**THE UNIVERSITY OF AGRICULTURE, PESHAWAR**

**B.Sc. (Hons.), Mid Term Examination**

**PAPER: STATISTICS-II, STAT-411**

**2021**

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| **Total Marks: 30 Time: 75 minutes**  Full Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Class No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Session: ­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Semester No\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Note: Attempt all the questions. The students must submit their paper in both soft and hard form on due date. The hard copy must reach to the department of Maths, Stats and computer science on or before 12pm of Tuesday (4th May 2021).

Draw all possible samples of size 2 with replacement from a population consisting of 2, 3, 8, and calculate the sample proportion of the prime numbers. Also, construct the sampling distribution of proportion.

If the variance of a population is 4.5 with a sample of size n=16, then the standard deviation of sampling distribution is

From a prior knowledge, we have the mean amount of filled into bottles by a machine is 12.3 ml with a standard deviation of 2.3ml. A sample of size n= 20 are taken with a mean value is 10.45. Find the limits in all bottles filled by a machine. Using Z= 1.645.

Draw all possible sample of size n=2 from population 1 and n=3 from population 2 with replacement. Construct the sampling distribution of the difference between two means and verify the first property.