Model Question Paper

Subject :Statistics

class12th

Session 2024

General Instructions:

1. This Question paper contains - Four sections A, B, C and D. Each section is compulsory.

2. Section A-Question 1 to 10 comprises of 10 questions of 1 mark each (MCQ's, Fill in the blanks, True/False, Assertion-

Reason etc.)

3. Section B-Question 11 to 19 comprises of 09Very Short Answer (VSA)-type questions of 2 marks each.

4. Section C-Question 20 to 28comprises of 09 Short Answer (SA)-type questions of 3 marks each.

5. Section D-Question 29 to 31 comprises of 3 Long Answer (LSA)-type questions of 5 marks each.

Section A.   (10×1)

Q1-If $P(X) = 0.15$, $P(Y) = 0.25$, $P(X \cap Y) = 0.10$, then $P(X \cup Y)$ is

i) 0.10

ii) 0.30

iii) 0.40

IV) 0.20

Q2. Probability can take the values from 0 to +1 (T/F)

Q 3.For Poisson distribution

i) Mean> variance

ii) Mean=variance

iii)Mean<variance

IV) None of the above

Q4. When the correlation coefficient r =0, then the two regression lines:

i) Are perpendicular to each other

ii) Coincide

iii) Are parallel to each other

IV) None of these

Q5. The two lines of regression intersect at a point:

i) (X, Y)

ii) (X bar, Y bar)

iii) (0, 0)

IV) None of these

Q6.-If one of the regression coefficient is _____ unity, then the other must be _____ unity. (Fill in the blank)

Q7-If an attribute has two classes it is said to be ____classification. (Fill in the blank))

Q8.In case of any consistent data no class frequency is positive (T/F)

Q9. Paasche's price index number is an ideal index number (T/F)

Q10.Which of the following is not hardware part of computer
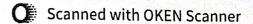
i) Monitor

ii) CPU

iii) Joystick

IV) None of these

Section B.   (6× 2)

11). State the Law of addition of probability for two mutually exclusive events .

12).Define probability mass function?

13).What is a random variable?

14).What are the three methods of weighted index numbers ?

15).Define specific death rate.

16). What are sampling errors?

17). What do you mean by Time series?

18).what is cyclic variation in time series?

19).Define Feasible region in LPP .

Section C   (9×3)

20). A card is drawn at random from a well shuffled pack of 52 cards. What is the probability that it is (i) an ace card (ii) a diamond card.

21).Write down the probability mass function of Binomial distribution.

22).If N=600. (A) = 50. (B) =70. (AB). =30. Find all missing frequencies.

23).What do you understand by consistency of data?

24).What are the various methods of sampling?

25).Write down two merits and two demerits of Stratified Sampling

26).What are the main components of time series?

27). Explain the concept of Linear programming in statistics

28). Maximize $Z = 3x + 4y$ subject to the constraints $x + y \leq 1$ $x \geq 0$ and $y \geq 0$
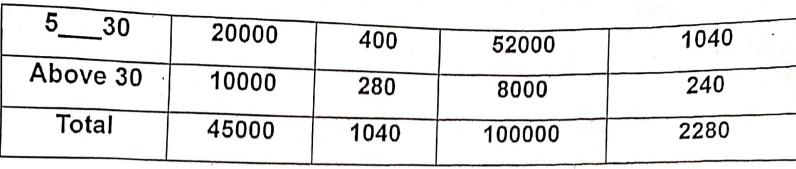
Section D:(5*3)

29). For the following data, Compute Index numbers by (i) Laspeyre's method (ii)Paasche's method (iii) Fisher's method

Commodity	Basic Year		Current Year	
	Price	Quantity	Price	Quantity
I	3	4	5	3
II	2	8	7	7
III	8	5	10	4
IV	4	10	8	9
V	9	14	12	13

OR

Discuss briefly the main problems in the construction o Index numbers.

Q30:-Compute Crude and Standardized death rate of the two towns A and B from the following data:

Age group (Years)	Population A		Population B	
	Population	Deaths	Population	Deaths
Below 5	15000	360	40000	1000

5___30	20000	400	52000	1040
Above 30	10000	280	8000	240
Total	45000	1040	100000	2280

OR

What do you mean by vital statistics? Write down its uses.

Q31:-From the following data, obtain the two regression equations :

X	6	2	10	4	8
Y	9	11	5	8	7

OR

What down the formulae of two regression coefficients? State any three properties of regression Coefficients.