Assessment -1 (18th April - Data Science)

Q1. A teacher asked students in a class to do a project. The goal of the project is to find the proportion of the specific chemical contaminant in water of the different states of India. A student, Ramya, did a survey on the randomly selected five states of North India and gave her report to the teacher. Based on the information given, answer the questions (1), (2) and (3).

Identify the sample and population.

a) The sample consists of all the states of India and the population consists of the five states of India.
b) The sample consists of all the states of North India and the population consists of all the states of India.
c) The sample consists of the five states of India and the population consists of all the states of North India.
d) The sample consists of five selected states of North India and the population consists of all the states of India.

Correct Ans. (d)

Q2) Ramya gave the report to her teacher that "The proportion of the specific chemical contaminant in water is on an average 0.5% across all the states of India". The above statement of Ramya is based on which kind of statistical analysis?

A. Descriptive Statistics.
B. Inferential Statistics.
C. Prescriptive Statistics
D. Analytical Statistics

Correct Option(B.)

Q3) Is the conclusion of this study made by Ramya on the basis of the chosen sample reliable?

A. Yes
B. No
C. Can't Say
D. None of these

Correct option (b)

Q4) Which of the following statements is/are true?

A. To represent the share of a particular category, a bar chart is the most appropriate graphical representation.
B. If the categorical variable is ordinal, then the bar chart must preserve the order.
C. A bar chart is used to get the count of the corresponding categories in the data.
D. A bar chart cannot be plotted vertically.

Correct Option B

Q5.)The method used to graph a grouped frequency table is called a pie chart

A. True
B. False
C. Can't Say
D. None of these

Correct Answer (A)

Q6) The table below shows the number of test matches played by a player in different countries.

Country	Number of test matches played
Australia	20
Sri Lanka	17
West Indies	12
South Africa	16
New Zealand	10

Based on this table, answer the question

Which of the following statements is/are incorrect?(more than one options may be correct)

A. Median can be computed for the given data.
B. Pareto charts can be plotted for the given data.
C. Mode can be computed for the given data.
D. Bar chart is most appropriate to represent the percentage of test matches played by the player in different countries.

Option (A and D)

Q7) The numbers 2, 6, 12, 15 have frequencies
$x+6$, $x+2$, $x-3$ and x respectively. If their mean is 6.7, then the value of x is:

A. 8
B. 9
C. 5
D. 6

Option D

Q8). Suppose, we have 9 observations such that 37, 34, 24, 41, 113, 99, 119, 107, 114. Calculate the InterQuartile Range (IQR) of the data.

A. 113
B. 76
C. 114
D. 77

Option B

Q9) Suppose, we have 9 observations such that 37, 34, 24, 41, 113, 99, 119, 107, 114. How many outliers are there?

A. 2
B. 3
C. 1
D. 0

Option D

Q10)In a deck, there are cards numbered 1 to 24 such that the number of cards of a particular number in the deck is the same as the number on the card. Which of the following statement(s) is/are true about the mean and mode of the numbers on this deck of card?(more than one otion correct)

A. Mean is 16.33.
B. Mode is 23.
C. Mean is 24.
D. Mode is not defined for the data.

Option A and C

Q11.) The phone brands OnePlus, Vivo and Oppo are owned by BBK Electronics. Table represents the data for the sales (in Lakhs) of OnePlus and BBK Electronics by different dealers in Chennai and Punjab in the year 2010.

Dealer's Location	OnePlus	BBK Electronics
Chennai	3	18
Punjab	5	15
Chennai	6	18
Punjab	3	18
Chennai	6	13
Punjab	6	16
Chennai	2	16

What is the population standard deviation of sales of a OnePlus?

A. 1.83
B. 2.51
C. 6.28
D. None

Option D

Q12. What is the sample standard deviation of sales of BBK Electronics?(use the table given in ques 11)

A. 3.12
B. 0.965
C. 1.283
D. none

Option d

Q13. What is true about Data Visualization?

A. Data Visualization is used to communicate information clearly and efficiently to users by the usage of information graphics such as tables and charts.
B. Data Visualization helps users in analyzing a large amount of data in a simpler way.
C. Data Visualization makes complex data more accessible, understandable, and usable.
D. All of the above

Option D

Q14. Data visualization is also an element of the broader _____.

A. deliver presentation architecture
B. data presentation architecture
C. dataset presentation architecture
D. data process architecture

Option B

Q15. Which of the following is false?

A. data visualization include the ability to absorb information quickly
B. Data visualization is another form of visual art
C. Data visualization decrease the insights and take slower decisions
D. None Of the above

Option C

Q16. Common use cases for data visualization include?

A. Politics
B. Sales and marketing
C. Healthcare
D. All of the above

Option D

Q17. What is true about data mining?

A. Data Mining is defined as the procedure of extracting information from huge sets of data
B. Data mining also involves other processes such as Data Cleaning, Data Integration, Data Transformation
C. Data mining is the procedure of mining knowledge from data.
D. All of the above

Option D

Q18. Point out the wrong statement.

A. A random variable is a numerical outcome of an experiment
B. Continuous random variable can take any value on the real line
C. There are three types of random variable
D. None of the above

Option C

Q19. _____Statistics uses the data to provide descriptions of the population, either through numerical calculations or graphs or tables.

A. Descriptive
B. Quantitative
C. Inferential
D. Qualitative

Option A

Q20. Which of the following are correct components for data science?

A. Data Engineering
B. Advanced Computing
C. Domain expertise
D. All of the above

Option D

Q21. Which of the following is not a part of the data science process?

A. Discovery
B. Model Planning
C. Communication Building
D. Operationalize

Option C

Q22. Which of the following is not an application for data science?

A. Recommendation Systems
B. Image & Speech Recognition
C. Online Price Comparison
D. Privacy Checker

Option D

Q23. Which library is not used for Web Scraping.

A. BeautifulSoup
B. Scarpy
C. Pandas
D. Django

Option D

Q24. Which of the following is an invalid variable?
a) my_string_1
b) 1st_string
c) foo
d) _1st_string

Option B

Q25. Which of the following cannot be a variable?
a) __init__
b) in
c) it
d) on

Option B

Q26. Which is the correct operator for power(xy)?
a) X^y
b) X**y
c) X^^y
d) None of the mentioned

Option B

Q27. What do we use to define a block of code in Python language?
a) Key
b) Brackets
c) Indentation
d) None of these

Option C

Q28. l = [4, 8, 9, 2.6, 5] is a type of which data type in python?

a) List

b) Tuple

c) Set

d) None of these

Option A

Q29. If x=3.123, then int(x) will give ?

a) 1

b) 0

c) 1

d) 3

Option d

Q30. What will be the output of the following code?

```
i = 1
while True:
    if i % 2 == 0:
        break
    print i
    i += 2
```

A. 1
B. 1 2 5 8 9
C. 1 3 5 7 9 11
D. None of above

Option C

Q31. What will be the output of the following code?

```
def cube(x):
    return x * x * x

x = cube(5)
print x
```

A. 26
B. 125
C. 525
D. None of above

Option B

Q32.Write the output of the following code :

```
>>> a=9
>>> x=str(a)
>>> b=5
>>> y=str(b)
>>> x+y
```

a.14

b. 9,5

c. 95

d. None of the above

Option c

Q33. Which of the following assignments will return an error?
a. a = b = c = 89

b. a = 6, b = 8

c. a, b, c = 1, 2, 3

d. None of the above

option b

Q34. What is the output of this code?

```
a,b=1,0
a=a^b
b=a^b
a=a^b
print(a)
```

A. 0
B. 1
C. 2
D. Error

Option A

Q35. What is the output of this code?

```
def func(val1, val2=2, val3=7, val4=1):
   return val1**val2**val3

print(func(val2=2, val1=2, val3=4))
```

A. 256
B. 32768
C. 65536
D. Error

Option c

Q36. How will you not create a dictionary?

A. d = {'milk': 50, 'celery': 40}
B. d = dict(milk=50, celery=40)
C. d = dict([('milk', 50), ('celery', 40)])
D. d = { ('milk', 50), ('celery', 40) }

Option D

Q38. Which of these can you use as a dictionary key?(more than one correct)

A. 'key'
B. 'count'
C. ['1','2']
D. ('key', 'value')

Option A,B and D

Q39. What will this code print?

```
>>> a=7
>>>     print(a+1)
```

A. 8
B. a + 1
C. This code will raise an exception
D. None of the above

Option C

Q40. How do you denote the end of a block in Python 3?

A. By indenting the next line less than the current
B. With a semicolon }
C. With the end keyword
D. With a backslash \

Option A

Q41. Which of these if-statements work? (more than one option correct)

A. if i > 7: print(‘Hello’)
B. if i > 7: if i 7: print(‘Hello’) else: print(‘Hi’)
C. print(‘Hello’) if i > 7 else print(‘Hi’)
D. All work

Option a and c

Q42. In this list, how will you access the letter ‘t’ in ‘bat’?
list = [1, [‘a’, ‘b’, [‘kill’, ‘bat’, ‘cup’], ‘c’], 3]

A. list[1, 2, 1, 2]
B. list[2][1][2]
C. list[1][2][1][2]
D. List[1][2][1]

Option C

Q43. How will you turn the list a = [1, 2, 7, 8] into [1, 2, 3, 4, 5, 6, 7, 8]?(more than one option correct)

A. a[2:2] = [3, 4, 5, 6]
B. a[2:3] = [3, 4, 5, 6, 7]
C. a[2:2] = [3, 4, 5, 6, 7]
D. a[2:3] = [3, 4, 5, 6]

Option A and B

Q44. What is the value of y?
>>> x, y, z = (1, 2, 3, 4, 5, 6, 7, 8, 9, 10)[2::3]

A. 2
B. 5
C. 6
D. This code raises an exception

Option c

Q45. What is the output of the following code?

```
>>> nums = [[val for val in range(num)] for num in range(3)]
>>> for num in nums:
        for val in num:
            if val < 2:
                print(‘*’, end=”)
```

A. *
B. **
C. ***
D. ****

Option C

Q45. What will be the output of the following code snippet?

print(23 + (5 + 6)**(1 + 1))**

A. 129
B. 8
C. 121
D. none

Option A

Q46. What will be the output of the following code snippet?

```
a = [1, 2, 3]
a = tuple(a)
a[0] = 2
print(a)
```

A. [2,2,3]
B. (2,2,3)
C. (1,2,3)
D. Error

Option D

Q47.
What will be the output of the following code snippet?

```
count = 0
while(True):
   if count % 3 == 0:
       print(count, end = " ")
   if(count > 15):
       break;
   count += 1
```

A. 0 1 2 3 4……15
B. Infinite loop
C. 0 3 6 9 12 15
D. 0 3 6 9 12

Option C

Q48. Which of the following concepts is not a part of Python?

A. Pointers
B. Dynamic Typing
C. Loops
D. All the above

Option A

Q49. Which of the following statements are used in Exception Handling in Python?(more than one option correct)

A. Try
B. Except
C. Finally
D. Catch

Option A,B,C

Q50. Which of the following types of loops are not supported in Python?

A. while
B. for
C. do-while
D. If

Option C