केन्द्रीय माध्यमिक शिक्षा बोर्ड

(मानव संसाधन विकास मंत्रालय, भारत सरकार, के अधीन एक स्वायत्त संगठन)

शिक्षा सदन, 17, इन्सटिट्यूशनल क्षेत्र, राउज एवेन्यु, दिल्ली-110002.

CENTRAL BOARD OF SECONDARY EDUCATION

(An Autonomous Organization under the Union Ministry of Human Resource Development, Govt. of India)
"Shiksha Sadan", 17, Institutional Area, Rouse Avenue, Delhi-110002

CBSE/DIR (TRG)/PSA/2012/

Dated: 01.08.2012
Circular No. Acad-40/2012

All the Heads of Institutions
Affiliated to CBSE

Subject: Initiation of Problem Solving Assessment (PSA) for Class IX in the second term w.e.f. 2012-2013.

Dear Principal,

It is a widely acknowledged fact that research and analytical skills, ability to apply basic concepts of different subjects, solve application based problems in Mathematics and Science, comprehend and analyse written text and effective communication are the skills which ensure success in Higher Studies and Professional areas.These dimensions of 21st Century life skills will greatly assist learners in acquiring higher order thinking skills such as Problem Solving and Decision Making.

It is in this connection that the Board is planning to initiate a `**Problem Solving Assessment'** **(CBSE-PSA)** for students of Classes IX from the second term of this session 2012-13.

The features of the `Problem Solving Assessment' (CBSE-PSA) will be as follows: -

1. Itwill be compulsory for all students of Classes IX and carry 90 marks. There will be 60 items of MCQ type.

2. There is no specific syllabus for `**Problem Solving Assessment'** (CBSE-PSA). Itwill assess the following areas:-

    - **Quantitative Reasoning**
    - **Qualitative Reasoning**
    - **Language Conventions**

3. The items will incorporate aspects of 21st Century Skills (*Creative Thinking, Decision Making, Critical Thinking, Problem Solving, and Communication*) that lead to success at Secondary Stage. They wouldbe assessing student's ability to process, interpret and use information rather than assessing student's prior subject matter knowledge.

4. The Assessmentin language will contain items that will assess grammar, usage, vocabulary in context and passage-completion.

5. The items in**Problem Solving Assessment'** (CBSE-PSA)will be designed in such a way so as to improve the generic and higher order thinking skills. This will also result in improving scores within the core school subjects.

6. All items will be prepared in Hindi and English.

7. The `**Problem Solving Assessment'** (CBSE-PSA) willbe done during the month of January–February 2013 for students of Class IX.

8. The `**Problem Solving Assessment'** (CBSE-PSA) will be counted towards FA-4 which is 10% of total assessments of Class IX. This assessment will also be carried forward towards the FA-4 in Class X.**This score will be reflected in one Language (English or Hindi), Mathematics, Science and Social Science w.e.f the session 2012-2013 for Class IX and 2013 – 14 for Class X. The same score will be reflected in FA-4 for class IX and Class X.**

9. The students will have the option to improve their PSA Score in Class X, as they can sit for the test with Class IX students of the Session 2013-2014 in January – February 2014. The best scores will be reflected in the final certificatein case of those applying for improvement.

10. The schools which have already planned their time table and other details regarding FA-4 will take the best scores ofFA-3 and FA-4 to count towards the total 10%, now available for FA-3 and FA-4 taken together.

11. There will be no separate time tables or periods for teaching or practice of PSA in schools.

Examples of test items and the Format of the Assessmentthat might be used in the Problem Solving Assessment (CBSE-PSA) are attached in the Annexure `A' & 'B' respectively to this Circular.

Registration for this Assessment will be done separately by the Board and detailed circular will be issued before the start of the second term i.e. September 2012.

You are requested to disseminate this information to all concerned.

With Regards,

(VINEET JOSHI)
CHAIRMAN
Encl : 1. Annexure-A
     2. Annexure-B

Copy to the respective Heads of Directorates, Organizations, and Institutions as indicated below with a request to disseminate the information to all the schools under their jurisdiction:

1. The Commissioner, Kendriya Vidyalaya Sangathan, 18-Institutional Area, ShaheedJeet Singh Marg, New Delhi- 110016.
2. The Commissioner, NavodayaVidayalayaSamiti, A-28, Kailash Colony, New Delhi.
3. The Director of Education, Directorate of Education, Govt. of NCT of Delhi, Old Secretariat, Delhi- 110054.
4. The Director of Public Instructions (Schools), Union Territory Secretariat, Sector-9, Chandigarh- 160017.
5. The Director of Education, Govt. of Sikkim, Gangtok, Sikkim- 737101.
6. The Director of School Education, Govt. of Arunachal Pradesh, Itanagar-791111
7. The Director of Education, Govt. of A&N Islands, Port Blair- 744101.
8. The Director of Education, S.I.E., CBSE Cell, VIP Road, JungleeGhat, P.O. 744103, A&N Islands.
9. The Secretary, Central Tibetan School Administration, ESSESS Plaza, Community Centre, Sector 3, Rohini, Delhi- 110085
10. All the Regional Officers of CBSE with the request to send this circular to all the Heads of the affiliated schools of the Board in their respective regions.
11. The Joint Director, CBSE, Rouse Avenue, New Delhi.
12. The Education Officers/ AEOs of the Academic Branch, CBSE.
13. The Research Officer (T) with the request to put this circular on the CBSE Academic website.
14. The Library and Information Officer, CBSE.
15. E.O. to Chairman, CBSE
16. DO/ PA to Secretary, CBSE
17. PA to CE, CBSE
18. PA to Director (Acad.)
19. PA to HOD (AIEEE)
20. PRO, CBSE

Problem Solving Assessment – Class IX

1. Example: Quantitative Reasoning (PSA)

If Lekha can type a page in m minutes, what piece of the page can she do in 10 minutes?

A. 10/m
B. m - 10
C. m + 10
D. m/10
E. 1- m + 10

Questions 2 and 3 refer to the following information:

The shapes on this page are either square or round, white or shaded, and tailed or not tailed.

In the example below, shape Q is square, shaded and not tailed; while shape R is square, white and tailed.

 Shape Q   Shape R

In Questions 2 and 3, determine how many of the four shapes shown in each question fit the descriptions given.

2. If this shape is white then it is round, if it is shaded then it is round or square.

A   4   C   2

B   3   D   1

3.   The shape is shaded, or it is tailed, or it is shaded and tailed

        A   1   3

B	2		D	4

2. Example: Reading Comprehension

The extract is taken from a book written sixty years ago by a British scientist in which he considers the relationship between science and society.

    The pioneers of the teaching of science imagined that its
introduction into education would remove the conventionality,
artificiality, and backward-lookingness which were characteristic;
of classical studies, but they were gravely disappointed. So, too, in
5 their time had the humanists thought that the study of the classical
authors in the original would banish at once the dull pedantry and
superstition of mediaeval scholasticism. The professional
schoolmaster was a match for both of them, and has almost
managed to make the understanding of chemical reactions as dull
10 and as dogmatic an affair as the reading of Virgil's Aeneid.
  The chief claim for the use of science in education is that it
teaches a child something about the actual universe in which he is
living, in making him acquainted with the results of scientific
15 discovery, and at the same time teaches him how to think logically of a
and inductively by studying scientific method. A certain limited
success has been reached in the first of these aims, but practically
none at all in the second. Those privileged members of the
community who have been through a secondary or public school
20 education may be expected to know something about the
elementary physics and chemistry of a hundred years ago, but they
probably know hardly more than any bright boy can pick up from
an interest in wireless or scientific hobbies out of school hours.
As to the learning of scientific method, the whole thing is palpably
25 a farce. Actually, for the convenience of teachers and the
requirements of the examination system, it is necessary that the
pupils not only do not learn scientific method but learn precisely
the reverse, that is, to believe exactly what they are told and to
reproduce it when asked, whether it seems nonsense to them or
30 not. The way in which educated people respond to such quackeries
as spiritualism or astrology, not to say more dangerous ones such
as racial theories or currency myths, shows that fifty years of
education in the method of science in Britain or Germany has
produced no visible effect whatever. The only way of learning the
35 method of science is the long and bitter way of personal
experience, and, until the educational or social systems are altered
to make this possible, the best we can expect is the production
of a minority people who are able to acquire some of the techniques
of science and a still smaller minority who are able to use and
40 develop them

  Adapted from: ***The Social Function of Science***, John D Bernal (1939)

1. The author implies that the 'professional schoolmaster' (line 7) has

A. no interest in teaching science

B. thwarted attempts to enliven education

C. aided true learning

D. supported the humanists

E. been a pioneer in both science and humanities.

2. The author's attitude to secondary and public school education in the sciences is
A. ambivalent

B. neutral

C. supportive

D. satirical

E. contemptuous

3. The word 'palpably' (line 24) most nearly means

A. empirically

B. obviously

C. tentatively

D. markedly

E. ridiculously

4. The author blames all of the following for the failure to impart scientific method through the education system except

A. poor teaching

B. examination methods

C. lack of direct experience

D. the social and education systems

E. lack of interest on the part of students

5. If the author were to study current education in science to see how things have changed since he wrote the piece, he would probably be most interested in the answer to which of the following questions?

A. Do students know more about the world about them?

B. Do students spend more time in laboratories?

C. Can students apply their knowledge logically?

D. Have textbooks improved?

E. Do they respect their teachers?

6. Astrology (line 31) is mentioned as an example of

A. a science that needs to be better understood

B. a belief which no educated people hold

C. something unsupportable to those who have absorbed the methods of science

D. the gravest danger to society

E. an acknowledged failure of science

7. All of the following can be inferred from the text except

 A. at the time of writing, not all children received a secondary school education

B. the author finds chemical reactions interesting

C. science teaching has imparted some knowledge of facts to some children

D. the author believes that many teachers are authoritarian

E. it is relatively easy to learn scientific method.

PSA – Class IX - Format

Test Context Domain/ Item Type	Target No. per Test Form		
	No. of Items	No. of Passages	Total No. of Items
Qualitative • Stand-alone MCQs • Passage-based MCQs	6 6	2	6 12
SUB TOTAL			*18*
Quantitative • Stand-alone MCQs • Passage-based MCQs	10 4	2	10 8
SUB TOTAL			*18*
Language Conventions • Grammar & Usage MCQs • Vocabulary in Context MCQs • Passage-completion MCQs	8 8 8		8 8 8
SUB TOTAL			*24*
TOTAL			**60**