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7. Describe the steps used to test a hypothesis. Also, explain the types of hypothesis.
8. From a pack of 52 cards, two cards are drawn without replacement. Find out the probability that :
 - (i) both are king
 - (ii) first card is of heart and the second black
 - (iii) the first card is of heart and the second red.
 - (iv) first is of heart and the second of ace.
 - (v) first card is of king and the second of ace.
9. Write short notes on any *four* of the following :
 - (a) Bayes' theorem
 - (b) Type I and Type II errors
 - (c) Positive and negative correlation
 - (d) Primary and secondary data
 - (e) Poisson's distribution

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Roll No. 0201858.....

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B. B. A. (Second Semester)
EXAMINATION, May, 2018

(New Course)

Paper Sixth

BUSINESS STATISTICS

Time : Three Hours] [Maximum Marks : 70

Note : Attempt questions from all Sections as directed.

Inst. : The candidates are required to answer only in serial order. If there are many parts of a question, answer them in continuation.

Section—A

(Short Answer Type Questions)

Note : All questions are compulsory. Each question carries 3 marks.

1. (A) The following set of numbers represents mutual fund prices reported at the end of a week for selected 40 nationally sold funds :

10	17	15	22	11	16	19	24	29	18
25	26	32	14	17	20	23	27	30	12
15	18	24	36	18	15	21	28	33	38
34	13	10	16	20	22	29	29	23	31

Arrange the prices in a continuous frequency distribution.

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- (B) What are the characteristics of a good table ?
- (C) Define median and discuss its advantages and disadvantages.
- (D) What do you understand by coefficient of variation ? Discuss its importance in business problems.
- (E) Explain kurtosis with the help of diagram.
- (F) Distinguish between sampling and non-sampling errors.
- (G) What are the features of a binomial distribution ? When does a binomial distribution tend towards a Poisson distribution ?
- (H) You are given the following information :

	Advt. (₹ in lakh)	Sales (₹ in lakh)
$\bar{x}$	10	90
σ	3	12
Coefficient of correlation = 0.8		

Obtain the two regression equations.

- (I) The mean wage of 100 workers in a factory, running two shifts of 60 and 40 workers respectively is ₹ 38. The mean wage of 60 labourers working in the morning shift is ₹ 40. Find the mean wage of 40 workers working in the evening shift.
- (J) If $P(A) = 0.3$, $P(B) = 0.2$ and $P(C) = 0.1$ and A, B, C are independent events, find the probability of occurrence of at least one of the three events A, B and C.

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Section—B

(Long Answer Type Questions)

Note : Attempt any two questions. Each question carries 10 marks.

2. Consider the following distribution to calculate the value of mean and median :

Class Interval	Frequency
0—10	12
10—20	18
20—30	20
30—40	25
40—50	23

3. The mean and standard deviation of 20 items is found to be 10 and 2 respectively. At time of checking it was found that one item 8 was incorrect. Calculate the mean and standard deviation, if :
- (a) the wrong item is omitted.
- (b) it is replaced by 12.
4. Differentiate between skewness and dispersion.
5. Explain the concept of regression analysis. Also, write the usefulness of regression in business.

Section—C

(Long Answer Type Questions)

Note : Attempt any two questions. Each question carries 10 marks.

6. What is sampling ? Why is it done ? Discuss the different methods used for sampling.

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