

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

**CBSE/EO(Sc.)/Science/2006/**

**21.6.06**

**Circular No. 15**

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

**Subject : Restructuring of assessment in Practical work in Science and  
Technology at Secondary level**

Dear Principal,

Your attention is drawn to Board's circular no. 19/2005 dated 25<sup>th</sup> March, 2005 regarding restructuring of practical work at Secondary level and the revised assessment scheme in the subject. The said circular clarified that the revised scheme would be effective from the academic session 2005-06 for class IX and the subsequent year for class X. As mentioned in this circular, the revised scheme of annual assessment in the subject in classes IX-X is as under:

Theory Examination	:	60 Marks
Practical Examination	:	20 + 20 = 40 Marks

The Practical Examination has two components :

- a) Hands-on school based year-end practical examination : 20 Marks  
(Internal in class X)
- b) Practical skill based Multiple-choice question  
type year-end written examination : 20 Marks  
(External in class X)

Component (a) of the above examination will be conducted at school level for classes IX as well as X whereas the component (b) above is to be conducted at school level for class IX and at Board's level for class X.

The Board had published the document 'Assessment of practical skills in Science & Technology for class IX' in the preceding year which contained the list of all experiments for class IX along with the design, blue-print, sample question papers, Marking Scheme and question-wise analysis of three sample question papers on testing of practical skills. It is hoped that your school had

procured the document and class IX practical examination in the subject was conducted strictly as per the guidelines of the Board.

The new scheme will now be applicable for March, 2007 class X Examination. The Board has already published a document 'Assessment of Practical skills in Science and Technology – class X' which includes the list of experiments in class X practical syllabus, list of different practical skills and three sample question papers on testing of practical skills. The contents of this document are also available on CBSE website [www.cbse.nic.in](http://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. Following aspects of the new scheme deserve your special attention :

- a) The hands-on practical examination for 20 marks for class X also is to be conducted at school level.
- b) Every student will perform all the fifteen experiments included in the practical syllabus during the academic year. The students are required to maintain proper record file of the practical work done. **The Board may ask any school to produce this practical file work done by the students as well as the procedure and record of assessment in practical work.**
- c) The new scheme has been introduced with the objective of laying greater emphasis on acquisition of practical skills through experimentation, observation, recording and interpretation of data. You are requested to ensure all necessary **physical infrastructure as well as provision of required periods for practical work in school time-table.**
- d) Periodic interventions and monitoring of practical work being done by the students at school level during the academic session can go a long way in improvement in practical work and acquisition of desired skills by the learners.
- e) Teachers need to acquire **sufficient expertise and skills in constructing skill-based multiple choice type questions based on experiments included in the syllabus.** Board's publication on 'Assessment of practical skills in Science and Technology for classes IX and X can be of immense help for this purpose. The Board has also been organizing orientation programmes for science teachers from time to time.
- f) The scheme of Board's examination for class X March, 2007 Examination in the subject will be as under :-

Theory paper	: 60 Marks	: 2 ½ hours
Multiple-choice Question type written Examination in practical skills	: 20 marks	: 1 ½ hours
School-based year-end hands-on practical Examination	: 20 marks	

**g) Weightage of 20 marks for hands-on practical examination is to be further split up as :**

- **Testing of practical skills** : **15 marks**
- **Maintenance of practical work record** : **03 marks**
- **Viva on practicals** : **02 marks**

**h) Every student is required to perform three practicals, one from each of the three components of the practical syllabus, during the hands-on practical examination. Sufficient time (not less than three hours) may be given to the students for conduct of this practical examination. 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.**

**i) Written examination in practical skills for class X will be conducted by the Board on a separate date and time to be notified in Board's date sheet for the examination.**

**j) The design of the revised pattern of theory examination has already been put on Board's website. Detailed sample question papers are in the process and will be available shortly in printed form as well as website address.**

**k) The design and detailed question paper in practical skills is already available in printed form for Rs. 35/- each as well as on Board's website.**

You will appreciate that practical work and experimentation occupy a central place in science curriculum. On the basis of feedback and analysis of results in the past, it has been observed that many schools and teachers have the tendency of awarding more marks in school-based practical examination than the marks secured by students in theory examination conducted by the Board. This needs to be attended to and rectified immediately. The Board will keep a close watch on this matter and may downscale the marks awarded in school-based hands on practical examination. Alternatively, the school may be asked to explain the serious discrepancies, if any. The revised scheme seeks to promote experimental culture in schools and enhance reliability and credibility of assessment in

practical work. **Your personal intervention and monitoring at school level will certainly add immense value to this academic endeavour.**

Education Officer(Science), CBSE may be contacted on tel.no. 011-23220155 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) Controller of Examinations, CBSE
- 9) 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.
- 10) All Education Officers.

EDUCATION OFFICER(SCIENCE)