

Python

Write in 3 to 5 sentences

- 1) What are the key features of Python?
- 2) Differentiate between lists and tuples.
- 3) Name 10 Reserved words in Python
- 4) How will you capitalize the first letter of a string?
- 5) How would you define a block of code in Python?
- 6) What are membership operators?
- 7) What data types does Python support?
- 8) Explain the difference between Break and Continue statements in Python?
- 9) How do you take input in Python?
- 10) How do you get a list of all the keys in a dictionary?
- 11) How will you convert a list into a string?
- 12) What is the output of the following program?

$$\text{list}=['a', 'b', 'c', 'd', 'e']$$

$$\text{print}(\text{list}[10])$$

order error out of range
- 13) What is the output of the following program ?

$$\text{L}=[0,10,20,30,40,50,60,70,80,90]$$

$$\text{L}[:2]$$

order error out of range
- 14) What is the output of the following program?

$$\text{myList}=[[227,122,223],[222,321,192],[21,122,444]]$$

$$\text{print}(\text{myList}[0][0])$$

$$\text{print}(\text{myList}[1][2])$$
- 15) What is the output of the following program?

$$\text{stg}='ABCD'$$

$$\text{print}(\text{stg.lower()})$$

(5)

- 16) Write a program to take list as an input and identify if the list contains an even number?
- 17) Write a python program to receive radius as an input and print area of the circle?

Statistics

Write in 3 to 5 sentences

(2)

- 1) What is Statistics?
- 2) List the key terminologies used in Statistics and explain each one of them?
- 3) Name 3 sampling strategies?
- 4) What is descriptive statistics?
- 5) Why do we need probability theory, while studying statistics?
- 6) Draw a chart describing different data types in statistics, Explain each heading in detail?
- 7) List the different ways of describing Qualitative data?

- 8) List the different ways of describing Quantitative data?
 9) Write the formula for finding a percentile in a given data set?
 10) What is the formula for calculating standard deviation for Sample and Population ?

(5)

- 11) Construct a frequency distribution table for the following weights (in gm) of 30 oranges using the equal class intervals, one of them is 40-45 (45 not included). The weights are: 31, 41, 46, 33, 44, 51, 56, 63, 71, 71, 62, 63, 54, 53, 51, 43, 36, 38, 54, 56, 66, 71, 74, 75, 46, 47, 59, 60, 61, 63.

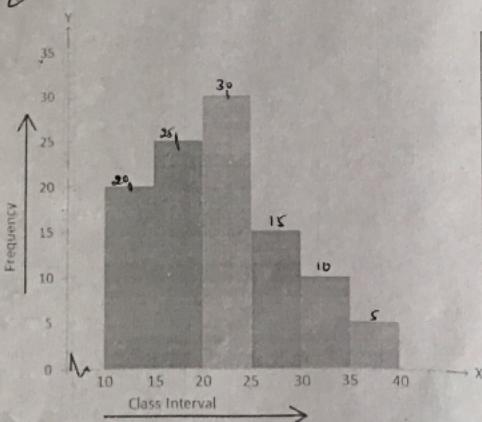
- (a) What is the class mark of the class intervals 50-55?
 (b) What is the range of the above weights?
 (c) How many class intervals are there?
 (d) Which class interval has the lowest frequency?

- 12) The below table shows the number of cars at a showroom and the price brackets that they fall in to:

Price, p	Frequency
$0 < p \leq 10,000$	8
$10,000 < h \leq 15,000$	12
$15,000 < h \leq 20,000$	14
$20,000 < h \leq 25,000$	10
$25,000 < h \leq 30,000$	4

- a) Complete the cumulative frequency table, and draw a cumulative frequency graph to represent this data:

- 13) The histogram for a frequency distribution is given below.



- Answer the following.
- (i) What is the frequency of the class interval 15 – 20?
 (ii) What is the class intervals having the greatest frequency?
 (iii) What is the cumulative frequency of the class interval 25 – 30?
 (iv) Construct a short frequency table of the distribution.
 (v) Construct a cumulative frequency table of the distribution.