Mid-West University

Examinations Management Office

Birendranagar, Surkhet

End Semester (Alternative/Physical) Examination-2078

Bachelor of Business Administration (BBA)

Semester - II

Subject: Business Statistics-I Course Code: MGT 322

Full Marks: 50 Pass Marks: 25 Time: 3:00 Hours

You are required to answer in your own words as far as applicable.

Attempt all of the following Questions: **5×10=50**

1. For a group of 100 candidates the mean and standard deviation were found to be 40 and 12 respectively. On checking again, it was found that two observations were incorrectly made as 23 and 15 instead of 43 and 18. Calculate the correct mean and standard deviation.
2. State Baye's theorem for three mutually exclusive and exhaustive events. In a certain factory, machine I, II and III are all producing springs of the same length. Of their production, machine I, II and III produce 2%, 1% and 3% defective springs respectively. Of the total production of springs in the factory, machine I produces 35%, machine 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. ii. The conditional probability that it was produced by machine I.
   c. iii. The conditional probability that it was produced by machine II.
   d. iv. The conditional probability that it was produced by machine III.
3. A company claims that the mean life time of its electric light bulbs is 36 months. A random sample of 30 bulbs has the following life in months:

Life in months	25	28	30	34	38	45
No. of bulbs	2	6	8	6	5	3

Test the claim of the company at 5% level of significance.

OR

   a. Distinguish between primary data and secondary data. Discuss the different sources of primary data.
   b. The mean and standard deviation of a series of 10 items are found to be 20 and 9 respectively. If an additional item of 10 included in the series, find the revised value of mean and standard deviation.
4. The Bank of Kathmandu has recently began a new credit program. Customer meeting certain requirements can be obtained a credit card accepted by participating area merchants that carries a discount. Past numbers show that 20% of all applicants for this card are rejected. If 10 applicants are selected, what is the probability that,
   a. Exactly four will be rejected?
   b. None of them are rejected?
   c. At least two are rejected?
   d. Less than three are rejected?

5. A sample of 60 cars of two Makes P and Q, is taken and their average running life in years is recorded as follows:

Life (years)	0-2	2-4	4-6	6-8	8-10
Make P	8	12	22	14	4
Make Q	10	14	19	12	5

Which one made more consistent in their average life?

OR

For a random sample of 10 pigs fed on diet A, the increase in weight (in lbs) in a certain period were 10, 17, 13, 12, 9, 8, 14, 15, 6 and 16. For another random sample of 12 pigs fed on diet B, the increase in weight in the sample period were 14, 18, 8, 21, 23, 10, 17, 12, 22, 15, 7 and 13. Test whether diets A and B differ significantly as regards their effect on increase in weight

The End