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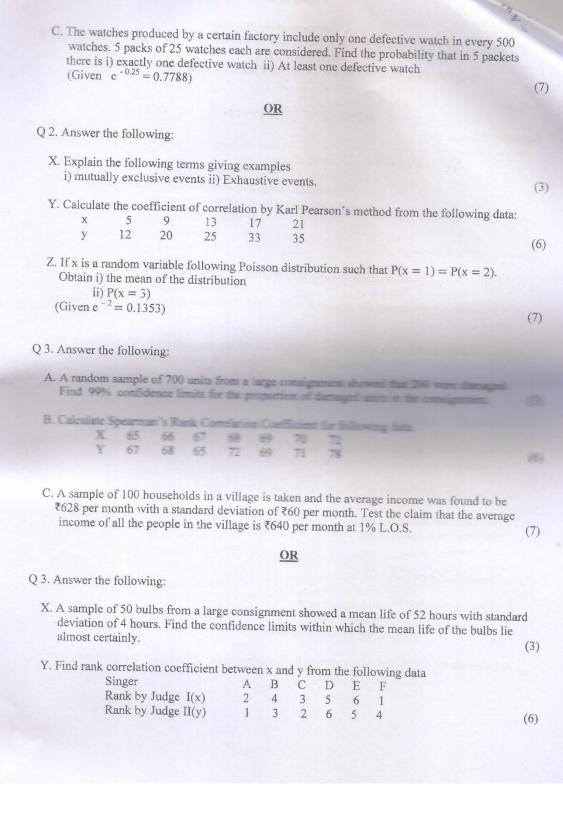
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS PONDA - GOA

B.COM. CBCS (SEMESTER - IV) SUPPLEMENTARY EXAMINATION JUNE 2013

BUSINESS STATISTICS

INSTRUCTIONS: i) Are ment all questions ii) Figures to the right indicate full marks. iii) Use of non-programmable calculator is allowed iv) Graph paper will be supplied on request Q 1. Answer the following: A. Explain the concept of regression. How does it differ from correlation? B. A's chance of winning a game against B is 1/3. Find his chance of winning at least 4 games out of 5. C. There are 60 articles of which 20 are defective and 40 are non-defective. If a sample of 10 is selected, find the probability of getting exactly 4 defective and 6 non-defective articles. OR Q 1. Answer the following: X. How do you interpret a calculated value of Karl Pearson's coefficient of correlation? Discuss in particular the values of r = 0, r = -1, r = +1. Y. A coin is tossed four times. What is the probability of getting 2 or more heads?
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Z. Two cards are drawn at random from a well shuffled pack of cards. Find the probability that i) both are hearts ii) one is black and one is red.
Q 2. Answer the following:
A. Define the terms i) Random experiment ii) Independent events iii) mutually exclusive events.
B. Calculate the coefficient of correlation by Karl Pearson's method from the following data: x 3 7 4 2 1 4 1 2
y 11 16 9 4 7 6 3 8





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A wholesaler of eggs claims that only 4% of the eggs supplied by him are bad. A random sample of 600 eggs contained 36 bad eggs. Test the claim of the wholesaler at 5% L.O.S.	m S (7)
Q 4. Answer the following:	
A. If the probability of Horse A winning the race is 1/5 and the probability of Horse B win The race is 1/6, what is the probability that one of the horses will win the race?	ning (3)
B. Find the missing value from the following data	
x 2 3 7 10 12 15 y 18 16 10 7 13 11	(6)
C. Estimate the value of f(3.4) from the following data	
x 3 4 5 6 f(x) 31 69 131 223	(7)
OR	
4. Answer the following:	
X. Out of a large production of articles, 20% are defective. If 5 articles are selected at rando find the probability that all are defective.	om, (3)
Y. For a bivariate data, means of x and y are 20 and 45. The regression coefficient of y on x and that of x on y is 1/9. Write down the two regression equations. Also estimate the value of x when y is 50.	
Z. Estimate the number of students in 1993 for the data given below Year 1988 1990 1992 1994	
No. of students 50 79 102 113	(7)
5. Answer the following:	
A. Define the terms i) Critical region ii) Level of significance	(3)
B. The income of 10,000 persons is normally distributed with mean ₹6,000 and standard dev ₹100. Find the numbers of persons having i) income between ₹5,800 and ₹6300 ii) income than ₹5800.	
(Given: Area under SNC between i) $t = 0$ and $t = 2$ is 0.4772 ii) $t = 0$ and $t = 3$ is 0.4987)	(6)
C. Find the missing term in the following table	(0)
f(x) 1 2 3 4 5 81	(7)

Q 5. Answer the following:

X. Explain Systematic sampling giving suitable example. (3)

Y. 20% of a large consignment of apples is found to be bad. Find the probability that at least 26% apples are bad in a sample of size 400 drawn from it.
(Given: Area under SNC between t = 0 and t = 3 is 0.4987)

Z. For the data given below, use Lagrange's interpolation formula to find the value of f(6)

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