



# MATHS

BOOKS - UNITED BOOK HOUSE

MODEL QUESTION PAPERS SET-07

## Exercise

1. Fill up : If  $b_{xy} = -0.09$  and  $b_{yx} = -0.4$

then  $r_{xy} = \underline{\quad}$ .



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2. Fill up : The point of intersection of two regression lines give the\_\_\_.



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3. Fill up : An over all rise or fall in a time series is called the\_\_\_.



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4. Fill up : In a trend equation  $y = a + bx$ ,  $a$  is the \_\_\_ and  $b$  represents the \_\_\_.



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5. Fill up : A polynomial of the form  $y = a + bx + cx^2$  is called a \_\_\_.



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6. Fill up : In a symmetrical binomial distribution,  $p = \underline{\hspace{1cm}}$ .



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7. Fill up : In a normal distribution, the value of 3rd order central moment is  $\underline{\hspace{1cm}}$ .



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**8. State True/False :** The variance of binomial distribution can never exceed the mean.



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**9. State True/False :** For normal distribution, the coefficient of skewness is 3.



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**10.** State True/False : The parameter  $p$  and  $n$  completely determine a binomial distribution.



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**11.** State True/False : The correlation coefficient  $x$  and  $y$  is  $0.5$ , then between  $-2x$  and  $-3y$  is  $-0.5$ .



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**12. State True/False :** The two regression equations coincide when  $r = \pm 1$ .



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**13. State True/False :** If  $\text{Cov}(x, y) = 0$ , then  $x$  and  $y$  are independent.



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14. Short Questions: What will be  $r_{xy}$  if the two regression lines are coincident.



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15. Short Questions: Calculate the means of the variables  $x$  and  $y$ , given the regression lines as  $x + 6y = 8$  and  $3x + 2y = 10$ .



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**16.** Short Questions: Short notes: (i) Secular trend (ii) method of moving averages.



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**17.** Short Questions: The p.m.t. of a r.v.x. is given by  $f(x) = K \cdot x^2, x = 1, 2, 3, \dots, n$  Find the value of K.



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**18. Short Questions:** For a poisson distribution,  $P[x = K] = P[x=K+1]$ , Find the mean and variance of the distribution.



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**19. Textual Questions:** Explain different components of a time series.



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