

**CENTRAL BOARD OF SECONDARY EDUCATION
SHIKSHA KENDRA, 2 COMMUNITY CENTRE,
PREET VIHAR, DELHI-110092**

CBSE/EO(Sc.)/Maths/2006/

29.6.06

Circular No. 14

**All Heads of Institutions
Affiliated to the Board**

Subject : Internal Assessment in Mathematics at Secondary stage

Dear Principal,

You are aware that the Board had issued notification vide circular no. 03/04 dated 28th January, 2004 regarding introduction of concept of Mathematics Laboratory in all its affiliated schools. The schools were advised to get Mathematics Laboratory ready by 31st March 2005. Another Circular No. 10 dated 2nd March, 2005 in this regard had also been issued in relation to introduction of Mathematics Laboratory and Internal assessment in Mathematics at the Secondary level from Academic session 2005-06 in class IX and the subsequent session in class X. This circular clarified that the internal assessment of 20% is to be awarded on the basis of performance of a student in the activity work, project work and continuous assessment as per the following scheme:

- Assessment of **two skills** on the basis of year-end
formal examination in activity work : 10 Marks
- Assessment of Project work : 05 Marks
- Assessment through formative and
Summative tests : 05 Marks

The Board had also published a document 'Guidelines for Mathematics Laboratory in Schools for class IX' during the session 2005-2006 which included details of all the activities to be done by a student alongwith the information related to project work and assessment in the same. It is hoped that all necessary steps have been taken by your institution for effective implementation of the scheme ensuring optimum objectivity in assessment.

This scheme of internal assessment of 20% in Mathematics will now be applicable for March, 2007 class X Examination. The Board has already published a document 'Guidelines for Mathematics Laboratory in schools for class X' which includes details of all the activities to be done by a student during the year as well as suggested project work. Besides, the document also includes all relevant information about scheme of assessment. The contents of this document are available on CBSE website www.cbse.nic.in. It is hoped that the said document has been procured by your institution and

the guidelines are being followed in letter and spirit. The following aspects of the scheme deserve your **special attention**:

- a) The scheme of assessment for class X March, 2007 Examination will comprise of two components :
- | | |
|---|------------|
| Theory Examination | : 80 Marks |
| Internal Assessment (Based on Activity Work and project work) | : 20 Marks |
- b) All the activities included in the document for class X have to be done by every student during the academic year. The Board's document 'Guidelines for Mathematics laboratory in schools -class X' includes the detailed procedure for conduct of all these activities. The students are required to maintain proper record of the activity work done during the year. The Board may ask any school to produce this record work, if required.
- c) Every school must provide the required **physical facilities** and provision for time for practical work in school **time-table**.
- d) Every student is also expected to undertake one project in the subject during the year. This project may be in the form of extended learning in the subject and related to real life situations.

However, the total out-of-school time required to complete this project should not exceed 8-10 hours. The subject teacher may guide the students for its proper selection and procedure, if need be. Some of the projects suggested in class X Board's document include :

- i) To investigate the efficiency of packing of objects of different shapes in a cuboid box.
- ii) Geometry in real life
- iii) To study the distance between different points of a geometrical figure when it is displaced.
- iv) Analysis of a language test using graphical and pie chart techniques.
- v) To appreciate that finding probability through experiment is different from finding probability by calculation.

Proper report of the project work, **preferably handwritten**, is also to be maintained separately. This report may include objective, description, calculation, result, conclusion and remark.

e) The activity work and project work done by the students during the academic session has to be assessed during the course of a **formal examination** at the end of the year **at school level**. The said examination may be spread over a **period of an hour and a half** for a **group of about 20 students**. Any **two skills** out of a list of skills (observation, thinking, analytical, comparing, interpretation, problem-solving, spatial skills, game skill etc.) given in the Board's document may be tested through **two or three activities** (depending on the time needed for such activities) to be actually performed by every student in the examination. The assessment of students in skills and project work may be done preferably by a **team of teachers** in accordance with the detailed specifications given in the Board's document. The break-up of 10 marks for assessment of single activity could be as :-

- Statement of the objective of activity : 01 mark
- Design of approach to activity : 02 marks
- Actual conduct of activity : 03 marks
- Procedure explanation : 03 marks
- Result and conclusion : 01 mark

The break-up of 5 marks for assessment of project work could be as:

- Identification and statement of the project : 01 mark
- Design of the project : 01 mark
- Procedure adopted : 01 mark
- Write-up of the project : 01 mark
- Interpretation of result : 01 mark

Continuous Assessment in the form of formative and summative tests may be carried out as per the following scheme (for class X)

- i) Reduce the marks obtained by the student in class IX Annual Examination out of ten.
- ii) Reduce the marks obtained by the student in first term examination in class X out of ten.
- iii) Add the marks in (i) & (ii) above and work out for the marks out of 20.
- iv) Reduce it to marks out of 05. The above marks may then be added to the project work for calculation of total marks out of 20. The list of marks obtained by every student (out of 20) is to be sent to the Board's office as per the directions to be issued.

It may not be out of place to bring to your kind notice that the Board will keep a close watch on the marks obtained by students in theory Examination (out of 80) and internal assessment (out of 20) and may down scale the marks in internal assessment in case of serious discrepancies.

Every school is required to maintain proper record of the activity, work and project work for a period of six months. The same may be inspected by the Board, if need be.

You will appreciate that the whole purpose of introducing the concept of Mathematics laboratory and internal assessment at secondary level is to make teaching-learning of the subject an interactive, exciting, fun-filling and life related experience. The scheme primarily aims at helping the student learn the basic and essential concepts and skills by doing simple activities and projects. This is likely to promote interest for the subject and enhance academic attainment of the students. The scheme, however, demands greater focus, attention and efforts on everyone's part. **Your personal intervention and monitoring will certainly add immense value to this academic endeavour.**

Education Officer(Science), CBSE may be contacted on tel.no. 011-23200155 for any further clarification in this matter.

Yours faithfully,

(R.P.SHARMA)
EDUCATION OFFICER(SCIENCE)

Copy to :

1. The Commissioner, Kendriya Vidyalaya Sangathan, 18-Institutional Area, Shaheed Jeet Singh Marg, New Delhi-110 016
2. The Director, Navodaya Vidyalaya Samiti, A-28, Kailash Colony, New Delhi.
3. The Director of Education, Directorate of Education, Govt. of NCT of Delhi, Old Secretariat, Delhi-54
4. The Director of Education, Govt. of Andaman and Nicobar Islands, Port Blair-744 101
5. The Director of Public Instructions (Schools), Union Territory Secretariat, Sector -9, Chandigarh-160 017.
6. Director of School Education, Govt. of Arunachal Pradesh, Itanagar-791 111

7. Director of Education, Govt. of Sikkim, Gangtok, Sikkim-737 101
8. All the Regional Officers with the request to send it immediately to all the Heads of the Schools which falls under your jurisdiction for the action and compliance.
9. Controller of Examinations, CBSE
10. All Education Officers.

EDUCATION OFFICER(SCIENCE)