Questions 1 - Select one most appropriate answer for each of the following:
1. Which of the following variables is an example of discrete variable?
      a) Smoking status (smoker, not smoker)
      b) Body Mass Index (Normal/Overweight/Obese)
      c) Number of pregnancies of a woman (1,2,3,etc)
      d) Systolic blood pressure level (120, 130, 145, 155, 170)

2. Which of the following methods is a statified random sampling?
      a)Only choosing the students who we know and are our friends.
      b) Numbering all the university students in one list and then using a random number table to select100 students.
      c) Listing the students by the sex and choosing a proportion from within each of males and females.
      d) Randomly selecting 2 colleges, and then randomly sampling 50 students from each of the 2colleges.

3. Which one of the following variables is Not a qualitative?
      a)Hypertension: hypertensive or not hypertensive.
      b)Ethnic group (Kurds, Arab, Turkman)
      c)Severity of pain: mild, moderate, severe.
      d) Blood glucose level in mg/dl.

4. If we conduct a study on the teachers in secondary schools of Kurdistan, selecting2000 secandary schools randomly and selecting10teachersrandomly from each selected school.
      a)The study used simple random sampling
      b)A secandory school child is a primary sampling unit
      c)Kurdistan secondary school teachers are the study populations
      d)Stratified sampling method was used

5. Study population is:
      a) The procedure for selecting the sampling units
      b) A person
      c) The population in which we are interested
      d) The population from which the sample is taken.

6. Which of the following is Nota form of random sampling?
      a)Simple random sampling
      b) Judgmental sampling
      c) Systematic sampling
      d) Cluster sampling

7. Lack of physical exercise leads to obesity, then physical exercise is:
    a) Independent variable.
    b) Quantitative variable
    c) Dependent variable
    d) Continous variable

8. Distributing the people by the age groups to 'child, adolescent, adult, elderly' is a type of:
    a) Categorial variable
    b) Discrete variable
    c) Continous variable
    d) Ordered categorical variable

9. If we assess the body mass index (BMI) of the students in Tishk International University colleges. Which one is Not correct?
    a) It is possible to select a random sample.
    b) The sampling frame could be the list of all colleges in Tishk International University and the list of students in these colleges.
    c) The primary sampling unit is a student in Tishk International University.
    d) The study population is the college students in Erbil city.

10. Which of the following methods is a simple random sampling method?
    a)Only choosing the students who are willing to participate in the study.
    b) Numbering all the individuals of a sampling frame and then using a random number table to select persons.
    c) Listing the individuals by smoking status and choosing a proportion from within each group of smokers and non-smokers.
    d) Randomly selecting a number of schools, and then randomly sampling students from the selected schools.

11. Qualitative variables include the following Except:
    a) Categorical
    b) Binary
    c) Ordered categorical
    d) Discrete

12. Which one of the following is Not correct?
    a)Bar char is used for categoriacal variables.
    b)Pie chart is best used for binary variables.
    c)Histogram is a bar chart, which is used for quantitative variables after grouping them.
    d) Table is not a method for presenting data.

13. A study assessed the effect of alcohol drinking on developing liver cirrhosis.
    a) Liver cirrhosis is independent variable.
    b) Alcohol dirnking is dependent variable.
    c) Alcohol drinking is independent variable.
    d) Liver cirrhosis is a quantitative variable.

14. A study classified people according to their smoking status as; smokers, non-smokers and ex-smokers. The smoking status here is:

     a)Dependent variable

     b)Discrete variable

     c)Binary variable

     d) Categorical variable

15. From this cumulative frequency curve of age distribution of 100 persons;
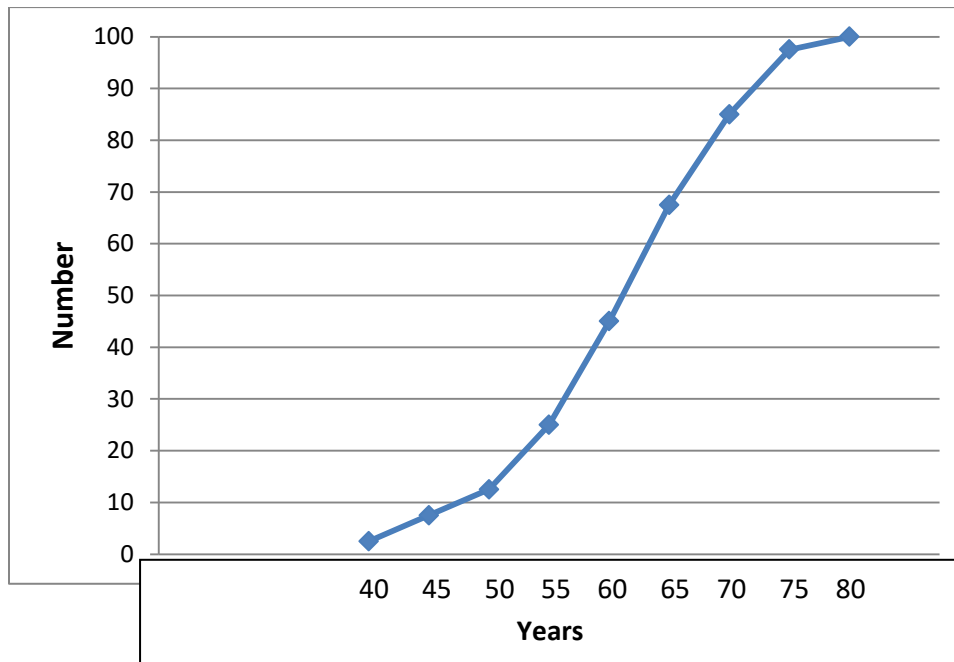
a) 55% of the sample are under25 years

b) 25 persons are under 55 years

c) 25% of the sample are under55 years

d) 55 persons are under25 years

Question 2: Mark each of the following by (T) if true or (F) if false:

1. The main tasks of statistics include describing and to drawing inference about the underlying population. T

2. A histogram can be used to display frequency distribution, but not relative frequency distribution.F

3. Counting the number of times a child gets diarrhea in a year is a continuous variable. F

4. If we assess the effect of taking regular exercise on reducing blood cholesterol level, then exercise is the dependent variable.T

5. In convenience sampling, each unit has an equal and known probability of being selected.F

6. The mode is the number repeated most frequently in the observations. T

7. Central tendency and spread (dispersion) are used for quantitative variables. T

8. Mean and standard deviation are used when the distributions that are not symmetric. F

9. When the confidence intervals of two values overlap, there is evidence of having a real difference between the two values.F

10. The sample size has an effect on the reliability of the study.T

Questions 3:

A. Describe how can you select a sample of 100students from 800 students at the College of Health Sciences using systematic random sampling.

Divide the study population size (N=800) by the required sample size (n=100) to determine interval 'k' (round k to nearest whole number)   **N/n=k   800/100=8**
Choose a random number between 1 and k (8) and select that unit

      e.g. 5 (between 1 and 8)
      4. Select every kth (e.g. 5th) subsequent unit
      e.g. 5,10,15,20, etc till 800 = 100

B. Of a sample of 500 primary school children, 150 had obesity.

    -Present the above data in an appropriate table and graph.

Obesity	No.	%
Yes	150	30
No	350	70
Total	500	100

Bar chart or pie chart