Problems related to Normal distribution
III SEM DS(B) - 04-12-2021 – Dr. Harinakshi Karkera

1. Suppose that the life lengths of two electric devices, say D_1 and D_2 , have distributions $N(40, 36)$ and $N(45, 9)$ respectively. (i) If the electric device is to be used for a 45 hours period, which device is to be preferred? (ii) If it is to be used for a 48 hours period, which device is to be preferred?

2. The diameter of an electric cable is normally distributed with mean 0.8 and variance 0.0004. (i) What is the probability that the diameter will exceed 0.81 inch? (ii) Suppose that the cable is considered defective if the diameter differs from its mean by more than 0.025, what is the probability of obtaining a defective cable?

3. In a normal distribution, 31% of the items are under 45 and 8% are over 64. Find the mean and standard deviation of the distribution.