Equi-percentile Methodology adopted

MBA-CET 2015

Percentage (%)

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

Example: A student 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.

$$\text{Percentile of candidate} = \frac{\text{Number of students scored marks less than particular marks in the Examination in that particular respective Batch}}{\text{Total number of students appeared for the Examination for that particular respective Batch}} \times 100$$

There fore, Percentage and Percentile are two different terms.

Example of Percentile

Example: Total number of students appeared for examination in a particular batch are 14,618. Top Five students have scored 165 marks, what is the percentile of each student?

Data:

1. Total no. of students appeared = 14,618
2. Number of students having marks 165 = 05 no.
3. Number of students having marks below 165 = 14,618 – 05 = 14,613

Percentile of student having marks 165 = (14,618-5)/14,618 X100 = 99.9657 = 99.966

Hence percentile of each students having marks 165 is 99.966

Why Equi-percentile

- As the examination is conducted in multiple sessions, the question papers were different for each session, the marks **scoring pattern** depends upon the difficulty level and it varies from session to session.
- Due to this variation, DTE has normalised the score using Equi-percentile Method 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 session which had tougher set of questions.
- **Please read Information Brochure Annexure-V; Clause 2.2**

"MAH-MBA/MMS CET 2015 shall be conducted in two or more sessions depending upon the number of applications registered. Competent Authority, using **Standardized Equi-percentile method**, will be equating scores across sessions."

Number of candidates appeared

Date	No. of Candidates appeared	
	Session 1	Session 2
14 March 2015	14,618 (Batch I)	14,817 (Batch II)
15 March 2015	14,103 (Batch III)	13,686 (Batch IV)

Evaluation

Number of questions considered for Evaluation

Day	Session	Total questions	No. of questions to be eliminated for evaluation	No. of questions to be considered for evaluation
14 March, 2015	Session 1	200	19	200-19=181
	Session 2	200	18	200-18=182
15 March, 2015	Session 1	200	11	200-11=189
	Session 2	200	11	200-11=189

Percentile calculation

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

$$\text{Percentile} = \frac{\text{Number of students scored marks less than particular marks in the MBA-CET 2015 in that particular respective Batch}}{\text{Total number of students appeared for the MBA-CET 2015 for that particular respective Batch}} \times 100$$

MBA-CET 2015

- **Calculation of Percentile of particular student of Batch I (Session 1, 10.0 am, 14/03/2015)**
- *Total number of students appeared for the MBA-CET 2015 for Batch I* = **14,618**

  Percentile Calculation for the student scored 165 marks.
- There are **05** students scoring 165 marks
- *Number of students scored marks less than 165 marks in the MBA-CET 2015 in Batch I= 14613*

$$\text{Percentile of student having 165 marks} = \frac{\text{Number of students scored marks less than 165 marks in the MBA-CET 2015 in Batch I}}{\text{Total number of students appeared for the MBA-CET 2015 for Batch I}} \times 100$$

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

Calculation of Percentile of Session-1 (Batch-I)

Number of Students appeared 14,618

Score out of 181	Total No. of students	Cumulative total students	No. of students 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 student having marks 165 = (14,618-5)/14,618 X100 = 99.9657 = 99.966

Percentile of student having marks 163 = (14,618-9)/14,618 X100 = 99.9384 = 99.938

Percentile of student having marks 162 = (14,618-15)/14,618 X100 = 99.8973 = 99.897

Percentile of student having marks 161 = (14,618-26)/14,618 X100 = 99.8221 = 99.822

MBA-CET 2015

- **Calculation of Percentile for Batch II (Session 2, 2.00 pm, 14/03/2015)**
- *Total number of students appeared for the MBA-CET 2015 for Batch II* = **14,817**

Percentile Calculation for the student scored 155 marks out of 182.

- There **only one** student scoring 155 marks
- *Number of students scored marks less than 155 marks in the MBA-CET 2015 in Batch II= 14,816*

$$\text{Percentile of student having 155 marks} = \frac{\text{Number of students scored marks less than 155 marks in the MBA-CET 2015 in Batch II}}{\text{Total number of students appeared for the MBA-CET 2015 for Batch II}} \times 100$$

$$\text{Percentile of student having 155 marks (Rounded up to 3 decimal places)} = \frac{14{,}816}{14{,}817} \times 100 = \mathbf{99.993}$$

Calculation of Percentile of Session-2 (Batch-II)

Number of Students appeared 14,817

Score out of 182	Total No. of students	Cumulative total students	No. of students 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 student having marks 155 = (14,817-1)/14,817 X100 = 99.99325 = 99.993

Percentile of student having marks 152 = (14,817-6)/14,817 X100 = 99.95950 = 99.960

Percentile of student having marks 151 = (14,817-7)/14,817 X100 = 99.95275 = 99.953

Percentile of student having marks 150 = (14,817-8)/14,817 X100 = 99.94600 = 99.946

Effect of Number of Students 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 Students scoring 165 marks	No. of students 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 Students Scoring Same score on percentile calculation

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

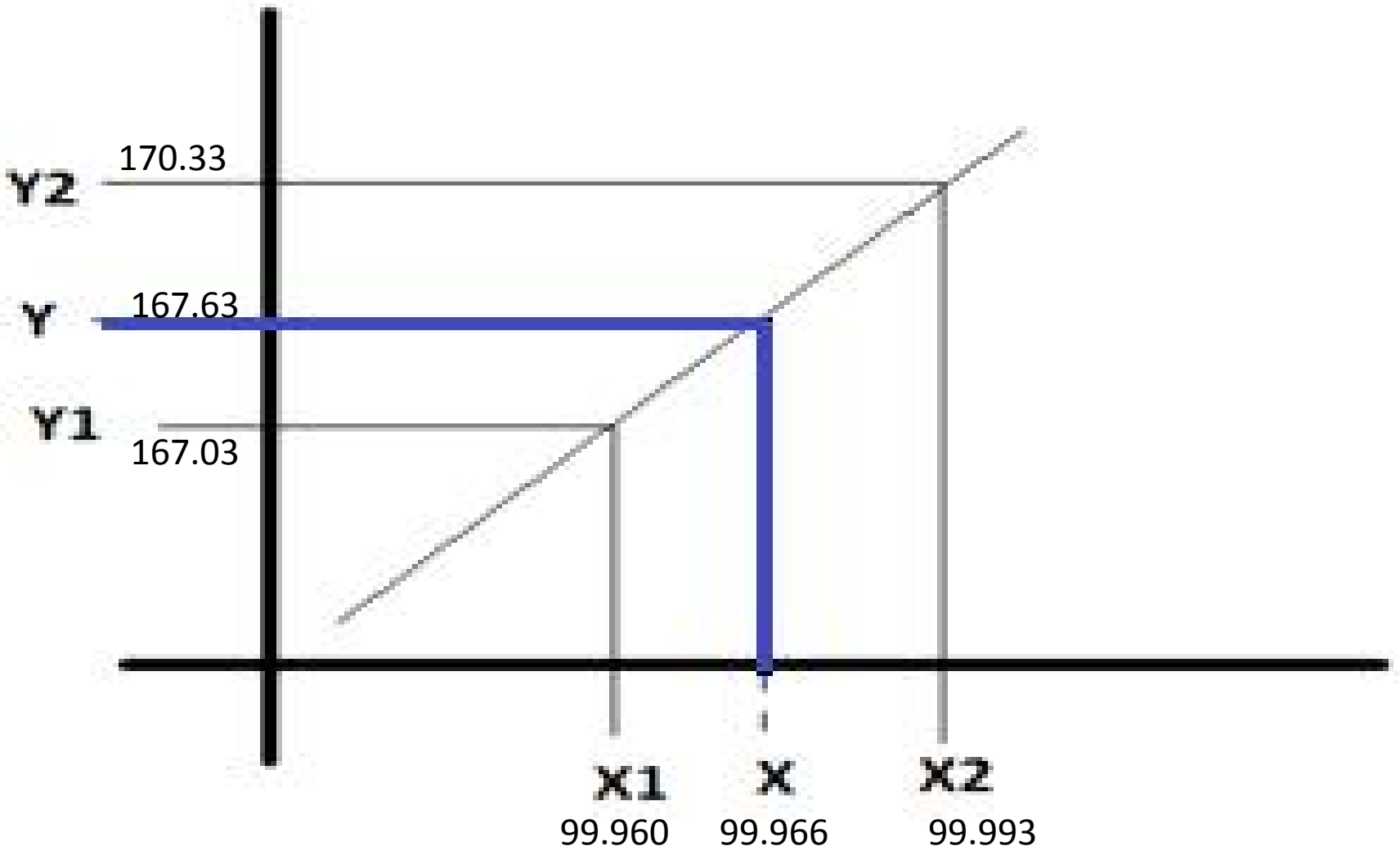
How and what is equated

- Batch II percentile scale is considered as Reference, as the number of students 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 there respective batches.**

Reference - Percentile scale of Batch II

14th March 2015 @ 2.00 pm Session 2 Number of Candidates appeared : 14,817			
Score out of 182	**Score out of 200**	**Percentile**	**Total Students having same marks**
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

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

Merit for Admission

- As the merit list will be based on the **percentile**.
- The selection of Batch I or Batch II or Batch III or Batch IV as reference, will not affect the percentile of the candidate.
- In case of equal percentile the inter-se-merit criteria given in the information brochure shall be applied at the time of preparation of merit list for admission.

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

In the case of candidates securing equal MAH-MBA/MMS-CET 2015 percentile, their relative merit will be determined on the basis of the following order of preference:

a) Higher percentage of marks scored in the **aggregate at the HSC (Std. XII)** or its equivalent examination will get preference.

b) Higher percentage of the marks scored in the **aggregate at the SSC (Std. X)** or its equivalent examination will get preference.

c) **Birth date** of the candidate (Elder candidates will get preference)

Thank you !!