

## **NOTICE**

The Computer Based Test (CBT) for the post of Clerk and Peon will be conducted on 15-Nov-2024 to 17-Nov-2024. Each examination will be held in multiple shifts, with different question sets for each shift.

Please note that the Equi-percentile Method will be applied to normalize the examination scores for the post of Clerk and Peon.

Details regarding the Equi-percentile Method are provided in Annexure-I.

Candidates are encouraged to check the official website of CDCC Bank Chandrapur regularly for updates.

**CEO  
CDCC Bank**

# **Methodology adopted for Normalization of score for CBT of**

**CLERK and PEON**

**(Pl. Note that the imaginary dates & figures are given in this presentation for illustration purpose only)**

# Percentage (%)

Percentage is a number or **ratio** expressed as a **fraction** of 100.

## Example:

A candidate has obtained 180 marks out of 200 Maximum marks. Then the % of marks calculated as

$$\frac{180}{200} \times 100 = 90 \%$$

# Percentile

Percentile of a candidate will reflect how many candidates have scored below that candidate in that batch.

*Number of Candidates scored marks less than particular marks in the Examination in that particular respective Batch*

$$\text{Percentile of candidate} = \frac{\text{-----}}{\text{Total number of Candidates appeared for the Examination for that particular respective Batch}} \times 100$$

**Therefore, Percentage and Percentile are two different terms.**

# Example of Percentile

**Example:** Assume that total number of Candidates appeared for examination in a particular batch are 14,618. Top Five Candidates have scored 165 marks, what is the percentile of each Candidate?

**Data:**

1. Total no. of Candidates appeared = 14,618
2. Number of Candidates having marks 165 = 05 no.
3. Number of Candidates having marks below 165 =  $14,618 - 05 = 14,613$

$$\text{Percentile of Candidate having marks 165} = (14,618 - 5) / 14,618 \times 100 = 99.9657 = 99.966$$

**Hence percentile of each Candidates having marks 165 is 99.966**

# Why Equi-percentile

- As the examination is conducted in multiple Shifts, the question papers were different for each Shift, the marks **scoring pattern** depends upon the difficulty level and it varies from Shift to Shift.
- Due to this variation, Equi-percentile Method for normalization of marks is adopted to take care of the difference in difficulty level, so that no candidate feels he/she is at a loss because he/she attempted a Shift which had tougher set of questions.

# Number of candidates appeared

Date	No. of Candidates appeared	
	Shift 1	Shift 2
08 <sup>th</sup> Sep. 2015	14,618 (Batch I)	14,817 (Batch II)
09 <sup>th</sup> Sept 2015	14,103 (Batch III)	

# Evaluation

## Number of questions considered for Evaluation

Day	Shift	Total questions	No. of questions to be eliminated for evaluation	No. of questions to be considered for evaluation
08th Sep., 2015	Shift 1	200	19	$200-19=181$
	Shift 2	200	18	$200-18=182$
09 <sup>th</sup> Sep., 2015	Shift 1	200	11	$200-11=189$
	Shift 2	200	11	$200-11=189$



# Percentile calculation

Percentile of candidate obtained in the respective batch is calculated batch wise *i.e.*, Batch I, Batch II, and Batch III using following formula;

*Number of Candidates scored marks less than  
particular marks in the CBT  
2017 in that particular respective Batch*

*Percentile =-----x 100*

*Total number of Candidates appeared for the  
CBT for that particular respective Batch*

# CBT-2017

- **Calculation of Percentile of particular Candidate of Batch-I (Shift 1, 10.0 am, 08/09/2017)**
- *Total number of Candidates appeared for the CBT-2017 for Batch I = **14,618***  
**Percentile Calculation for the Candidate scored 165 marks.**
- There are **05** Candidates scoring 165 marks
- *Number of Candidates scored marks less than 165 marks in the CBT-2017 in Batch I = 14613*

*Number of Candidates scored marks less than 165 marks in the Percentile of Candidate CBT-2017 in Batch-I having 165 marks* =  $\frac{\text{-----}}{\text{Total number of Candidates appeared for the CBT-2017 for Batch I}} \times 100$

$$\begin{array}{l} \text{Percentile of Candidate} \\ \text{having 165 marks} \\ \text{(Rounded up to 3 decimal places)} \end{array} = \frac{14,613}{14,618} \times 100 = \mathbf{99.966}$$

# Calculation of Percentile of Shift-1 (Batch-I)

Number of Candidates appeared 14,618

Score out of 181	Total No. of Candidates	Cumulative total Candidates	No. of Candidates below	Percentile
165	5	5	14,618-5=14,613	99.966
163	4	9	14,618-9=14,609	99.938
162	6	15	14,618-15=14,603	99.897
161	11	26	14,618-26=14,592	99.822

Percentile of Candidate having marks 165 =  $(14,618-5)/14,618 \times 100 = 99.9657 = 99.966$

Percentile of Candidate having marks 163 =  $(14,618-9)/14,618 \times 100 = 99.9384 = 99.938$

Percentile of Candidate having marks 162 =  $(14,618-15)/14,618 \times 100 = 99.8973 = 99.897$

Percentile of Candidate having marks 161 =  $(14,618-26)/14,618 \times 100 = 99.8221 = 99.822$

# CBT-2017

- **Calculation of Percentile for Batch II (Shift 2, 12.30 pm, 08/09/2017)**
- *Total number of Candidates appeared for the CBT-2017 for Batch II = 14,817*
- **Percentile Calculation for the Candidate scored 155 marks out of 182.**
- There **only one** Candidate scoring 155 marks
- *Number of Candidates scored marks less than 155 marks in the CBT-2017 in Batch II= 14,816*

$$\text{Percentile of Candidate having 155 marks} = \frac{\text{Number of Candidates scored marks less than 155 marks in the CBT-2017 in Batch II}}{\text{Total number of Candidates appeared for the CBT for Batch II}} \times 100$$

$$\text{Percentile of Candidate having 155 marks} = \frac{14,816}{14,817} \times 100 = 99.993$$

*(Rounded up to 3 decimal places)*

## Calculation of Percentile of Shift-2 (Batch-II)

Number of Candidates appeared 14,817

Score out of 182	Total No. of Candidates	Cumulative total Candidates	No. of Candidates below	Percentile
155	1	1	14,817-1=14,816	99.993
152	5	6	14,817-6=14,811	99.960
151	1	7	14,817-7=14,810	99.953
150	1	8	14,817-8=14,809	99.946

Percentile of Candidate having marks 155 =  $(14,817-1)/14,817 \times 100 = 99.99325 = 99.993$

Percentile of Candidate having marks 152 =  $(14,817-6)/14,817 \times 100 = 99.95950 = 99.960$

Percentile of Candidate having marks 151 =  $(14,817-7)/14,817 \times 100 = 99.95275 = 99.953$

Percentile of Candidate having marks 150 =  $(14,817-8)/14,817 \times 100 = 99.94600 = 99.946$

## Effect of Number of Candidates Scoring Same marks on percentile calculation

**Example:** Considering Batch I data

Total number of candidates appeared = 14,618

Score out of 181	Score out of 200	Total Candidates scoring 165 marks	No. of Candidates below 165	Percentile
165	182.320	1	14,617	99.993
165	182.320	2	14,616	99.986
165	182.320	3	14,615	99.979
165	182.320	4	14,614	99.973
165	182.320	5	14,613	99.966

## **Effect of Number of Candidates Scoring Same score on percentile calculation**

**The percentile is depending upon how many Candidates are having score below that particular score.**

# How and what is equated

- Batch II percentile scale is considered as Reference, as the number of Candidates appeared is more.
- Take the percentile of any batch other than Batch II
- Locate the percentile in the Batch II percentile scale to map.
- If does not map follow the interpolation method and find out the corresponding marks.
- The values of percentiles are arranged in the descending order irrespective of the score obtained.
- **The values of percentiles are the same as in their respective batches.**

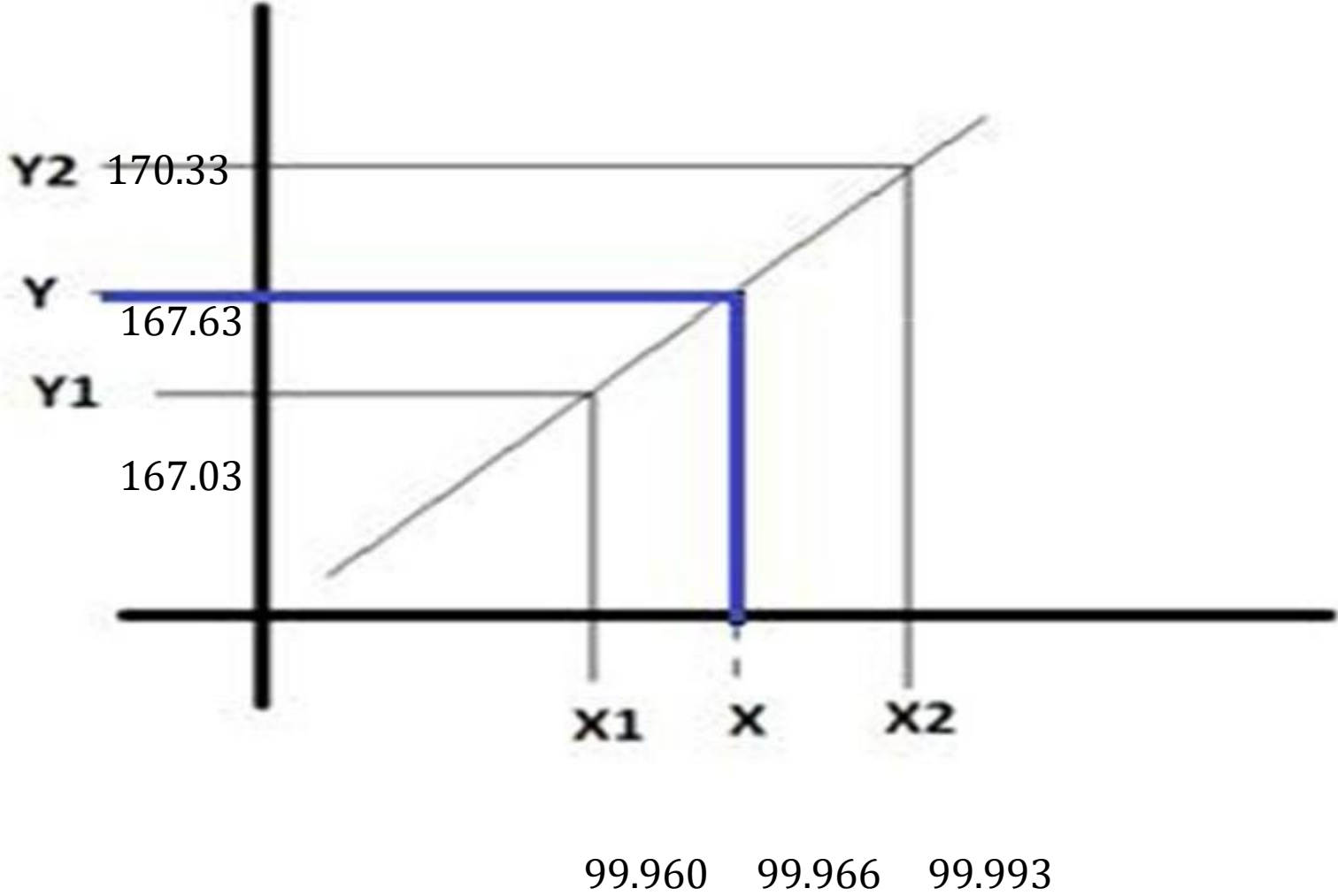


## Reference - Percentile scale of Batch II

08th Sep. 2015 @ 12.30 pm Shift 2 Number of Candidates appeared: 14,817

<b>Score out of 182</b>	<b>Score out of 200</b>	<b>Percentile</b>	<b>Total Candidates having same marks</b>
155	170.330	99.993	1
152	167.033	99.960	5
151	165.934	99.953	1
150	164.835	99.946	1
149	163.736	99.939	1
148	162.637	99.926	2

# Interpolation for unmapped percentile



# Interpolation for un-mapped percentile

$$Y = Y1 + \frac{(Y2 - Y1)}{(X2 - X1)} * (X - X1)$$

Where;

**Y** = Equated Score rounded up to 2 decimal places

**Y1** = Marks corresponding to immediate lower percentile form Batch II

**Y2** = Marks corresponding to immediate upper percentile form Batch II

**X1** = Immediate lower percentile form Batch II

**X2** = Immediate upper percentile form Batch II

**X** = Percentile of the Candidate of the respective Batch

# Equating Batch I candidates

<b>Score out of 181</b>	<b>Score out of 200</b>	<b>Percentile</b>	<b>Total Candidates having same score</b>	<b>Equated Score</b>
<b>165</b>	<b>182.320</b>	<b>99.966</b>	<b>5</b>	<b>167.63</b>
<b>163</b>	<b>180.110</b>	<b>99.938</b>	<b>4</b>	<b>163.66</b>
<b>162</b>	<b>179.006</b>	<b>99.897</b>	<b>6</b>	<b>160.36</b>
<b>161</b>	<b>177.901</b>	<b>99.822</b>	<b>11</b>	<b>158.02</b>
<b>160</b>	<b>176.796</b>	<b>99.740</b>	<b>12</b>	<b>156.79</b>

# Merit for Selection

- As the merit list will be based on the **percentile** The selection of Batch I or Batch II or Batch III as reference, will not affect the percentile of the candidate.

## 5.1.2 Relative merit in case of equal marks and equal percentile:

In the case of candidates securing equal CBT-2017 percentile, their relative merit will be determined on the basis of the following order of preference:

- i) Candidate who is older in age will be placed higher in the merit
- ii) If the date of birth is also same, then the names are to be arranged in alphabetical order to determine the merit.

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