Dear Parents,

The following circular has been received from the C.I.S.C.E regarding the methodology for allocation of marks for the I.S.C. Examination of 2020. This is being forwarded as received.

Principal
Date: 03-07-20 20

CISCE FORMULAE - ISC

Marks imputation formulae for the remaining ISC Year 2020 Examination *have been devised by reputed Statisticians from Premier Institutions in the Country.*

FACTORS USED IN THE COMPUTATIONS

1. **Average of a candidate's best three subject marks in the board examination (A):** The average of the <u>best three</u> percentage marks obtained from among the subjects the candidate has appeared for in the board examination.

2. **Subject Project & Practical Work**: Total marks obtained by the candidate in the Project & Practical Work of the subject.

3. **Percentage subject Project & Practical Work (B):** Percentage of marks obtained by the candidate in the Project & Practical Work of the subject. Note that it is the marks obtained for Project & Practical Work, expressed as a percentage.

Rationale:

1. The components used to arrive at the formula to award the marks in the subjects which have Project & Practical Work component is limited to the Project & Practical Work in the subjects and the performance of the candidates in the board examination in the subjects that they have already appeared for so far, measured through their average marks obtained in the best three subjects. While the former measures the subject proficiency of the candidates, the latter is a measure of their general academic ability.

2. The marks awarded to the candidates are taken as a weighted average of these two components as mentioned in Point 1 above.

3. To arrive at the weight, detailed analyses were performed on the data from the past board examinations from the years 2015 to 2019 as well as the year 2020 board examination. Extensive scenario analyses were done based on different subjects. Most importantly, the weights were so chosen as to ensure fairness to all the candidates appearing in the Board Examination this year to the best possible extent.

4. Elective English and Art are two special cases for which the formulae have been detailed in the following pages of this document.

ALGORITHM TO BE USED:

1. For pending examinations having components of Project & Practical Work i.e. Geography, Sociology, Psychology, Business Studies, Biology and Home Science:

   a) Obtain the subject board marks percentage (percentage of marks obtained by the algorithm which may be awarded to the candidate for the board examination in the subject) by:

   SUBJECT BOARD MARKS PERCENTAGE = 0.7 A + 0.3 B

   b) Determine the board marks for the subject as:
   SUBJECT BOARD MARKS = SUBJECT BOARD MARKS PERCENTAGE × WEIGHTAGE FOR BOARD MARKS

   For the subjects Geography, Sociology, Psychology, Biology and Home Science, the board marks are out of 70, and hence the weightage for board marks should be 0.7. For the subject Business Studies the board marks are out of 80, and hence the weightage for board marks should be 0.8.

   c) Obtain the final marks as:
   SUBJECT FINAL MARKS = SUBJECT BOARD MARKS + SUBJECT PROJECT & PRACTICAL WORK

2. For candidates who have appeared in three subjects, take the best two, and for candidates who have appeared for two subjects, take the better one. For a candidate who has appeared in only one subject, that subject can be considered.

3. For Elective English, use the following formula:
   SUBJECT FINAL MARKS = AVERAGE PERCENTAGE SCORE OBTAINED IN ENGLISH LANGUAGE (PAPER 1) & LITERATURE IN ENGLISH (PAPER 2)

   For Art Paper 5 use the following formula:

   SUBJECT FINAL MARKS = AVERAGE PERCENTAGE SCORE OBTAINED IN THE OTHER ART PAPERS TAKEN BY THE CANDIDATE IN THE BOARD EXAMINATION.

NOTE:

1. To compute any average, convert all marks to percentage scores.

2. For candidates who were registered to appear for improvement of marks but have not been able to appear for any paper, their subject paper board percentage marks should be obtained by replacing A in the formula given in 1 (a) by their previously obtained percentage marks in the last board paper of that subject taken by them.

Example 1: For a subject with 30% marks allocated for internal marks and 70% for external marks: (For example: Biology or Sociology in ISC).

Suppose for a candidate the average marks of the best three subjects (A) = 65 (out of 70)

Internal Assessment in the subject = 28 out of 30

Predicted percentage board marks in the subject = $0.7 \times 65 \times (100/70) + 0.3 \times 28 \times (100/30) = 93$

Predicted board marks in the subject = $93 \times 0.7 = 65.10$

Final marks in the subject = $65.1 + 28 = 93.1$

Example 2: For a subject with 30% marks allocated for internal marks and 70% for external marks: (For example: Biology or Sociology in ISC).

Suppose for a candidate the average marks of the best three subjects (A) = 50 (out of 70)

Internal Assessment in the subject = 25 out of 30

Predicted percentage board marks in the subject = $0.7 \times 50 \times (100/70) + 0.3 \times 25 \times (100/30) = 75$

Predicted board marks in the subject = $75 \times 0.7 = 52.5$

Final marks in the subject = $52.5 + 25 = 77.5$

Example 3: For a subject with 30% marks allocated for internal marks and 70% for external marks: (For example: Biology or Sociology in ISC).

Suppose for a candidate the average marks of the best three subjects (A) = 30 (out of 70)

Internal Assessment in the subject = 22 out of 30

Predicted percentage board marks in the subject = $0.7 \times 30 \times (100/70) + 0.3 \times 22 \times (100/30) = 52$

Predicted board marks in the subject = $52 \times 0.7 = 36.4$

Final marks in the subject = $36.4 + 22 = 58.4$