1. The variance of a binomial distribution with parameters n and p is
   a) $np^2 (1 - p)$
   b) $\sqrt{np(1-p)}$
   c) $nq (1 - q)$
   d) $n^2p^2 (1 - p)^2$
2. An example of a bi-parametric discrete probability distribution is
   a) binomial distribution
   b) poisson distribution
   c) normal distribution
   d) both (a) and (b)
3. The mean of binomial distribution is
   a) always more than its variance
   b) always equal to its variance
   c) always less than its variance
   d) always equal to its standard deviation.
4. For a binomial distribution, there may be
   a) one mode
   b) two mode
   c) (a)
   d) (a) or (b)
5. For a Poisson distribution
   a) mean and standard deviation are equal
   b) mean and variance are equal
   c) standard deviation and variance are equal
   d) both (a) and (b)
6. A binomial distribution with parameters n and p can be approximated by a Poisson distribution with parameter m = np is
   a) $m \to \propto$
   b) $p \to 0$
   c) $m \to \propto$ and $p \to 0$
   d) $n \to \propto$ and $p \to 0$ so that np remains finite
7. The probability density function of a normal variable x is given by
   a) $f(x) = \frac{1}{\sigma\sqrt{2\pi}} . e^{-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2}$ for $-\propto < x < \propto$
   b) $f(x) = f(x) = \frac{1}{\sigma\sqrt{2\pi}} . e^{\frac{-(x-\mu)^2}{2\sigma^2}}$ for $0 < x < \propto$
   c) $f(x) = \frac{1}{\sqrt{2\pi\sigma}} . e^{-\frac{(x-\mu)^2}{2\sigma^2}}$ for $-\propto < x < \propto$
   d) none of these
8. The normal curve is
   a) Bell-shaped
   b) U- shaped
   c) J- shaped
   d) Inverted J – shaped
9. The normal curve is
   a) positively skewed.
   b) negatively skewed.
   c) Symmetrical
   d) All these
10. The mean deviation about median of a standard normal variate is

a) 0.675 σ
b) 0.675
c) 0.80σ
d) 0.80

11. The quartile deviation of a normal distribution with mean 10 and SD 4 is
a) 0.675
b) 67.50
c) 2.70
d) 3.20
12. What is the no. of trials of a binomial distribution having mean and SD as 3 and 1.5 respectively?
a) 2
b) 4
c) 8
d) 12
9. If the standard deviation of a Poisson variate X is 2, what is P (1.5 < X < 2.9)?
a) 0.231
b) 0.158
c) 0.15
d) 0.144
12. If 1.5 per cent of items produced by a manufacturing units are known to be defective, what is the probability that a sample of 200 items would contain no defective item?
a) 0.05
b) 0.15
c) 0.20
d) 0.22
13. If for a Poisson variable X, f(2) = 3 f(4), what is the variance of X?
a) 2
b) 4
c) $\sqrt{2}$
d) 3
14. What is the first quartile of X having the following probability density function?

$f(x) = \frac{1}{\sqrt{72\pi}} e^{-\frac{-(x-10)^2}{72}}$ for $-\infty < x < \infty$

a) 4
b) 5
c) 5.95
d) 6.75

15. If the two quartiles of None of these (μ, σ^2) are 14.6 and 25.4 respectively, what is the standard deviation of the distribution?
a) 9
b) 6
c) 10
d) 8

16. If the mean deviation of a normal variable is 16, what is its quartile deviation?
a) 10.00
b) 13.50
c) 15.00
d) 12.05

17. If the overall percentage of success in an exam is 60, what is the probability that out of a group of 4 students, at least one has passed?
    a) 0.6525
    b) 0.9744
    c) 0.8704
    d) 0.0256
18. Index no. for the base period is always taken as
    a) 200
    b) 50
    c) 1
    d) 100
19. Index no. is equal to
    a) sum of price relatives
    b) average of the price relatives
    c) product of price relative
    d) none
20. _____ is an extension of time reversal test
    a) Factor Reversal test
    b) Circular test
    c) Both
    d) None
21. Chain index is equal to
    a) $\frac{\text{link relative of current year x chain index of the current year}}{100}$
    b) $\frac{\text{link relative of preivous year x chain index of the current year}}{100}$
    c) $\frac{\text{link relative of current year x chain index of the previous year}}{100}$
    d) $\frac{\text{link relative of previous year x chain index of the previous year}}{100}$

22. P_{01} is the index for time
    a) 1 on 0
    b) 0 on 1
    c) 1 on 1
    d) 0 on 0
23. When the product of price index and the quantity index is equal to the corresponding value index then
    a) Unit test
    b) Time reversal test
    c) Factor reversal test
    d) None holds

24. The formula should be independent of the unit in which or for which price and quantities are quoted in
    a) Unit test
    b) Time reversal test
    c) Factor reversal test
    d) None
25. Fisher's Ideal Formula dose not satisfy ____ test
    a) Unit test
    b) Circular test

c) Time Reversal test
d) None

26. _____ satisfies circular test
a) G.M. of price relatives or the weighted aggregate with fixed weights
b) A.M. of price relatives or the weighted aggregate with fixed weights
c) H.M. of price relatives or the weighted aggregate with fixed weights
d) None

27. Laspeyre's and Paasche's method _____ time reversal test
a) Satisfy
b) Do not satisfy
c) Are
d) Are not

28. Paasche index is based on
a) Base year quantities
b) Current year quantities
c) Average of current and base year
d) None of these

29. Fisher's ideal index number is
a) The Median of Laspeyre's and Paasche' index number
b) The Arithmetic Mean of Laspeyre's and Paasche's
c) The Geometric Mean of Laspeyre's and Paasche's
d) None of these

30. If Paasche's Index Number = 125 and Drobiseh and Bowely's Index number = 85. Then the Fisher's Ideal Index Number is
a) 75
b) 60
c) 145.97
d) None of these

31. Consumer Price index number for the year 1957 was 313 with 1940 as the base year 96 the Average Monthly wages in 1957 of the workers into factory be Rs. 160/- their real wages is
a) Rs. 48.40
b) Rs. 51.12
c) Rs. 40.30
d) None of these

32. From the following data

Commodity	Base Price	Current Price
Rice	35	42
Wheat	30	35
Pulse	40	38
Fish	107	120

The simple Aggregative Index is
a) 115.8
b) 110.8
c) 112.5
d) 113.4

33. Given below are the date on prices of some consumer goods and the weights attached to the various items Compute price index number for the year 1985 (Base 1984 = 100)

Items	Unit	1984	1985	Weight
Wheat	Kg	0.50	0.75	2

Milk	Litre	0.60	0.75	5
Egg	Dozen	2.00	2.40	4
Sugar	Kg.	1.80	2.10	8
Shoes	Pair	8.00	10.00	1

Then weighted average of price Relative Index is :

a) 125.43
b) 123.3
c) 124.53
d) 124.52

34. From the following data

Group	**A**	**B**	**C**	**D**	**E**	**F**
Group Index	120	132	98	115	108	95
Weight	6	3	4	2	1	4

The general index I is given by:

a) 111.3
b) 113.45
c) 117.25
d) NONE

35. From the following data

Group	**Weight**	**Index Number Base : 1952-53 = 100**
Food	50	241
Clothing	2	21
Fuel and Light	3	204
Rent	16	256
Miscellaneous	29	179

The Cost of living index numbers is :

a) 224.5
b) 223.91
c) 225.32
d) None of these