Rs 1.80, Rs 1.20 & Rs 0.80 respectively. Find the gross profit.

OR

From the following bivariate table, find
   a. Arithmetic means
   b. Standard deviations
   c. Coefficient of variations
   d. Coefficient of correlation

Sales turnover (Rs)	Advertising Budget (Rs)				
	0-500	500-1000	1000-1500	1500-2000	2000-2500
0-200	12	6	-	-	-
200-400	2	18	4	2	1
400-600	-	4	7	3	-
600-800	-	1	-	2	1
800-1000	-	-	1	2	3
Total	14	29	12	9	5

6. While calculating the correlation coefficient between the two variables X and Y the following results were obtained: n = 25, $\sum X = 125$, $\sum X^2 = 650$, $\sum Y = 100$, $\sum Y^2 = 460$, $\sum XY = 508$. Later it was found that two pairs of observation (X, Y) were copied wrong as (6,14) and (8,6) at the time of checking while the correct values were (8,12) and (6,8) respectively.

Determine

    a. Correct value

    b. Correct correlation coefficient

    c. Correct equations of two lines of regression

    d. Probable error and interpret the significant of the correlation coefficient.

The End