SECOND ASSIGNMENT
MARCH SEMESTER 2021

BACHELOR OF COMPUTER SCIENCE (HONS.)
(IN COLLABORATION WITH IUKL)

INTRODUCTION TO STATISTICS
(STAT 1000)

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GENERAL INSTRUCTIONS

1. This question booklet consists of 2 pages including this page.
2. There is one **SECTION** in this question booklet.
3. Please submit assignment solution in **SOFT COPY FORMAT in A4 size paper.**

SECTION A **(30 Marks)**

There are FOUR (4) Questions in this section. Answer all of them.

Q.N.1

Students in an experimental psychology class did research on depression as a sign of stress. A test was administered to a sample of 15 students. The scores are given as follows:

44 51 11 90 76 36 64 37 43 72 53 62 36 74 51

a. Construct a stem and leaf for above data

(2 marks)

b. Find mean and standard deviation

(3 marks)

c. Draw a box plot and give your comment on score distribution.

(2 marks)

Q.N.2

a. What are the chances that a leap year selected randomly consist of 53 Sundays?

(3 marks)

b. Two brother Mr. X and Mr. Y appear in an interview for getting the scholarship. The scholarship can be provided for two persons. The probability of getting scholarship by Mr. X is 1/7 and that getting by Mr. Y is 1/5. What is the probability that:

i. Both of them will get scholarship

(2 marks)

ii. Only one of them will get scholarship

(2 marks)

iii. None of them

(2 marks)

Q.N.3

a. In a bolt factory machine A, B, C manufacture 25%, 35%, 40% of the total of their output respectively. 5%, 4%, 2% are defective. A bolt is drawn at random and found to be defective. What is the probability that it was manufactured by machine by A?

(4 marks)

b. The random variable X has the following probability function:

X	-2	-1	0	1	2
P(X)	0.2	k	0.4	2k	K

i. Find the value of k.

(2 marks)

ii. Find mean and variance.

(2 marks)

QN.4

a. Out of 100 families of 3 children each, how many families would you expect to have two boys and one girl assuming that girls and boy are equally likely?

(3 marks)

b. A manufacturer of cutter pins knows that 3% of his product is defective. If he sells in boxes of 200 and guarantees that not more than 2 pins will be defective, what is the probability that a box will fail to meet the guaranteed quality.

(3 marks)

*****END OF QUESTION*****