SUBJECT CODE: 19BA/AC/BS35

B.B.A. DEGREE EXAMINATION DECEMBER 2020
BUSINESS ADMINISTRATION
THIRD SEMESTER

COURSE : ALLIED CORE
PAPER   : BUSINESS STATISTICS
TIME   : 90 MINUTES   MAX. MARKS: 50

Section A   (3x2=6)
Answer all the questions

1. Explain Type I and Type II errors.
2. What are the assumptions in Linear Regression?
3. The profit and losses of business concern for the years 2016-2020 are given below

Year	Profit (Rs)	Loss (Rs)
2016	3000	
2017	4000	
2018	2500	
2019		2000
2020	6000	

Represent the above data by a Bar Graph.

Section B   (3x8 =24)
Answer any Three Questions

4. Calculate the Median and Mode from the following data:

Annual Sales(Rs.000)	Frequency
Less than 10	4
Less than 20	20
Less than 30	35
Less than 40	55
Less than 50	62
Less than 60	67

5. a. From a set of 17 balls marked 1,2,3,……16, 17, one is drawn at
      random. What is the chance that its number is a multiple of 3 or of 7?
   b. Six coins are tossed simultaneously. What is the probability of
      (i) 2 heads, (ii) at least two heads

6. The mean weight of 500 male students at a certain college is 151 lb. and the standard
   deviation is 15 lb. Assuming that the weights are normally distributed, find how many
   students weigh (i) between 119.5 and 155.5lb, (ii) more than 160lb.

7. A die was thrown 90 times with the following results

Face	1	2	3	4	5	6	Total
Frequency	10	12	16	14	18	20	90

Are these data consistent with the hypothesis that die is unbaised
(outcomes are equally distributed)? Given (χ^2 at 0.05 level of
significance for 5 d.f =11.07)

Section C   **(1x20=20)**
Answer any One Question

8. (a) Calculate Pearson's coefficient of correlation from the following
    taking 100 and 50 as the assumed average of X and Y respectively.

X	104	111	104	114	118	117	105	108	106	100	104	105
Y	57	55	47	45	45	50	64	63	66	62	69	61

(b) Calculate multiple correlation coefficients R1.23 and R2.13 from the following
    information: r_{13}= 0.64, r_{23} 0.79 and r_{12} 0.80

9. You are given the data relating to purchases and sales. Obtain the two regression
    equations by the method of least squares and estimate the likely sales when the
    purchases equal to 100.

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

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