1. d) All of the mentioned
2. a) Discrete
3. a) pdf
4. c) mean
5. a) variance
6. a) variance
7. c) 0 and 1
8. b) bootstrap
9. b) summarized

10. Box plot – gives the quartiles and indicates the median data to compare easily and Histogram – gives only the count.

11. The number of instances per class: A lot depends on the number of instances per class. One needs to check if it's a class imbalance dataset (some classes having much more data than others or a balanced dataset i.e. classes roughly having the same number of instances.

12. Hypothesis testing would use to assess statistical significance. First the null hypothesis and alternate hypothesis would be started. Second , calculate the p-value, which is the likelihood of getting the test's observed findings if the null hypothesis is true. Finally, you would select the threshold of significance and reject the null hypothesis.

13. Any type of categorical data won't have a Gaussian distribution or log normal distribution. For ex- the amount of time that a car battery lasts or the amount of time until an earthquake occurs.

14. The mean is not an appropriate measure of central tendency but the medians is an appropriate measure of central tendency.
    Ex- score of students in a class
    are =1,2,3,4,20

    $\frac{1+2+3+4+20}{5}$ = $\frac{30}{5}$ = 6

    Median = 3
    So, its better to take median than mean.

15. The likelihood function represents the probability of random variable realizations conditional on particular values.