Subject: Mathematics and Computer
Course: Biotechnology (2019- 20

1.   graph of the equation x+y-1 = 0 meets the x-axis at the point _____

i)   (0 , 1)
ii)   (1 ,0)
iii)   (-1, 0)
iv)   (1, 1)

2.   If $\log_3 4 + \log_3 16 = \log_3 x$, Find x

i)   64
ii)   4
iii)   12
iv)   20

3.   If 63% of Indian like milk and 76% like tea, how many like both ?
i)   29%
ii)   27%
iii)   39%
iv)   None

4.   Find k for which the system of equations x+2y=3, 5x+ky= -7is inconsistent?
i)   8
ii)   -10
iii)   -6
iv)   10

5.   If $(a/b)^{x-1} = (b/a)^{x-3}$, then the value of x is
i)   ½
ii)   1
iii)   2
iv)   7/2

6.   The mean or average used to measure central tendency is called

i)   sample mean
ii)   arithmetic mean
iii)   negative mean
iv)   population mean

7.   The arithmetic mean is 12 and the number of observations are 20 then the sum of all the values is

i)   8
ii)   32
iii)   240
iv)   1.667

8.   In the quartiles, the central tendency median to be measured must lie in

i)   first quartile
ii)   second quartile
iii)   third quartile
iv)   four quartile

9.   In a group of 20 children, 8 drink tea but not coffee and 13 like tea. The number of children drinking coffee but not tea is

i)   6

ii)   7

iii)   1

iv)   none of these

10..A and B are two events such that $P(A) = 0.4$ and $P(A \cap B) = 0.2$ Then $P(A \cap B)$ is equal to

_____

a) 0.4
b) 0.2
c) 0.6
d) 0.8

11.When two coins are tossed simultaneously, what are the chances of getting at least one tail?

i)   ¾
ii)   1/5
iii)   4/5
iv)   ¼

12.What is probability of drawing two clubs from a well shuffled pack of

 52 cards?
i)   13/51
ii)   1/17
iii)   1/26
iv)   13/17

13.If $3^{(x-y)} = 27$ and $3^{(x+y)} = 243$, then x is equal to
i)   0
ii)   2
v)   4
iv)   6

14. What is the Cartesian product of A = {1, 2} and B = {a, b}?

i.   {(1, a), (1, b), (2, a), (b, b)}
ii.   {(1, 1), (2, 2), (a, a), (b, b)}
iii.   {(1, a), (2, a), (1, b), (2, b)}
iv.   {(1, 1), (a, a), (2, a), (1, b)}

15. If A and B are sets and A ∪ B = A ∩ B, then

i)   A = Φ
ii)   B = Φ
iii)   A = B
iv)   none of these

16. In a class of 72 students, 47 have background is Electronics, 59 have background in Mathematics and 42 have background in both the subjects. How many students do not have background in any of the, subjects ?

1.   8
2.   13
3.   25
4.   33

17. In a simultaneous throw of a die, the probability of getting a prime number ?
i)   1/3
ii)   1/2
iii)   2/3
iv)   3/4

18)   If the vertical lines are drawn at every point of straight line in frequency polygon then by this way the frequency polygon is transformed into

i) width diagram

    ii)   length diagram
    iii)   histogram
    iv)   dimensional bar charts

19. In logarithm, the property of logb is equal to

i)   zero
ii)   one
iii)   minus one
iv)   two

20. The most frequent observation in a data set is called

i)   mode
ii)   median

iii)   range
iv)   mean

21. **The summary statistics which measure the middle or center of the data are called**

i)   logarithms
ii)   measures of central tendency
iii) measures of dispersion
iv)   proportions

22. **The sum of deviations of values from their mean is alway**

i) 1

ii) 0

iii) 2

iv)3

23. **The average of all observations in a set of data is known as**

A.   median
B.   range
C.   mean
D.   mode

24. **The median in the set 6, 4, 2, 3, 4, 5, 5, 4 would be**

A.   3
B.   6
C.   5
D.   4

25. **A set containing only one element is said to be**

A.   subset
B.   singleton set
C.   power set
D.   empty set

26. **If A={1, 2, 3, 4} and B={4, 5, 6, 7} then A∪B should be**

A.   {2, 3, 4, 5, 6, 7}
B.   {1, 2, 3, 4, 5, 6, 7}
C.   {4}
D.   {1, 2, 3, 5, 6, 7}

27. **Statistically, the spread or scatterness of observations in a data is called**

A.   discriminant
B.   dispersion
C.   range
D.   standard deviation

28. **The mean of the squared deviations of some observations from their arithmetic mean is called**

A.   standard deviation
B.   variation
C.   median

D.   mode

29. The positive square root of the mean of the squared deviations of some observations from their arithmetic mean is called

A.   standard deviation
B.   variation
C.   median
D.   mode

30. The measures that are used to determine the degree or extent of variation in a data set are called

A.   mean
B.   median
C.   measures of dispersion
D.   measures of central tendency

31. Which of the following are the input devices?
    i) Keyboard
    ii) Mouse
    iii) Card reader
    v) All of these

32. Which one has the fastest speed?
    i) Cache memory
    ii) Resister
    iii) Hard disk
    vi) Main memory

33. Which is the following is the part of Central Processing unit?
    i) Printer
    ii) Key board
    iii) Mouse
    vii)   Arithmetic & Logical unit

34. Which of the following is a storage device
    i) Tape
    ii) Hard Disk
    iii) Floppy disk
    viii)   All of these

35. Which of the following is an output device?
    i) Moniter
    ii) Key board
    iii) Mouse
    ix) None of these