



# AJEENKYA

## D Y PATIL UNIVERSITY

### End Term Examinations (December 2018)

School : SOM-ICRI Program: MSc Clinical Research

Course: Business Research Methods Course Code: MGT520

Semester: First Max Marks: 50 Duration (mins) : 120mins

- Note : 1. Attempt ANY FIVE full Questions OUT OF SEVEN  
2. Figures to the right indicate FULL MARKS.

Q 1.A) Explain the concept of Probability and Conditional Probability with suitable example? (5)

Q 1.B) Two friends apply for two vacancies in the same post. The probability of selection is  $\frac{1}{6}$  and  $\frac{1}{5}$  respectively. What is the probability that: (5)

- (i) Both of them will be selected
- (ii) Only one of them will be selected
- (iii) None of them will be selected.

Q2.Explain Sampling and Sampling Techniques, with relevant example? (10)

Q 3. Calculate trend values by the method of moving averages, assuming four yearly cycles, from the following data relating to wheat production in India: (10)

Year	Wheat Production ( tonnes)	Year (cont'd)	Wheat Production ( tonnes)
1971	37.4	1977	48.4
1972	31.1	1978	64.6
1973	38.7	1979	58.4
1974	39.5	1980	38.6
1975	47.9	1981	51.4
1976	42.6	1982	84.4

Q 4. A) What do you mean by Hypothesis and Hypothesis testing? (5)

Q 4.B) An insurance company receives on an average 2 telephone calls every 15 minutes. Find the probability that: (5)

- (i) No calls received
- (ii) 3 calls be received

in 30 minute intervals. ( $e^{-4} = 0.01832$ ).

Q 5. You are given the data relating to purchase and sales. Obtain two regression equations by least square method and estimate the likely sales when the purchases equal 100. (10)

Purchases	62	72	98	76	81	56	76	92	88	49
Sales	112	124	131	117	132	96	120	136	97	85

Q 6. Compute  $U_x$ ,  $U_y$  and  $U$  for the following samples: (10)

X	60	45	23	32			
Y	10	25	20	54	32	65	8

Q7. In a certain sample of 2,000 families, 1,400 families are consumers of tea. Out of 1,800 Hindu families, 1,236 families consume tea. Use chi-square and state whether there is any significant difference between consumption of tea among Hindu and non-Hindu families. (10)

Number	Hindu	Non-Hindu	Total
Families consumes tea	1236	164	1400
Families not consumes tea	564	36	600
Total	1800	200	2000

(Tabulated value is 3.841)

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