2020

STATISTICS — HONOURS — PRACTICAL

Paper : CC-1P

Full Marks : 30

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words
as far as practicable.

1. The following table relates to the weights of newborn babies recorded at two different clinics. One of the clinics is located in the locality where the average family income is almost homogeneous throughout the locality whereas the other clinic caters to the same category but also has a considerable number of patrons from a significantly lower income group. Examine the locations, dispersions and the shapes of the two distributions and interpret your findings. 15

Weights (kg)	Number of newborn babies	
	Clinic 1	Clinic 2
< 1	0	0
1 – 2	1	43
2 – 3	60	230
3 – 4	304	372
4 – 5	318	320
5 – 6	56	54
6 – 7	3	2
> 7	0	0

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2. In an exploratory research on the secretion of a particular gland and schizophrenia, the following data are obtainded :

Secretion (ml. per hr.)	Degree of Schizophrenia
0.45	4
0.21	1
0.33	4
0.22	2
0.91	10
0.73	11
0.19	3
0.64	6
0.39	8
0.43	9
0.29	7

Calculate the rank correlation coefficient between the two and then decide whether the rate of secretion does have an aggravating effect on schizophrenia. 8

3. Temperatures measured in Celcius (C) scale and Fahrenheit (F) scale are related by the relation $\dfrac{C}{5} = \dfrac{F-32}{9}$.

For a dataset of 10 temperatures measured in Fahrenheit scale, we have $\sum\limits_{i=1}^{10} F_i = 100$ and $\sum\limits_{i=1}^{10} F_i^2 = 1026$.

Find the mean and standard deviation in Celcius scale. 7

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