राष्ट्रियसंस्कृतविश्वविद्यालयः, तिरुपतिः

ONLINE CERTIFICATE PROGRAMME IN

RESEARCH METHODOLOGY IN SANSKRIT EDUCATION (RMSE)

Rank and Percentile Rank

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$$Pp = l + \left(\frac{\frac{pN}{100} - F}{f} \right) \times i$$

Pp = ***Expected Percentile, ex. P10, P30 etc.***

l = ***Lower limit of the class interval in which Pp falls***

p = ***a number denoting percentile 30/60***

F = ***Cumulative frequency below the class interval in which Pp falls***

f = ***frequency of the class interval in which Pp falls***

N = ***Total Number of the Scores***

i = ***size of the class interval***

Find out values of percentile P_{30} and P_{60} from given distribution. Interpret the result.

$$P_p = l + \left(\frac{\frac{pN}{100} - F}{f} \right) \times i$$

उदा -

CI	f	F
60 - 65	7	50
55 - 60	10	43
50 - 55	12	33
45 - 50	9	21
40 - 45	7	12
35 - 40	5	5
	N = 50	

$$Pp = l + \left(\frac{\frac{pN}{100} - F}{f} \right) \mathbf{x}\ \boldsymbol{i}$$

P*p* = ***P30***

l = ***45***

p = ***30***

F = ***12***

f = ***9***

N = ***50***

i = ***5***

$$P_{30} = 45 + \left(\frac{15 - 12}{9} \right) \mathbf{x}\ \boldsymbol{5}$$

$$P30 = 45 + (0.33 \times 5)$$

$$P30 = 45 + 1.65 = 46.65$$

It implies that the scores of 30% students are below 46.65 the scores.

Or

The percentile rank of the score is 46.65 is 30.

Find out values of percentile P_{30} and P_{60} from given distribution. Interpret the result.

उदा -

CI	f	F
60 - 65	7	50
55 - 60	10	43
50 - 55	12	33
45 - 50	9	21
40 - 45	7	12
35 - 40	5	5
	N = 50	

$$Pp = l + \left(\frac{\frac{pN}{100} - F}{f} \right) \times i$$

$$\frac{60 \; X \; 50 = 30}{100}$$

$$Pp = l + \left(\frac{\frac{pN}{100} - F}{f} \right) \mathbf{x}\ \boldsymbol{i}$$

P*p* = ***P60***

l = ***50***

p = ***60***

F = ***21***

f = ***12***

N = ***50***

i = ***5***

$$P_{60} = 50 + \left(\frac{30 - 21}{12} \right) \mathbf{x}\ \boldsymbol{5}$$

$$P60 = 50 + (0.75 \times 5)$$

$$P60 = 50 + 3.75 = 53.75$$

It implies that the scores of 60% students are below 53.75 the scores.

Or

The percentile rank of the score 53.75 is 60.

Find out values of percentile P_{40} and P_{50} from given distribution. Interpret the result.

उदा -

CI	f	F
80 - 85	4	54
75 - 80	7	50
70 - 75	9	43
65 - 70	12	34
60 - 65	9	22
55 - 60	8	13
50 - 55	5	5

$$Pp = l + \left(\frac{\frac{pN}{100} - F}{f} \right) \times i$$

$$P40 = 60 + \left(\frac{21.6 - 13}{9} \right) \times 5$$

$$P40 = 60 + \frac{4.78}{} = 64.78$$

$Pp = P40$

$l = 60$

$p = 40$

$F = 13$

$f = 9$

$N = 54$

$i = 5$

It implies that the scores of 40% students are below 64.78 the scores.

Or

The percentile rank of the score 64.78 is 40.