

This question paper contains 4+1 printed pages]

Roll No.

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S. No. of Question Paper : 7210

Unique Paper Code : 32373902

HC

Name of the Paper : Statistical Data Analysis Using R

Name of the Course : B.Sc. (Hons.) Statistics : SEC

Semester : IV

Duration : 2 Hours

Maximum Marks : 50

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt six questions in all. Section A is compulsory.

Attempt four more questions, selecting

two questions from each of Section B and C.

Write R codes for each question given in Section B and C.

Section A

1. Answer the following :

- (i) Write down the R-command syntax for computing the probability of getting at most three heads in six tosses of a coin.

P.T.O.

8/5/2018

(Tuesday)
(Morning)

(ii) What is the output of the following R-command :

```
> punif(1) ?
```

(iii) What does the y-axis represent in a histogram with unequal class intervals produced in R ?

(iv) When external Excel or Text data files, that contains some missing observations, are read into R, then how does R pads out this missing information ?

(v) Given the following set of R instructions, fill in the blank with the appropriate R-command.

```
>grass.df = data.frame(rich, graze)
```

```
> _____
```

```
'data.frame': 9 obs. of 2 variables:
```

```
$ rich :int 12 15 17 11 15 8 9 7 9
```

```
$ graze: Factor w/2 levels "mow","unmow": 1 1 1 1 1
```

```
2 2 2 2.
```

1x5

2 (a) Write the output of the following R codes :

```
> X = c(4.5, "a", 6, "b"); X
```

```
> Y = seq(1, 10, by = 0.5); Y
```

(b) Write codes for the following output:

```
[1] 3 3 3 4 4 4 5 5 5
```

```
[1] "mark1", "mark1", "mark1", "mark1", "mark2", "mark2",
"mark2".
```

(c) Explain the output of the following R-code segment:

```
rm(list = ls( ))
```

```
F<-numeric(10)
```

```
F[1] < -F[2] < -1
```

```
for (i in 3 : 10) F[i] < -F[i - 1] + F[i - 2]
```

```
print(i); print(F)
```

(d) What is the significance of having a plotting feature/argument 'type' ?

(e) If x is a vector of length n , write R-commands to compute :

$$\frac{1}{n} \sum (x_i - \bar{x})^3.$$

Section B

3. (a) Explain the functions `scan()` and `structure()` with the help of example.