

A Qualitative Analysis of State Level Tests
of
National Talent Search Examination



Department of Educational Measurement and Evaluation
National Council of Educational Research and Training
New Delhi
2008

**A Qualitative Analysis of State Level Tests
of
National Talent Search Examination**

**Dr. K. Chandrasekhar
Prof. Mamta Agrawal**



**Department of Educational Measurement and Evaluation
National Council of Educational Research and Training
New Delhi
2008**

Preface

The National Talent Search Scheme is a prestigious scheme under which 1000 talented students studying in class VIII level from all over India are identified and awarded scholarship to pursue their education further. A stipulated number of students appear in the NTS selection test from each state and UT. But it has been observed that from each state proportionate number of students do not get selected for the award.

Since the students from each state/UT get nominated for the National Level test on the basis of State level examination, it was thought appropriate to have a look at the State level NTS tests for their coverage, standard and quality. It might be difficult for the students from those states where the tests fall short of a certain standard to compete at the national level. With this purpose, the State level NTS tests were analysed for the quality of their test items on various parameters. The findings of the study are quite revealing as it tells many things beyond quality of items. The feedback has been sent to the states/UTs, so that they may improve their tests in future.

This report consists of the analysis of both the tests i.e. Mental Ability Test (MAT) and Scholastic Aptitude Test (SAT) of each state/UT. The major findings of the analysis have been reported at the end of this report.

The analysis of question papers could not have been possible without the active participation of subject experts across the different fields. I am thankful to all of them. I am also thankful to the project team who has worked hard in their respective subjects to bring this report in the present shape.

I must also congratulate Dr. K. Chandrasekhar and Prof. Mamta Agrawal for having steered the project and successfully completing the project. My thanks to one and all who associated with the analysis.

Suggestions are welcome.

New Delhi
December, 2008

(Avtar Singh)
Professor and Head
DEME, NCERT

Acknowledgements

We wish to express our sincere thanks to all the subject experts who participated in the analysis of the Scholastic Aptitude Tests (SAT) and Mental Ability Tests (MAT) in different subjects.

We are extremely grateful to our colleagues for providing much needed guidance in their subjects during the workshops.

Our grateful thanks are due to Prof. Avtar Singh, the Head of the Department of Educational Measurement and Evaluation, NCERT for taking keen interest in the project. But for his involvement this report would not have possible.

The support of administrative staff in the completion of this project is duly acknowledged.

K. Chandrasekhar

Mamta Agrawal

Contents

	Pages
<i>Preface</i>	
<i>Acknowledgements</i>	
I. Introduction	1 - 5
1.1 Need of Analysis	
1.2 Objective	
1.3 Method of Analysis	
1.4 Conceptual Framework	
II. State-wise Analysis of Scholastic Aptitude Test	6 - 101
III. State-wise Analysis of Mental Ability Test	102 - 169
IV. Major Findings	170 - 173
 Appendices:	
1. Proforma for Analysing SAT	175 - 178
2. Proforma for Analysing MAT	179 - 181
3. List of Resource Persons	182 – 185
4. Resource Persons from DEME	1

CHAPTER-I

I. Introduction

National Talent Search Scheme is a flagship programme of the NCERT. It started in 1963 as National Science Talent Search with the purpose of identifying and nurturing the talented students. Over the last four and a half decades the scheme underwent a number of changes. It started with 10 scholarships and presently 1000 scholarships are awarded to talented students throughout the country. The scheme started with the identification of talent for pursuing courses in basic sciences only. Then with the introduction of 10+2+3 pattern of education it was not longer confined to only science but was extended to social sciences, engineering and medicine also. It was renamed as National Talent Search Scheme. For a long time the scheme operated at Class X level but since 2007 this scheme has been shifted to Class VIII. The scholarships are given from Class IX till Ph.D. level in Social Sciences, Sciences and till second degree level in professional courses like Engineering, Medicine, Management, Law, etc.

The NTS Scheme follows a two stage selection procedure. The first stage is conducted by states/UTs and the second stage is conducted by NCERT. The written examination at the both the stages comprises two tests – Mental Ability Test (MAT) and Scholastic Aptitude Test (SAT). Each state prepares its own tests and selects a stipulated number of candidates for the national level examination to be conducted for 4000 students by the NCERT. About 1500 students who qualify the National level written examination are called for face-to-face interview. The final award is made on the basis of composite scores obtained in MAT, SAT and the interview.

1.1 Need of Analysis

For the first stage of NTS selection, the States and Union Territories have been entrusted with the responsibility of conducting the first tier screening examination called the State Level National Talent Search Examination. Each state/UT conducts its own examination and prepares its own tests comprising MAT and SAT. It has been observed that the tests set

by some of the States/UTs are not up to the standard. In the final selection of NTS, candidates from some states do not figure as compared to the states where large number of students are selected. It was, therefore, felt that it would be pertinent to study the quality of question papers of NTS tests conducted at first stage so that the feedback could be given to each state/UT regarding the quality of their NTS tests. The feedback may help the states/UTs to improve their tests and it will also help the NCERT to organise the training programmes for those states where tests are comparatively of poorer quality and require improvement.

1.2 Objective:

The objective of the study is:

- To analyse the MAT and SAT Question Papers of first level examination carried out by different states/UTs.

1.3 Methods of Analysis

The State Level NTS examination was held on November 17, 2008 in Nagaland, Mizoram, Meghalaya and Arunachal Pradesh and on November 18, 2007 in all the other States/UTs. The question papers of SAT and MAT were acquired from each state. A proforma for evaluation of question papers was prepared as an in-house activity. It was proposed to analyse the question papers of SAT and MAT in workshop mode by inviting experts. Therefore, the experts were identified and invited for all the subjects covered in SAT in a workshop organized from 26th to 30th May, 2008 and for MAT in another workshop organized from 14th to 18th July, 2008. This way the question papers of 30 states/UTs were analysed for their strengths and weaknesses.

1.4 Conceptual Framework

The analysis of the tests is a post examination activity. The purpose is to reexamine the tests and marking scheme to see if something is amiss so that the tests may be improved upon in future. The errors in the NTS tests may be of various kinds and may occur at various points like

- the SAT is more memory based and lacks higher order mental abilities like critical thinking, problem solving, application, etc.
- the weightages to different units and contents is not balanced.
- the Multiple Choice Questions are of the simple MCQ variety.
- the questions are mostly from the text based.
- the language of the questions-ambiguous questions.
- instructions are vague, inappropriate and inadequate.
- options in MCQ questions are not plausible or can be rejected outright by the students.
- difficulty level of the test is too low.
- in MAT the questions may not test Mental Ability but General Knowledge.
- too many questions of the same variety in MAT test leading to the practice effect.

While analyzing the tests one must know the parameters, which make a test a good test.

These parameters are as follows:

Mental Processes

The basic purpose of the tests used for identifying talent is to test whether a student is capable of carrying out higher order mental processes like problem solving, critical thinking, analysis, interpretation, logical reasoning, identifying, relationships, discriminating, classifying, applying, inferring, judging and predicting. While analyzing the tests one should see whether the test contains the questions which tests these abilities in appropriate proportion.

Forms of Questions

In SAT and MAT only multiple choice variety questions are in use. However, these may also be of different varieties where the task is presented to the students not in a simple one sentence stems but in a variety of ways like matching two or three variables, reasoning and assertion type, true or false statements, sequence of statements or processes, passage based questions, interpretation of data given in a chart/graph/map, etc. Such variety of MCQs presents a better opportunity for testing higher mental processes than a simple MCQ. Therefore, a judicious use of these different varieties of MCQs will have to be made while setting questions for SAT.

Difficulty Level

While writing a question the question setter should be conscious of the difficulty level of the question in relation to the ability of the pupil for whom the question is meant. The difficulty level of the questions usually depends upon the complexity of mental processes involved and the area of content to be tested and the time available to answer it. For a test meant for talent search the question need to be of higher difficulty level so that it may be correctly attempted by those who are actually talented.

Instructions

A test should have appropriate instructions at two levels.

1. General instructions that are given in the beginning of the test.
2. Specific instructions that are given with the group of questions.

The instructions should be such that they should be one clear and easily understandable to the candidates.

Language

The language of the questions should be clear, precise and unambiguous. Use of unfamiliar and difficulty terminology may be avoided so that the comprehension of the questions itself may not become a problem for the students. The question should be so worded that by and large all students make the same meaning out of it.

Scoring Key

While analyzing a multiple choice test scoring key is of paramount important. There are many chances that the key of questions might go wrong. A key therefore is to be prepared with utmost care.

In the light of the above mentioned parameters the SAT and MAT Question Papers for state level NTS Examination held in 2007 were analysed. The analysis proformas were developed separately for SAT and MAT, keeping in view the difficult nature of these two tests. These proformas were given in the Appendix.

CHAPTER-II

State-wise Analysis of Scholastic Aptitude Test (2007-2008)

Andhra Pradesh

Mathematics

The Mathematics section was 20 questions. All the questions were simple multiple choice variety, however, a sizable number of questions tested higher mental ability. Almost 50% questions tested higher thinking level. Two questions were estimated as difficult questions whereas six were average. The rest were all easy. Only one question was there on Geometry in the question paper whereas 5 questions were on Algebra. A number of questions were puzzle like questions rather than questions on Mathematics. These questions are 115, 124 and 125. In question No. 121 non-options were found to be correct.

Science

The science section in the test contained 35 questions – 12 in Physics, 12 in Chemistry and 11 in Biology. Except one item in Biology and one in Physics the rest of all the items was of simple multiple choice variety. Two questions were double faced questions, one in Physics was based on a diagram. Out of 35 questions, 21 questions tested higher mental abilities in Physics, Chemistry and Biology. Besides 11 items i.e. 4 in Biology, 3 in Chemistry and 4 in Physics were of average difficulty. Remaining all items were estimated to be easy. The science paper on the whole was of a good standard but many language mistakes were there.

In Chemistry some questions were seen with incorrect and scientific items in the stem e.g.

Q. 104. Symbol for sodium carbonate is

- 1) NaCO
- 2) NaCO₂
- 3) NaCO₃
- 4) Na₂CO₃

Instead of the word “symbol” the chemical formula of sodium carbonate could be used.

In Physics the diagram based Question No.95 the alternatives do not match with the given labeled diagram.

Social Science

The Social Science section had 29 questions – 5 in History, 13 in Civics and 11 in Geography. Maximum questions had multiple choices where as some of the questions were of matching type and Assertion – Reason. Only 13 items were found to be testing higher mental abilities (2 in History, 7 in Civics and 4 in Geography) Rest all the items tested only memory.

Good coverage of the topics was seen in Geography, (although an important topic “Industry” has been left out completely) in Civics & History topics are adequately covered.

Q. 178. The Governor of the state is

- i) elected by the people directly
- ii) elected by the people indirectly
- iii) not elected by the people directly
- iv) not elected by the people directly or indirectly.

It is a vague question. The stem is absurd, distracters are wrong and correct answer is not given.

Q 163. The country situated in between Atlantic and Pacific Ocean is

- a) India b) China c) S. America d) N. America

Here the distractors are wrongly given (countries and continents together), even western side or eastern side, it is also not mentioned.

Q. 164. The largest group of Islands in the world is

- a) Japan b) Philippines c) Indonesia d) Japan & Phillipines

Here ‘largest’ in which sense ‘numbers’ or ‘area’ it is not clear.

Out of 29 questions in social science section 6 questions are of higher difficulty level and 19 questions are easy, rest of them is of average difficulty level.

Arunachal Pradesh

Mathematics

The Maths section in the test contained 20 questions. All the questions were of simple multiple choice questions. Out of these 20 questions 07 questions tested higher mental abilities and rest 13 tested simple memory. Besides, only 3 questions were of average type and rest 17 were easy. None of the questions touched the difficulty level.

The questions in Maths covered the topics adequately. However, no question was incorporated on Data Handling.

Q.89 is beyond the syllabus.

In question 81 the stem and the answers do not match.

Q.81 Which of the following trinomials cannot be factorized?

1) $x^2 - 7x - 8$

2) $2x^2 - 12x + 5$

3) $8y^2 - 6y - 9$

4) $2y^2 - 5y - 75$

If the answers have to match the stem, the stem should be modified as

Which of the following can be factorized into linear factors with integral coefficients?

Science

The science section in the test contained 35 questions – 17 in Physics, 10 in Chemistry and 8 in Biology. It is unevenly distributed (more questions from Physics). All the items were of simple multiple choice variety. Out of 35 questions – 7 questions tested higher mental abilities only in Chemistry and Biology. Besides, only 5 items i.e. 2 in Chemistry and 3 in Biology were of average difficulty. Remaining all items was estimated to be easy.

The questions in science did not cover the topics adequately. In Physics more questions were given from “Light” and Biology from “Diseases”.

In science section there are errors in all the streams of science. For example

In Physics

Q. 14. Choice 1. It is “there” instead of flure and choices 1 and 2 are same.

Q. 18. In choice (4) it is “Isaac Newton” instead of Issac Neuton.

Q. 4. In choice (4), it is “Heat Energy” instead of High Energy.

In Chemistry

Q. 1. Choice (4) and (3) it is CH_3COONa and CH_3NaCoo instead of CH_3COONa and CH_3NaCoo .

Q. 5. In the stem “allery” is written instead of “alloy”.

Q. 6. In the stem instead of which of the following “which at the following” is written.

Q. 8 & 9. Questions are out of the syllabus.

In Biology

Q. 34. The stem is incomplete so could not elicit the task intended.

Social Science

There are 36 items pertaining to social science. All the items are simple multiple choice type. 33 items are memory based questions—only 3 questions in Civics test higher mental ability. 29 items were estimated of easy level. No question was found to judge the higher difficulty level. 7 questions were of average in terms of difficulty level. Questions of all the three components seem to cover wide range of topics. It is a good coverage.

Q.No. 65. Pick up negative impact of globalization from the following

1. Better employment opportunities to the workers.
2. Increased volume of international trade.
3. Global companies destroy natural wealth of poor countries.
4. Good quality and cheap products available to the consumers.

In this question the correct option is debatable. Stem construction is not wrong but can be posed in a better manner.

There are a large number of spelling mistakes. For example Q.No. 60. Lord Mount Batten
Lord Pipon

Q.No. 62. Who founder I.N.A.?

1. Mangal Pandey
2. J.C. Bose
3. Subhas Chandra Bose
4. Rash Behari Bose.

The stem construction has a grammatical error. Similar simple mistakes are found in Q.Nos. 53, 56, and 70.

Q.No. 58. Who was the founder of R.K. Mission?

1. Swami Viveka Nand
2. Swami Daya Nand
3. R.K. Paramhansa
4. Ishwar Chandra Vidya Sagar

This question has the following discrepancies.

1. There is a verbal clue–R.K.
2. Name of historical personalities have not been mentioned carefully, i.e. Ishwar Chandra Vidyasagar. This name appears in four different words.
3. Swami Viveka Nanda–It should be Swami Vivekananda

Instruction No. 6 on the cover page is not clear.

Assam

Mathematics

The Mathematics section of the test contained 20 questions. All questions are simple multiple choice variety. Out of 20 questions, 6 questions from Algebra, 4 questions from Number System, 4 questions were from Ratio & Proportion, 2 questions were from Geometry, 2 questions from Mensuration and 2 questions from Data Handling. Only one question was average difficulty and 19 items were estimated to be easy. More questions were asked on Algebra and less from Geometry and Mensuration. Seven questions were incomplete. For example:

Q.1 What is to be filled in the blank? Space to complete the expression (Square?)

$$m^2 + \frac{9}{m^4} + \text{-----}$$

- a) $\frac{3}{m}$ b) $\frac{4}{m}$ c) $\frac{6}{m}$ d) $\frac{1}{m}$

Q.3 The total interest on Rs.6000/- for 5 years and Rs.5500/- for 8 years at the same rate at the same rate of interest is Rs.44000/-. The rate of interest is

- a) 4% b) 5% c) 6% d) $6\frac{1}{2}\%$

Amount of Rs.44000/- is incorrect.

As using it, none of alternative is the answer i.e. answer is different.

Q.11 Which statement related to the parallel lines is wrong?

(Here transversal is missing)

Q.12 a) 3

b) 4

c) 6

d) Σ next time A new symbol without meaning is used.

Q.15 The terms class internal and class boundaries both are written where as only one is sufficient.

Science

The science section in the test contained 40 questions – 14 in Physics, 13 in Chemistry and 13 in Biology. All the items were of simple multiple choice variety. Out of 40 questions, 16 questions tested higher mental abilities - 1 in Physics, 7 in Chemistry and 8 in Biology.

Besides, 1 question in Physics, 3 in Chemistry and 2 in Biology were found to have high difficulty level.

In addition to this, 4 in Chemistry and 5 in Biology were estimated to have average difficulty and remaining all items were estimated to be easy.

The questions in science especially in Physics and Biology did not cover the topics adequately. In Physics, maximum emphasis is laid on Light.

The subject-wise discrepancies found are as under:

Physics

Q.No.1.The working principle of a Submarine based on which of the following principle?

- (a) Pascal's law
- (b) Archimedes' principle
- (c) Condition of floating bodies
- (d) Siphon

The choice can be (b) and (c). The question therefore is ambiguous.

Q.No.5.The value of least Distance of Distinct Vision is

- (a) 2 m
- (b) 2.5 m
- (c) 3 m
- (d) 3.5 m

The above four alternatives do not have the correct choice which is 25 cm or .25 m. Moreover, in the stem the word Distance, Distinct Vision are written with capital “D” and “V” which is not correct.

Q. No.7.The convention used in writing the unit of potential difference is written with small v instead of V. Potential difference written as P.d. is not correct. The question was

“The P.d. across a resistance of 25 Ω is 100 v. Current flows through it will be

- (a) 25 A (b) 2.5 A (c) 4A (d) 2500 A

The sentence “current flows through it will be” has grammatical error.

Q. No.8.The corrected choice “within the focus” is not appropriate. The question was in a simple microscope the object is placed at :

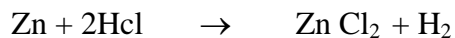
- (a) focus
(b) within the focus
(c) beyond focus
(d) infinity

Chemistry:

Q.No.4.In the alternative 3 formula is not written correctly. The question is which of the following is an example of a displacement reaction?

- (a) $2\text{KClO}_3 \rightarrow 2\text{K} + 3\text{O}_2$
(b) $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
(c) $\text{Zn} + 2\text{H} \rightarrow \text{Zn}_2 + \text{H}_2$
(d) $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$

Alternative (c) could be written as follows:



Q. No.7. The statement is scientifically incorrect. Besides, one of the alternatives is none of these which should be avoided. The question is -

A substance which oxidizes itself and reduces other is known as

- (a) oxidizing agent
- (b) reducing agent
- (c) both of these
- (d) none of these

The corrected question may be

A substance which gets oxidized and reduces the other in a chemical reaction is

- (a) oxidizing agent
- (b) reducing agent
- (c) both oxidizing and reducing agent
- (d) neither oxidizing nor reducing agent

Biology

Q.No.10. The options in the question are not in the proper shape of an MCQ. The question is “Choose the correct answer”.

Mitochondria/Golgi complex/Ribosome/ Nucleus is called the Power House of a cell.

Q.No.11. Name one endangered animal species and one rare animal species:

- (a) (b)

In this question the student has to write the names and not select the correct answer. It is not a multiple choice question.

Social Science

There are 39 items covering three components of Social Science i.e., 14 questions in History, 13 in Geography and 13 in Civics. All the 39 items were simple multiple choice type. Only two items from Civics were found to be testing higher mental abilities. Remaining 38 items tested only memory. 29 items were estimated of lowest difficulty level, i.e. they were easy. 9 items were estimated of average level. Only 2 items from Civics were estimated of higher difficulty level.

Regarding the syllabus coverage, a good coverage of topics was observed in all the three components. Questions where technical terms have not been used

Q.No. 8. Who was the President of the Constitution Committee?

1. Dr. Ambedkar
2. K.M. Munshi
3. D.P. Khaitan
4. Dr. Rajendra Prasad

In this question the technical term 'Constituent Assembly' has not been used. The word constitution committee is not a technical term used in Civics terminology.

Q.No. 10. Who is the 'Supreme Head' (Rashtra Pradhan) of our country?

1. President
2. Prime Minister
3. Chief Justice of the Supreme Court
4. Speaker of the Lok Sabha

In this question instead of 'Supreme Head' the technical term 'Head of the State' should have been used.

Q.No. 13. The U.N.O. was formed on

1. 26th June, 1945
2. 7th April, 1939

3. 24th October, 1945

4. 26th November, 1950

In this question the letter 'O' must be removed. It is now know as only 'The U.N.'

Names of some eminent historical personalities have not been spelt correctly.

For example in Q. No. 10. In History

(a) Vijaylakshmi was used in place of Vijay Lakshmi Pandit

(b) 'Asaf' would have been used in Aruna Ashrat Ali

Q.No. 11. Fascit teacher

Italic

There is need to edit the question paper more thoroughly. The physical aspect of the paper was good. Good quality paper has been used and the printing is also good. Perhaps it will be better if the bilingual paper is presented in two columns, rather than in one column, one language followed by the other.

Andaman & Nicobar Islands

Mathematics

The Mathematics section contained 30 questions. All the questions were of simple multiple type variety. Eleven questions pertain to higher mental ability process. None of the questions was of difficulty level, ten were of average level and remaining were easy.

The questions from Data Handling topic were not included. Language and Grammar were defective. Option “None of these” should be avoided. E.g. in Q.13.

Q.13 If $0.04 \times P = 0.000016$. Then the value of P is

- (a) 0.0004 (b) 0.04 (c) 0.4 (d) None of these.

Then stem should be

If $0.04 \times P = 0.000016$, then the value of P is

Q.22 The volume of two cones are in the ratio 1:4 and their diameter are in the ratio 4:5, then the ratio of there height is

- (a) 1:5 (b) 25:64 (c) 5:4 (d) 5:16

Then the stem should have been:

The volumes of two cones are in the ratio 1:4 and their diameters are in the ratio 4:5, then the ratio of their heights is

Science

The science section in the test contained 30 questions – 6 in Physics, 11 in Chemistry and 13 in Biology. All the items were simple multiple choice variety. Out of 30 questions, 6 tested higher mental ability only 4 in Chemistry and 2 in Biology. Besides only 8 questions were average; 4 in Biology and 4 in Chemistry. None of the question in Physics was of higher mental ability and with average difficulty. Remaining all items were estimated to be easy.

The questions in science does not cover the topics adequately specifically in Chemistry. More questions pertain to Air. In Biology questions were evenly spaced. In Physics no emphasis has been made on Mechanics, Heat, Waves and Measurement.

Most of the questions have spelling mistakes and editing errors. For example

Q.3. The male reproductive organ in a flower is

- (a) Gynoecium (b) Androceium
- (c) Sepal (d) Petal

The spelling of (b) option should have been Androecium.

Q. 12. Which one is viral disease?

- (a) Diptheria (b) Tetanees
- (c) Polio (d) Diabetes

It should have been:

Which one is a viral disease?

- (a) Diptheria (b) Tetanus
- (C) Polio (d) Diabetes

Instructions to students are clear but too much reading load.

Social Science

Social Science section contained 30 questions with 11 questions in History, 11 in Geography and 8 in Civics. All the questions were of simple multiple choice variety. No other variety of MCQ was used. Only 5 questions were found to test higher mental abilities – 3 in Geography and 2 in Civics. All questions in History tested only memory and were estimated to be very easy. Only 1 question in Civics and 1 in Geography were estimated to be difficult. 7 questions were judged to be of average level.

Some questions were found to have problems in stems. The language was not very clear. For example

Q. 14. A television or radio programme that is widely published

- a. transmit b. publish c. broadcast d. advertise

The use of the word 'published' in the stem does not make the task clear. The following question gives a language clue to the answer.

Q. 4. What was the ghastly massacre that took place in Amritsar on 13th April, 1919.

- A. Non- Cooperation Movement
- B. Civil Disobedience Movement
- C. Khilafat Movement
- D. Jallianwala Bagh Massacre

Bihar

Mathematics

The Mathematics Section in the test contained 20 questions. All the items were of simple multiple choice variety. All the questions were of memory type and estimated to be easy.

Many topics in Mathematics were out of syllabus. For example, the item Nos. 12, 15, 19 and 20 from Trigonometry; item number 13 from Number Theory and item number 14 from set theory.

Science

The science section in the test contained 35 questions – 13 in Biology, 11 in Physics and 11 in Chemistry. All the items were of simple multiple choice variety. Out of 35 questions, 11 questions tested higher mental abilities in Physics, Chemistry and Biology. Besides, only 3 items in Chemistry were of difficult level. 10 items i.e. 4 in Chemistry, 5 in Biology and 1 in Physics were of average difficulty. Remaining all items was estimated to be easy. The questions in Physics did not cover the topics adequately. No question on “Heat & Sound”.

In Biology some questions were seen with stem incomplete e.g.

Q. 27. Water is a

- (1) physical resource
- (2) chemical resource
- (3) biological resource
- (4) natural resource

The stem could be written as “As a resource” is the correct term used for water.

In Chemistry two correct alternatives are given in Q. 16.

Q. 16. Which one of the following is correct?

- (1) All minerals are ore
- (2) All ores are minerals
- (3) Metal is extracted from all minerals
- (4) Iron Pyrite is an ore of Iron.

Alternatives 2 & 4 both are correct.

Social Science

There are 35 items in Social Science. Subject wise break-up – History 12 questions, Geography 11 questions, Civics 12 questions. All the 35 questions were simple multiple choice type. 5 questions in Civics tested higher mental abilities. The remaining 30 questions were memory based. In Civics, 6 questions were estimated of higher difficulty level. In History only 2 questions were of average difficulty level. In Geography only one question was estimated of higher difficulty level. As far as syllabus coverage is concerned, items in Civics show a good coverage, items in History also indicate evenly distribution of items covering the syllabus. Items in Geography show satisfactory coverage of syllabus.

Q. No. 56. Which of the following states has no hill station?

1. Andhra Pradesh
2. Tamil Nadu
3. Rajasthan
4. Uttrakhand

All the above mentioned states have hill stations therefore distracters are not plausible.

Q. No. 62. Which type of head is the Prime Minister in India?

1. Real
2. Formal
3. Constitutional
4. None of these.

“Nominal” is the correct term which should have been used as a distractor.

There are many questions with the distractor “All the above” and “None of the above”.

For example – Q.Nos. 44, 47, 62, 69, 70.

Q.No. 70 .Which hinders the formation of sound public opinion.

1. Illiteracy
2. Party newspapers
3. Lack of political consciousness
4. All of these.

In this question, stem formation is confusing. The 1st distractor need not be the correct distractor.

Q. No. 68. Which system is the cause of social inequalities in India?

1. Caste system
2. Economic status
3. Dowry system
4. None of these.

In this question 2nd distractor is not appropriate. Stem mentions “System” but distractors only have the said word.

Chandigarh

Mathematics

The Maths section in the test contained 20 questions. All questions were of simple multiple choice variety. Out of 20 only 1 tested high mental ability. Besides only 1 item was of average difficulty. Remaining all items were estimated to be easy.

The questions in Maths cover the topics adequately.

Science

The science section in the test contained 35 questions, 13 in Physics, 11 in Chemistry and 11 in Biology. All the items were of simple multiple choice variety. Out of 35 questions, 6 questions tested higher mental abilities in Biology and 2 in Chemistry. Besides only 1 in Chemistry and 3 in Biology were of higher and average difficulty respectively. Remaining all items were estimated to be easy.

The questions in science did not cover the domain of topics adequately. In Physics maximum emphasis is laid on force while in Biology chapters of class VII class are completely ignored.

In Chemistry Q. No. 93 two alternatives 3 and 4 are incorrect as they are liquid.

The question is “which of the following is the gas for greenhouse effect on earth”

- (i) Carbon monoxide
- (ii) Carbon dioxide
- (iii) Carbon disulphide
- (iv) Carbon tetrachloride

The paper lacks variety. The stems in most of the questions are too short and direct amounting to asking only recall of certain information.

Social Science

The Social Science section had 37 questions, 16 in Geography, 13 in Civics and 8 in History. Out of this, only 5 items were found to be testing higher mental abilities – 2 in Geography and 3 in Civics. In History all the items tested only memory. There are grammatical errors in Instruction Nos. 3 and 4. In Geography too much emphasis is given to “Agriculture & Land”. Where as ‘Population & Industries, have totally been neglected. There are many questions with multiple correct answers.

For e.g. in Q. 111 – which of the following is plantable crop?

- a) Tea b) Jute c) Cotton d) Sugarcane

Q. 151. Which is the longest peninsula in the world?

- a) Pacific b) Bangladesh c) India d) Africa

The first option ‘Pacific’ is not peninsula as it is an ocean. There are more questions like this where distractors are not functional.

Civics

The questions are of the same pattern without any variations

Q. 132. Who constitutes the Cabinet?

1. The Council of Ministers.
2. Only Cabinet Ministers.
3. Cabinet Ministers & State Ministers
4. All Ministers.

In this question both (1) & (2) could be correct.

Q. 133. The term of Rajya Sabha is:

1. 4 years
2. 5 years
3. 6 years
4. 8 years

In this the stem is not properly written – it should be ‘Term’ of each member.

History

Less weightage has been given to History. All questions are simple memory based.

Chattisgarh

Mathematics

The Mathematics Section contains 20 questions of simple multiple variety. Out of 20 questions only 4 questions tested higher mental abilities (Q.Nos. 80, 85, 86 and 90) and the rest of the questions tested simple memory. It was observed that 19 questions were easy and only 1 question was average. None of the questions were difficult. The distribution of the marks are seemed to be evenly distributed with Number System 3 marks, Ratio Proportion 4 marks, Geometry 3 marks, Algebra 6 marks, Mensuration 3 marks and Data Handling 1 mark. Further, it is observed that most of the questions were having printing mistakes, some of the questions were either incomplete or defective (Q.Nos. 74, 75, 77, 79 and 86). The questions need to be thoroughly edited in order to convey the meaning properly to the students.

Science

The science section in the test contained 35 questions – 18 in Biology, 9 in Chemistry and 8 in Physics. All the items were of simple multiple choice variety. Out of 35 questions, 15 questions tested higher mental abilities only in Physics and Biology. Besides 6 items i.e. 3 in Physics and 3 in Biology were of difficult level. 7 items i.e. 5 in Biology and 2 in Physics were of average difficulty. Remaining all items were estimated to be easy.

The questions in science did not cover the topics adequately. In Physics no question was there from the topic “Light & Measurement”. In Chemistry hardly any question from the topic “Air” was given. The paper was not properly edited.

Social Science

Out of 35 Social Science questions, History and Geography have 12 each and 11 questions are from Civics. All the questions are simple multiple choice type in all the subjects and there is no attempt at variation.

All questions in all the subjects are based on memory/recall except two in Geography that belong to higher mental ability category. Difficulty levels of Civics and History question are estimated to be easy or 'C'. Geography question are all average or 'B' category.

In terms of coverage, Geography and Civics papers are satisfactorily. History paper also is evenly distributed except that it has four questions on Indian National Movement.

In general spelling and grammatical mistakes are observed across all the papers. Use of technical words is also laden with errors. This kind of mistakes could be avoided at the level of translation or editing. For example: Q. 60 in Civics has lots of mistakes in the stem as well in alternatives and keys.

Q. 70 & 47 in Geography has spelling mistakes.

Q. Q. 50 & 55 in History have spelling related errors.

Words of a technical nature have not been properly used. For example in Q. 61. in Civics uses the term "Constitutional Committee" which actually is 'Constituent Assembly.

Usage of proper nouns is also faulty. E.g. Q. 54 spell 'Meerut' as 'Merath';

'Vaishali' is Waishali; in Q. 58 in History, 'Patna' is 'patna' and 'Lord' Buddha is 'lord' Buddha in the same question.

In Q. 62 in Civics 'members' is "members", Rajya Sabha is 'rajya sabha' and the 'President' is president.

Q. 63 in Civics makes glaring mistake. The question is 'who is by post president for planning commission of India? The correct version is 'who is the ex-officio Chairman of the Planning Commission of India? It seems good care has not been taken while maintaining public offices.

Such mistakes are observed in Geography paper as well. For e. g.

In Q. 47 the stem is wrong meaning 'sentence construction is not proper. 'In which Indian state is produced cotton in large scale'.

Even the spelling of 'cotton' is wrong in the above stem. The spellings of states are also incorrect. E.g. 'Rajasthan' is Rajsthan and 'Gujarat' is 'Gujrat'.

In addition Geography paper is not level appropriate and both Civics and Geography paper do not reflect in depth understanding of the subjects.

Delhi

Mathematics

There were 20 questions. 11 questions were of higher mental ability. Question of A, B and C level of difficulty were 4, 11 and 5 respectively. Question No.52 requires the knowledge of property that if two circles touch each other then line joining centers passes through the part of contact. This fact is not taught up to class VIII. In question 50 (English version) m should be replaced by cm. In question No.46 the question should be written as under. 'The largest natural number which divides the product of their consecutive even natural numbers is'.

In question No.44, 47, 5 should have been there is at least one more option other than 1. Same property is used in both questions 36 & 39. Repetition of same property should be avoided.

Science

The science section in the test contained 35 questions, 12 in Physics, 12 in Chemistry and 11 in Biology. Except Q.32 of Biology which was a sequencing type, all other 34 questions were of simple MCQ type. The Chemistry portion had 11 easy questions and only one was of average level. It had no difficult questions. In Physics, out of 12, 4 questions were found to be difficult, 7 were average and only 1 was easy. In Biology, there was no easy question, 6 were difficult and 5 were average.

The options "none of above" or "all of above", better be avoided e.g. Chemistry Q.20 and Q. 26 of Biology which has all the options correct is written as

Microbes are used in which of the following processes?

- a) Enriching the soil with nitrogen
- b) Wine preparation
- c) Antibiotic synthesis
- d) All of above

It may be written as:

In which of the following processes are microbes used?

- a) enriching the soil with nitrogen
- b) wine preparation
- c) antibiotic synthesis

The correct answer is

(1) a and b only (2) b and c only (3) a and c only (4) a, b and c.

Coverage -Is adequate in Chemistry and Biology but in Physics more questions are on Light and there is no question on Measurements, Heat and Waves.

General instructions, language of stem of questions, relevance and scope are as per requirement of SAT.

Social Science

There are 35 items in Social Science component. Subject-wise breakup – History 9 items, Geography 9 items, Civics 17 items including 8 items of Economics. Economics has been given its due share in this component.

Out of the 35 items, 34 questions are simple multiple choice type. One item is passage based. It is a very good illustration of passage based question. It was related that out of the 35 items, 21 items are memory based, 14 items are included to test higher mental abilities. Out of the 35 items, 17 items are easy, 13 are estimated to be of average difficulty level and only 5 items were estimated of higher difficulty level.

Regarding the coverage of syllabus:

Items/questions in Civics are found to very well distributed – Constitution, Foreign Policy, Local Government, and Economy. Items/questions in History also provide a good coverage. Items/questions in Geography seem to cover all important topics pertaining to Geography.

Q. No. 77 Kofi Annan spelt wrongly.

There are many questions with 4th distractor as “All of the above” “None of the above”. This option is to be used occasionally. For example in Q. Nos. 80, 82, 87, 89 and 90.

Q. No. 76 which of the following related to the rights against exploitation?

In this question there is no verb which of the following is related.... to the right.....?

Options are not homogenous. First two options mention Rights, remaining two options mention provisions.

Q. No. 64 Dr. Bhimrao Ambedkar played a prominent role in:

1. The field of literature
2. The field of Cinema
3. The field of Act
4. The framing of Constitution.

In this question 3 distracters are homogenous and 4th is strikingly different. This also gives a clue.

Goa

Mathematics

The Maths section of the test contains 20 questions. The topic wise distribution is - 2 from Algebra, 6 from Number System, 3 from Ratio and Proportion, 6 from Mensuration and 3 from Geometry. There is no question from the topic of Data Handling. Out of these 20 questions 4 are of Higher Mental Ability and 16 of memory based items of these 8 are easy, 9 are average and only 1 is difficult. Only 1 question is AR type and the rest are Simple Multiple Choice Type.

Question no. 46 has no unique solution and it is wrong. Specifically $xy = 343$ can also give values of x and y as $x = 343$, $y = 1$. None of the alternatives in question number 55 is correct.

Science

In the science section 40 questions have been given; 14 from Physics, 13 from Chemistry and 13 from Biology. Only one question pertains to Assertion-Reason variety remaining all were simple multiple variety questions. Out of these 40 questions, 17 questions tested higher mental abilities only 8 in Biology and 9 in Chemistry. Besides this 8 questions were of difficult level (2 in Biology and 6 in Chemistry), 9 questions were of average level – 1 in Physics, 3 in Chemistry and 5 in Biology; and remaining all the items were estimated to be easy.

The questions in science did not cover the topics adequately. Electricity and Magnetism are not represented in Physics. Language of stem has to be modified and reading load should be reduced. There should not be a clue in the stem e.g.

Q. 29. The root like hyphae of a mould absorb nutrient, they are called

- (i) rhizoids (ii) rhizomes (iii) hyphae (iv) filaments

Answer is hyphae and present in stem also.

Q. 4. A body of mass 20 kg is dropped from a height of 2 m. If g is taken to be equal to 10 mks^2 , the kinetic energy of the body just before striking the ground will be

- (i) 400 J (ii) 4 J (iii) 40 J (iv) 100 J

The unit of “g” is wrong, it should have been ms^{-2}

The maximum marks are 90, not 100. Otherwise instructions are clear and complete.

Social Science

The Social Science section had 40 questions – 13 in Geography, 14 in History, 13 in Civics. All the questions are of simple multiple choice type. No other variety of multiple choice questions is used in the test. Only 8 questions were found to be testing higher mental abilities – 4th Geography and 4 in Civics. In History all the questions tested only memory. In Geography more questions are given from the Solar System and Landscape. Question paper is not properly balanced. In Civics the emphasis is more on Democracy. In History more focus is given on Modern India. Out of 40 questions in Social Science only 3 questions are difficult, 10 are of average difficulty and the rest are easy.

In Geography

Q. 77 More than one correct answer is given in the distractors. For e.g.

In the Earth would be nearer than the Sun than what it is now’. Language of the stem is not appropriate.

In History

There are some spelling mistakes. For example

Q. 68. Distractor 3 is spelt wrongly.

Q. 66. Spelling mistake in the stem (William Bentinck).

Q. 74. Letter ‘C’ is missing in the word ‘cooperate’ in the stem.

In Civics

In some questions distractors are not homogeneous like in

Q. 88. Distractor '2' is the odd one.

Q. 91. Distractors are not homogenous.

Q. 92. The caste system is followed more in _____ in India.

1) Urban area 2) Rural area 3) Both rural and urban areas 4) Joint families.

This question on caste is undesirable and has a negative connotation.

There could be more than one correct option for some questions. For example

Q. 98, Q. 99, Q. 100

Dadar Nagar Haveli

Mathematics

There were 35 questions in Mathematics which is much more than the number of questions in Mathematics set by other states. In multiple choice questions the process of arriving at the answer cannot be given. For example in question No. 55 show one can depict commutative and associative laws.

1. In Q.No.21 - 8% should be replaced by 8% per annum. In the option Rs. is missing.
2. Word item should be replaced by items. The rate of work should be replaced by rate of production.
3. In Q. No.23 how the use of absolute value can be depicted in a MCQ.
4. In Q. No.36 assertion part should comes before given part with some modification.
5. In Q. No. 37 - 10%, should be replaced by 10% per annum. Unit Rs. should be there in the option.
6. In figure of Q.No.41 one of the P should be replaced by D. $m\angle CAB$ should be replaced on $m\angle CAB$.
7. In Q.No.43 word radial should be replaced by radii.
8. In Q.No.45 stem should be
If $a - b > 0$, then,
9. In Q.No.47 to the stem add then remained is.
10. In Q.No. 51 there should be a number in place of an equation.
11. Stem of Q.No. 54 should as follows
10% of 10% of a number is equal to 10

Science

The science section in the test contained 20 questions: 7 in Physics, 7 in Chemistry and 6 in Biology. All the questions in all the three subjects were simple, multiple – choice type. Out of the 20 questions only 5 tested higher mental ability – 2 in Chemistry, 2 in Biology and 1 in Physics. Difficult questions were 1 each in Biology and Chemistry and none in Physics. Average questions were 1 each in the three subjects. The remaining 15 questions were categorized as easy.

Syllabus was not adequately covered in Physics and Biology. The questions were too simple, printing errors and wrong language of the stem, use of obsolete terms (big brain and small brain in Biology) were some glaring problems. Editing is required before finalizing the paper.

Instructions are adequate and comprehensible, though lengthy. Instructions 7 and 2 can be clubbed together. Instructions 3,4 and 5 may be shifted to later position. Instruction 11 is not required.

Social Science

There are 35 items in Social Science component. Subject wise break-up is: Geography-15, History -10, and Civics- 9. All the 35 items are of simple multiple choice type. Out of these, 30 items are memory based questions and remaining 5 are found to be testing Higher Mental Abilities. There are 26 questions estimated to be easy. 5 items are found to be of average difficulty level. Only 3 items were found to be of higher difficulty level.

Items in Geography were found to be well distributed over wide range of topics. Items in History showed a good coverage of syllabus. Items in Civics focused mainly on Indian Government. No question was found on International Relations, UN, etc.

Impressions

- In general, the English translation is poor.

Q. No. 63. Who was the founder of 'Satya Shodhak Samaj' institute founded in 1873 A.D.?

1. Ramkrishna Paramhansa
2. Saint Jyotiba Phule
3. Sahjanand Swami
4. Keshavnandra Sen

Observations:

A) In this question word institute is not desirable.

B) 1873 A.D. such expression is generally not used.

C) Jotiba Phule was never a saint. He was Mahatma. His name is spelt as Jotiba and not Jyotiba.

- There are too many questions on people holding important public offices recently. For example. Q. No. 70, 72, 58.

- Spelling mistakes affecting the quality of questions

Q. No. 60 - "the salt low"

Q. No. 62 - Governor general – G capital.

Wellesli – spelt wrong

- Q. No. 65 – option - 2 - Lok Manya
- Q. No. 66 - option - 2 - Lok Manya

Same options in two questions appearing in sequence.

- Q. No. 70 – who is the current speaker of Parliament?

There is no such position as the speaker of Parliament. It is the speaker of Lok Sabha.

- Q. No. 71 – The correct option is not written properly – it should be Council of States.
- Q. No. 73 – A better question based on positive information could have been asked. It is a very unpleasant question.

Q. How is towed or faded Flag treated?

1. thrown into the sea
2. thrown into a river
3. burnt off
4. buried into the soil.

Gujarat

Mathematics

There were 35 questions in Mathematics which is much more than the number of questions in Mathematics set by other states. In multiple choice questions the process of arriving at the answer cannot be given. For example in question No. 55 show one can depict commutative and associative laws.

12. In Q.No.21 - 8% should be replaced by 8% per annum. In the option Rs. is missing.
13. Word item should be replaced by items. The rate of work should be replaced by rate of production.
14. In Q. No.23 how the use of absolute value can be depicted in a MCQ.
15. In Q. No.36 assertion part should comes before given part with some modification.
16. In Q. No. 37 - 10%, should be replaced by 10% per annum. Unit Rs. should be there in the option.
17. In figure of Q.No.41 one of the P should be replaced by D. $m\angle CAB$ should be replaced on $m\angle CAB$.
18. In Q.No.43 word radial should be replaced by radii.
19. In Q.No.45 stem should be
If $a - b > 0$, then,
20. In Q.No.47 to the stem add then remained is.
21. In Q.No. 51 there should be a number in place of an equation.
22. Stem of Q.No. 54 should as follows
10% of 10% of a number is equal to 10

Science

The science section in the test contained 20 questions: 7 in Physics, 7 in Chemistry and 6 in Biology. All the questions in all the three subjects were simple, multiple – choice type. Out of the 20 questions only 5 tested higher mental ability – 2 in Chemistry, 2 in Biology and 1 in Physics. Difficult questions were 1 each in Biology and Chemistry and none in Physics. Average questions were 1 each in the three subjects. The remaining 15 questions were categorized as easy.

Syllabus was not adequately covered in Physics and Biology. The questions were too simple, printing errors and wrong language of the stem, use of obsolete terms (big brain and small brain in Biology) were some glaring problems. Editing is required before finalizing the paper.

Instructions are adequate and comprehensible, though lengthy. Instructions 7 and 2 can be clubbed together. Instructions 3,4 and 5 may be shifted to later position. Instruction 11 is not required.

Social Science

There are 35 items in Social Science component. Subject wise break-up is: Geography-15, History -10, and Civics- 9. All the 35 items are of simple multiple choice type. Out of these, 30 items are memory based questions and remaining 5 are found to be testing Higher Mental Abilities. There are 26 questions estimated to be easy. 5 items are found to be of average difficulty level. Only 3 items were found to be of higher difficulty level.

Items in Geography were found to be well distributed over wide range of topics. Items in History showed a good coverage of syllabus. Items in Civics focused mainly on Indian Government. No question was found on International Relations, UN, etc.

Impressions

- In general, the English translation is poor.

Q. No. 63. Who was the founder of 'Satya Shodhak Samaj' institute founded in 1873 A.D.?

1. Ramkrishna Paramhansa
2. Saint Jyotiba Phule
3. Sahjanand Swami
4. Keshavnandra Sen

Observations:

A) In this question word institute is not desirable.

B) 1873 A.D. such expression is generally not used.

C) Jotiba Phule was never a saint. He was Mahatma. His name is spelt as Jotiba and not Jyotiba.

- There are too many questions on people holding important public offices recently. For example. Q. No. 70, 72, 58.

- Spelling mistakes affecting the quality of questions

Q. No. 60 - "the salt low"

Q. No. 62 - Governor general – G capital.

Wellesli – spelt wrong

- Q. No. 65 – option - 2 - Lok Manya

- Q. No. 66 - option - 2 - Lok Manya

Same options in two questions appearing in sequence.

- Q. No. 70 – who is the current speaker of Parliament?

There is no such position as the speaker of Parliament. It is the speaker of Lok Sabha.

- Q. No. 71 – The correct option is not written properly – it should be Council of States.

- Q. No. 73 – A better question based on positive information could have been asked. It is a very unpleasant question.

Q. How is towed or faded Flag treated?

1. thrown into the sea
2. thrown into a river
3. burnt off
4. buried into the soil.

Daman & Diu

Mathematics

There were 35 questions in Mathematics which is much more than the number of questions in Mathematics set by other states. In multiple choice questions the process of arriving at the answer cannot be given. For example in question No. 55 show one can depict commutative and associative laws.

23. In Q.No.21 - 8% should be replaced by 8% per annum. In the option Rs. is missing.
24. Word item should be replaced by items. The rate of work should be replaced by rate of production.
25. In Q. No.23 how the use of absolute value can be depicted in a MCQ.
26. In Q. No.36 assertion part should comes before given part with some modification.
27. In Q. No. 37 - 10%, should be replaced by 10% per annum. Unit Rs. should be there in the option.
28. In figure of Q.No.41 one of the P should be replaced by D. $m\angle CAB$ should be replaced on $m\angle CAB$.
29. In Q.No.43 word radial should be replaced by radii.
30. In Q.No.45 stem should be
If $a - b > 0$, then,
31. In Q.No.47 to the stem add then remained is.
32. In Q.No. 51 there should be a number in place of an equation.
33. Stem of Q.No. 54 should as follows
10% of 10% of a number is equal to 10

Science

The science section in the test contained 20 questions: 7 in Physics, 7 in Chemistry and 6 in Biology. All the questions in all the three subjects were simple, multiple – choice type. Out of the 20 questions only 5 tested higher mental ability – 2 in Chemistry, 2 in Biology and 1 in Physics. Difficult questions were 1 each in Biology and Chemistry and none in Physics. Average questions were 1 each in the three subjects. The remaining 15 questions were categorized as easy.

Syllabus was not adequately covered in Physics and Biology. The questions were too simple, printing errors and wrong language of the stem, use of obsolete terms (big brain and small brain in Biology) were some glaring problems. Editing is required before finalizing the paper.

Instructions are adequate and comprehensible, though lengthy. Instructions 7 and 2 can be clubbed together. Instructions 3,4 and 5 may be shifted to later position. Instruction 11 is not required.

Social Science

There are 35 items in Social Science component. Subject wise break-up is: Geography-15, History -10, and Civics- 9. All the 35 items are of simple multiple choice type. Out of these, 30 items are memory based questions and remaining 5 are found to be testing Higher Mental Abilities. There are 26 questions estimated to be easy. 5 items are found to be of average difficulty level. Only 3 items were found to be of higher difficulty level.

Items in Geography were found to be well distributed over wide range of topics. Items in History showed a good coverage of syllabus. Items in Civics focused mainly on Indian Government. No question was found on International Relations, UN, etc.

Impressions

- In general, the English translation is poor.

Q. No. 63. Who was the founder of 'Satya Shodhak Samaj' institute founded in 1873 A.D.?

1. Ramkrishna Paramhansa
2. Saint Jyotiba Phule
3. Sahjanand Swami
4. Keshavnandra Sen

Observations:

A) In this question word institute is not desirable.

B) 1873 A.D. such expression is generally not used.

C) Jotiba Phule was never a saint. He was Mahatma. His name is spelt as Jotiba and not Jyotiba.

- There are too many questions on people holding important public offices recently. For example. Q. No. 70, 72, 58.

- Spelling mistakes affecting the quality of questions

Q. No. 60 - "the salt low"

Q. No. 62 - Governor general – G capital.

Wellesli – spelt wrong

- Q. No. 65 – option - 2 - Lok Manya

- Q. No. 66 - option - 2 - Lok Manya

Same options in two questions appearing in sequence.

- Q. No. 70 – who is the current speaker of Parliament?

There is no such position as the speaker of Parliament. It is the speaker of Lok Sabha.

- Q. No. 71 – The correct option is not written properly – it should be Council of States.

- Q. No. 73 – A better question based on positive information could have been asked. It is a very unpleasant question.

Q. How is towed or faded Flag treated?

1. thrown into the sea
2. thrown into a river
3. burnt off
4. buried into the soil.

Haryana

Mathematics

The Mathematics section contains 16 questions. All the items were of simple MCQs. Out of 16 questions 8 questions tested higher mental abilities and the remaining 8 items tested simple memory of the students. Out of 16 questions 8 questions were from Algebra, 3 were from Ratio Proportion, 4 were from Mensuration and 1 question was from Geometry. Questions from Geometry, Number System and Data Handling were virtually missing in the test and most of the questions in Algebra were out of course content. Out of 16 questions 1 is difficult, 7 are average and 8 questions are easy in their nature of difficulty. Further, language in some stems is defective and incomplete. For example in Q.Nos. 166, 171, 173, 174, 175 and 180.

Science

The science section in the test contained 38 questions – 13 in Physics, 12 in Chemistry and 13 in Biology. While all were simple multiple choice variety in Chemistry, Biology had 3 matching type and Physics had 9 Assertion/Reason type and Physics had 9 Assertion/Reason type. Out of 38 questions, 18 tested higher mental ability; 5 in Chemistry, 6 in Physics and 7 in Biology. 50 % of the questions (16) were average: 8 in Physics, 7 in Chemistry and 6 in Biology. Difficult questions were 1 in Biology, 2 in Physics and 3 in Chemistry. The remaining questions were categorized as easy.

Language: Language of Biology questions should be checked for spellings, wrong usage and italics to be used for scientific names. In Physics, complete diagrams and data (Q.108) may be given.

Difficulty: In Biology, it was felt that questions should be framed in such a way that they are not totally recall – based but test higher mental ability. In Physics, however, it was felt that difficulty level was appropriate in Q. Nos.103, 106, 108, 109, 110 and 112.

General Instructions: General instructions may be given in continuation (Not on the back page). Reading load of general instructions 4-7 can be reduced. Instruction regarding marking of correct as well as modification (if needed) is not given.

Social Science

The social science section had 38 questions – 13 in History, 9 in Civics and 16 in Geography. All the items were simple multiple choice type. No other variety of multiple choice questions was used in the test (except one question of matching in Geography). Only 4 items were found to be testing higher mental abilities in Geography, 4 items in Civics and in History all the items tested only memory. In Geography good coverage of topics was seen (although an important topic of “Industries” has been neglected). In Civics also more or less all the topics are covered but in history the focus is entirely on Modern India.

Out of 38 questions in social sciences only 5 questions were estimated of higher difficulty level, 9 questions were of average difficulty and rest were all easy.

In Geography proper distractors were not given in one question. For example

Q.No. 135. On what factor does the productivity of soil depends?

- a) on soil structure
- b) on its biotic elements
- c) on its formation process
- d) on its abiotic particles

- In this question almost all the distractors are the answers. Such options are not appropriate as they confuse the candidate.
- Sufficient editorial work is required for correct spellings, chronological alternatives in history etc.

Himachal Pradesh

Mathematics

There were 20 questions in Maths section. Two questions were of higher mental ability. Only one question was of average level of difficulty. Most of the questions were of elementary level. There was no question on Algebra and Data Handling. Questions from all units should have equitable representation. Difficulty level of questions should be raised. Question No. 86 is based on Based proportionality therein which is not taught upto class VIII.

Science

The science section in the test contained 36 questions – 11 in Physics, 12 in Chemistry and 13 – in Biology. All the items were of simple multiple choice questions. Out of 36 questions, 7 questions tested higher mental abilities only in Biology. Remaining all items were estimated to be easy.

The questions in science did not cover the topics adequately. In Physics topics like sound and heat were not taken into consideration. In Chemistry more questions were given from chemical reactions and in Biology more questions are from Plants and Cell and Cell Structure.

In Chemistry and Biology some questions were seen with distractors which are as following:

Chemistry

Q. 22. It is “Pop Sound” instead of “Popping Sound”.

Biology

Q. 6. It is “fusion” instead of combination.

Social Science

The Social Science section had 35 questions – 10 in History, 12 in Civics and 13 in Geography. All the items were simple multiple choice type. No other variety of multiple choice questions was used in the test. Only 6 items were found to be testing higher mental ability – 5 in Geography and 1 in Civics. In History all the items were tested only memory. In Geography more focus was given to land and locations. In Civics more focus was given to Government and Constitution.

Out of 35 questions in social science only 2 questions were estimated of average difficulty and rest were all easy.

In History 1 question is vague and wrongly termed.

Q.No.69. In the stem “1857 Mutiny” is vague and wrongly termed. It may be “Mutiny of 1857/Revolt of 1857”.

In Civics There were language problems and distractors not properly worded and do not connect to stem.

In Geography

Q.No.60. If R.F. of a map is 1:1, 00,000 the statement of scale is:

- a) 1 cm = 10 km
- b) 1 cm = 5 km
- c) 1 cm = 1 km
- d) 1 cm = 2 km

The framing of question is not correct “=” should be replaced by “to”. It is geographically not appropriate.

Jharkhand

Mathematics

The Mathematics section were having 20 questions. All the questions were simple multiple choice questions. Out of 20 questions, only 2 questions were found to be testing higher mental abilities and rest of the questions were seen to be simple memory based questions. Only one question was estimated as difficult question whereas 5 questions were average. The rest were all easy. Out of 20 questions, 4 were from Algebra, 8 were from Number System 2 were from Ratio of Proportion, 2 were from Mensuration, 4 were from Geometry and none of them were from Data Handling. Printing and spelling mistakes were also seen in the paper.

Science

Out of a total of 35 questions in this section, 12 were in Physics, 12 in Chemistry and 11 in Biology. Most of the questions were simple multiple choice type questions. Only 3 questions were matching type and 3 True False type.

Most of the questions were memory based. Only 8 in Physics and 7 in Biology were found to test higher mental abilities.

All questions in Physics are very easy. Chemistry has 5 easy questions and Biology has 2. Average questions in Chemistry are 3 and in Biology 5. Difficult questions in Chemistry are 4 and in Biology 4.

In Chemistry, correct option for Q.No. 21 is not available and in Q.No. 23, options are not suitable that is option (4) should be SO_2 instead of S. In question 21, the correct option is to be AM BL CK DN.

Q.No. 31. Biology – Stem is incomplete in the question and does not clearly indicate the task to the students.

Q. No.31. Which algae is used in space programme to regulate the supply of is?

- (1) Acetabulana, O₂
- (2) Scenedesmus, CO₂
- (3) Chlorella, O₂
- (4) Chlorella, CO₂

Suggestion for improvement of the stem is:

“Which algae is used in space programme to regulate the supply of the gas mentioned by its side”

Editing and proof reading is desperately needed as there are many spelling and other errors/printing errors ----- e.g. Q. 32 (spelling of viroid, plasmid)

Q.No. 33. (Option (2) O₃ + CO₂, Option 3 CO and CO₂ (CO means Cobalt)

Coverage of topics was inadequate

Physics: Not enough from Light and none from Energy, Mechanics.

Biology: No questions on Diseases and Food Production and Management.

General Instructions were found to be appropriate and adequate.

Social Science

There are total 35 items in social science component – History 12 items, Civics 11 items, Geography 12 items.

All the 35 items/questions were of simple multiple choice type, out of which 23 items were based on simple memory testing and 11 items tested higher mental abilities. About 17 items were estimated easy questions, 11 items were estimated to be of average difficulty level and 7 items were found of higher difficulty level.

Items in Civics covered wide range of topics indicating good coverage of syllabus. Items in Geography also seem to providing a good coverage. Items in History show good coverage of topics.

Q.No.64. Who was the next President of India after Dr. Neelam Sanjeev Reddy?

- (i) Dr. Rajendra Prasad
- (ii) Dr. Zakir Hussain
- (iii) Dr. Shankar Dayal Sharma
- (iv) Gyani Zail Singh.

In this question, stem formation is not very clear. Moreover, question does not help in testing higher mental ability. It is not even a simple straightforward question.

Q.No.60. Who is President of America listed below?

- (i) Fidel Castro
- (ii) Anwar Sadat
- (iii) Marshall Tito
- (iv) Jefferson.

In this question, there is a grammatical mistake leading to misinterpretation of the stem. The students are expected to write the name of the present president, but in options the name of the former president and other personalities are given.

Stems and options should be worded in such a manner as to avoid confusion and guessing by the students.

Q. No.51 - stem has no verb

Q. No. 67 - partition has been spelt wrong.

Poor English translation in Q. Nos. 63, 67, 69 and 70.

Jammu & Kashmir

Mathematics

The Mathematics section contains 20 questions in which 15 questions were simple MCQs, 4 questions were True-False type and 1 question is Assertion/Reason Type. All the questions have tested simple memory and all were easy also. Out of 20 questions, 6 questions were from Number System, 3 were from Ratio proportion, 4 were from Algebra, 3 were from Geometry and Mensuration respectively. Only 1 question was given from Data Handling. Further, stems of many questions were either defective or incomplete. For example Q.Nos. 46, 47 and 58.

Science

The science section in the test contained 40 questions. 13 in Physics, 13 in Biology and 14 in Chemistry. All the items in Physics and Chemistry of simple multiple choice variety. Only one item in Physics is matching type. In Biology out of 13 questions, 3 questions of matching type variety. Out of 40 questions only 10 questions tested higher mental abilities – 6 in Biology and 4 in Chemistry. Besides 4 questions were of higher difficulty level – 3 in Biology and one in Chemistry. 11 questions of average difficulty level – 8 in Biology and 3 in Chemistry. Remaining all the items were estimated to be easy.

In Chemistry, one of the alternatives in Q. 24 and Q. 26 was given as “none of the above”.

In Q. No. 18, the choices (a) and (d) are both correct.

In Physics, the convention used for writing the units is not correct. Q. Nos. 1, 2, 5, 9 and 11. For example

Q.1. for Jules j is written instead of J

Q.2. Diopters should be written as either D or diopter. The units are never written in plurals. Similarly metre or m should be written for Meter.

Q.9. The units should be written either in symbols or they should not start with a capital letter e.g. Hertz should be either as hertz or Hz.

Q. 18. Burning coal in air is

- a) chemical change
- b) physical change
- c) reversible change
- d) exothermic change

In the above example burning of coal is both a chemical change as well as a exothermic change.

Social Science

The Social Science section had 40 questions – 17 in Geography 13 in History and 10 in Civics. All the questions are simple multiple choice type. No other variety of multiple choice question is used in the test. All the questions in Social Science tested only memory. In Civics the focus is on Indian Government and Politics. No question on India and her neighbours, U.N.

Out of 40 questions in Social Science only 2 questions are of average difficulty rest are all easy. Quality of questions is not up to the mark.

In Geography

Q. 93. Which River State is situated on the River Ganga?

- a) Delhi
- b) Patna
- c) Mumbai
- d) Chandigarh

Here 'River State' is wrongly used, city is a better option.

In History

Q. 66. Option 'C' is without year unlike other 3 options. Spelling mistakes both in History and Civics questions.

In Q. 70. Option 'C' is wrongly spelt.

In Q. 77. Option 'C' is wrongly spelt.

In Civics

Q. 83. The stem is not properly framed. Number of distractors is five and the construction is faulty. Which Article of the India says, "No child below the age of 14 years shall be employed to work?"

- a). Article 24 b). Article 45 c). Article d) 330 e) Article 368

In instruction no. 3 question numbers are wrongly represented and instruction 10 and 11 are contradictory. Whether the candidate has to put across or encircle the correct option is not very clear.

Kerala

Mathematics

The Mathematics section was having 20 questions. All the questions were simple multiple choice questions. Out of 20 only one question was found to be testing higher mental abilities and rest of the questions were seen to be simple memory based questions which did not require much thinking.

Science

The science section in the test contained 35 questions – 12 in Physics, 12 in Chemistry and 11 in Biology. All the items were of simple multiple choice variety. Out of 35 questions, 7, 7, 6 questions tested higher mental abilities in Physics, Biology and Chemistry respectively. Besides 1 in Physics, 5 in Biology, 6 in Chemistry were of higher difficulty, while 6 in Physics, 5 in Biology and 1 in Chemistry were of average difficulty. Remaining all items were estimated to be easy.

The questions in science did not cover the topics adequately. In Biology chapters pertaining to Class VIII are not adequately covered.

The Q.No.56 in Chemistry the alternative 2 and 4 are the correct answers.

The questions were

Q.No.56. Which of the following is an acidic salt?

1. Na_2CO_3
2. NaHSO_4
3. NaNO_3
4. Na_2HPO_3

The language in the following question is not clear.

Q.No.57. The atom with 3 electrons in the outer most shell is :

1. N
2. Al
3. Mg
4. S

The stem should be: The atom of an element with 3 electrons in the outermost shell is.

Social Science

In Social Science there are 34 questions, 13 in Geography, 11 in Civics and 10 in History. All questions in Social Science are simple multiple type except one in Civics which is application type question. Ten questions in all test higher mental ability of candidates, the rest are memory based. In regard to difficulty level, 16 questions are estimated to be easy, 12 are average and the rest are difficult.

In items of coverage both the Geography and History papers have given equal weightage to the contents in each unit. However, in Civics paper more emphasis has been given to India's Constitution. In general social science paper is of good quality and some questions particularly in Civics are commendable. Very few grammatical or other language based errors are observed.

Specifically, in Geography paper there is one mistake in Q. 17 where more than one correct option has been given. The question is which among the following is a cash crop? The alternatives are Tea, Sugarcane, Wheat and Cotton. All except wheat are cash crops.

Lakshyadweep

Mathematics

The Mathematics section was having 20 questions. All the questions were simple multiple choice questions. Out of 20 only one question was found to be testing higher mental abilities and rest of the questions were seen to be simple memory based questions which did not require much thinking.

Science

The science section in the test contained 35 questions – 12 in Physics, 12 in Chemistry and 11 in Biology. All the items were of simple multiple choice variety. Out of 35 questions, 7, 7, 6 questions tested higher mental abilities in Physics, Biology and Chemistry respectively. Besides 1 in Physics, 5 in Biology, 6 in Chemistry were of higher difficulty, while 6 in Physics, 5 in Biology and 1 in Chemistry were of average difficulty. Remaining all items were estimated to be easy.

The questions in science did not cover the topics adequately. In Biology chapters pertaining to Class VIII are not adequately covered.

The Q.No.56 in Chemistry the alternative 2 and 4 are the correct answers.

The questions were

Q.No.56. Which of the following is an acidic salt?

1. Na_2CO_3
2. NaHSO_4
3. NaNO_3
4. Na_2HPO_3

The language in the following question is not clear.

Q.No.57. The atom with 3 electrons in the outer most shell is :

1. N
2. Al
3. Mg
4. S

The stem should be: The atom of an element with 3 electrons in the outermost shell is.

Social Science

In Social Science there are 34 questions, 13 in Geography, 11 in Civics and 10 in History. All questions in Social Science are simple multiple type except one in Civics which is application type question. Ten questions in all test higher mental ability of candidates, the rest are memory based. In regard to difficulty level, 16 questions are estimated to be easy, 12 are average and the rest are difficult.

In items of coverage both the Geography and History papers have given equal weightage to the contents in each unit. However, in Civics paper more emphasis has been given to India's Constitution. In general social science paper is of good quality and some questions particularly in Civics are commendable. Very few grammatical or other language based errors are observed.

Specifically, in Geography paper there is one mistake in Q. 17 where more than one correct option has been given. The question is which among the following is a cash crop? The alternatives are Tea, Sugarcane, Wheat and Cotton. All except wheat are cash crops.

Manipur

Mathematics

The Mathematics section in the test contains 20 questions: 6 in algebra, 2 in number system, 5 ratio & proportion, 4 in geometry, 2 in Mensuration, and 1 in data handling. All the items were of very simple multiple choice. Besides, only 2 questions were of average difficulty level. While chapters namely, number system is completely ignored. There should more questions from Mensuration. The framed questions lack variety and are of extremely easy nature.

Science

The science section in the test contained 35 questions. Out of 35, 12 in Physics, 12 in Chemistry and 11 in Biology. All the items were of simple multiple choice variety. Out of 35 questions, 10 questions tested higher mental abilities in Physics, Chemistry and Biology. Besides, only 4 items i.e. 2 in Chemistry and 2 in Biology were of different and 2 in Biology were of a average difficulty. Remaining all items were estimated to be easy.

The questions in Science did not cover the topics adequately. In Physics more questions were given from Light and Electricity, in Chemistry from Acids and Bases, and in Biology from Cell and Cells structure.

In Biology two questions were related i.e. naming scientists. For example

Q.No. 26. The term 'cell' was coined for the first time by

1. A.V. Leeuwenhock
2. M.J. Schleiden
3. Robert Hooke
4. Theodore Schwann

Q.No. 33. Which of the following scientists is regarded as the father of Bactinology?

1. A.V. Leeuwenhock
2. Louis Pasteur
3. Robert koch
4. Theodore Schwann

Social Science

The Social Science component has 30 items based on simple multiple choice type. Different varieties of questions have not been used. 12 items were found to be testing higher mental abilities – 8 in Geography and 4 in Civics. History has all the question testing memory only. It has been observed that there are only 5 questions pertaining to Civics. There are no questions on Constitution, Fundamental Rights etc. The U.N. and foreign policy issues-find mention in the question paper. In Geography, good coverage of topics was seen. Questions in History appear to be very easy. Questions/items in History seem to be focusing mainly on Manipur history.

Some questions were found to have technical problems from their pint of view of question making.

Q.No. 86. The rapid growth of population has to the increased.

1. water pollution
2. food security
3. both of the above
4. none of the above

In this question, option Nos. 3 and 4 are not very desirable. Distractors are not homogenous and option 3 is unnecessarily wasted.

Q.No. 73. Why was female literacy very low as compared to male literacy in India?

1. negative attitude towards women.
2. discrimination against girl child.
3. negligence by the government
4. high rate of school dropout.

In this question, option No. 1 and 2 are likely to be correct. Thus it has more than one correct answer.

Madhya Pradesh

Mathematics

The Mathematics section contains 20 questions. Out of 20 questions, 9 questions were simple multiple choice questions and 11 questions were Assertion/Reason type questions. Out of 20 questions, only one question was simple memory based question and the rest of the 19 questions tested higher mental abilities. It was observed that 9 questions were average, 5 questions were easy and only 2 questions were difficult in their nature. Out of 20 questions 3 questions were wrongly framed (Q.Nos. 72, 73 and 83) and one question was out of context. That question was

Q.No.82. A.T.M. means:

1. Automatic transaction machine
2. Automatic teller machine
3. All time money
4. At a time money

Science

The science section in the test paper contains 35 questions – 13 in Physics, 12 in Biology and 10 in Chemistry. All the questions were simple multiple choice type in Biology and Chemistry while Physics had 4 Assertion/Reason (AR) type. Out of the 35 questions, 1 in Physics and 2 in Biology were higher mental ability type while one was HM. All questions were recall based in Chemistry. There were no difficult questions in any subject.

The language of the questions and quality of printing are poor. Stem is incorrect in Q.No.8 (Chemistry) and Q.Nos. 15 and 30 (Biology) while options are not relevant in questions 9 and 34 in Chemistry and questions 18, 29, 33 and 35 in Biology. Difficulty level of questions is nil. All questions are memory based and substandard.

General instructions are adequate but reading load is more.

Social Science

The Social Science section has 35 questions. 15 in History, 9 in Geography and 11 in Civics. 24 questions are of simple MCQs, 3 are sequencing type, 6 are matching type and 2 are True/False. Other types of MCQs were not found. Out of the 35 questions, 20 questions were of memory based and 15 were of higher mental abilities. Uniform coverage of the topics was seen in all the areas of Social Science.

Out of 35 questions, 11 questions were estimated difficult, 13 average and 11 easy.

In **History**, Q. No. 57 was vague.

Q. Which session passed the declaration of complete Independence?

- 1) in Lahore session
- 2) in Shimla conference
- 3) Aligarh session
- 4) Bombay session

(Area not clear: (i) session - whose session?

in stem (ii) complete Independence – whose?

in alternatives: As the given alternatives each are without a year
a question arises of which year?

In **Civics**, Q. No. 41 is a vague question. It may be confusing and time consuming to the students.

Q. 41 Q. Some statements are given below

- 1) Increases the flow of capital
- 2) Growth of international cooperation and competition
- 3) Increase in production
- 4) Disparity between income distribution.

Above statements are related with

- 1) Green Revolution
- 2) Industrialization
- 3) Disarmament
- 4) Globalization

The question was not properly worded with incorrect options.

Q. No. 50. Which is not the determining factor of our foreign policy?

- 1) Non-aligned movement
- 2) Against disarmament
- 3) Geographical factor
- 4) Historical traditions

The stem is not properly worded, options are not homogeneous and option no. 2 is incorrect.

One question was highly ambiguous, distractors not homogeneous. It was confusing between the two words 'Caste' and 'Class' (Q. No. 68).

Q.No. 68: Some statements are given below

- a) Caste system creates problems for progress of society.
- b) Pressure of castes influences the politics.
- c) Casteism is helpful in development of national integration.
- d) Lower class is exploited by the people of upper class.

Which of the following are correct?

- 1) a and b
- 2) b and c
- 3) a and c
- 4) a, b and d

In this question, the options are again written in phrase – “which of the following **are** correct’.

In **Geography** Q. No. 40 has a stem which was not clear. Moreover, the alternatives were all (raw materials) correct.

Q. 40 Q: Which of the following is a raw material?

- 1) diamond
- 2) Jute
- 3) Coal
- 4) water

Maharashtra

Mathematics

The question paper contained 20 questions on Maths. All the questions were simple multiple choice questions and only 3 tested higher mental abilities. No question was found to be difficult only 4 questions were of average difficulty level. In question No. 93 the value of π is missing.

The Q.No. 93

Radius of base of a conical tent is 7 m and height is 3 m. If there are 44 persons in the tent, then how much volume of the air distributed to each person?

- (1) $7 m^3$ (2) $3.5 cm^3$ (3) $3.5 m^3$ (4) $7 cm^3$

Science

The science section in the test contains 40 questions – 13 in Chemistry, 15 in Physics and 12 in Biology. All the questions were of simple multiple choice variety except one question in Biology – one was based on drawing. Out of 40 questions, 19 questions tested higher mental abilities – 4 in Physics, 7 in Chemistry and 8 in Biology. Besides only 6 questions were of higher difficulty level – one each in Physics and Chemistry and four in Biology. 14 items were of average difficulty level – 5 in Chemistry, 6 in Biology and 3 in Physics. The remaining items were easy.

The instructions are given on the inner cover which is sealed. In Physics the items based on sound, magnetism and measurement were not included.

In Chemistry, a question was there with inappropriate choice. For example

Q. No. 17. What is the potential difference obtained by the combination of four dry cells?

- (i) 1.5 volts
- (ii) 6 volts
- (iii) 4 volts
- (iv) 4.5 volts

In the above question it is not mentioned how the four cells are joined together – in parallel or in series.

Q. No.34. Which substance is formed when magnesium is burned in air?

- (i) Magnesium oxide
- (ii) Manganese oxide
- (iii) Magnesium carbonate
- (iv) Magnesium hydroxide.

In the above question, the choice (ii) is not appropriate. It should have been some compound of Mg. e.g. magnesium hydrogen carbonate.

In Physics in Q. No. 37, it is not mentioned how the four cells are joined together – whether in series or in parallel.

Social Science

The Social Science section had 44 questions – 19 in Geography, 15 in History and 10 in Civics. In all the question papers variety is found but mostly they are memory based simple questions. In Geography 12 are simple memory based questions and 6 are of higher mental ability; in History 11 are of simple recall and 4 are of higher mental ability; in Civics 7 are of memory based and 3 are of higher mental ability. In Geography good coverage is given though “Agriculture & Industries” are totally absent. In History, all questions are simple. So is the case in Civics. Out of 44 questions in Social Science 11 questions are “Difficult’ level rest are all simple and average.

No correct answer is given in the options. For example in Q. No. 64 Land forms are found near the source of a river

- 1) Water fall
- 2) Flood plains
- 3) Fan shaped plains
- 4) Levees

Meghalaya

Mathematics

The Maths section contained 20 questions. All the items were of simple multiple choice variety. Out of 20 questions only one question was of higher mental ability. All the items were estimated to be easy.

The questions which have some lacunae are as follows:

Q.11 The radius of circle is 7 cm. The area of a quadrant is

1) $6\frac{5}{12} cm^2$

2) $\frac{77}{2} cm^2$

3) $6\frac{7}{12} cm^2$

4) $\frac{77}{12} cm^2$

In the above question value of Π is missing.

Q.13 A train 100 m long, traveling at 36 km/hr will be able to pass a telegraph post in

1) 50 seconds

2) 40 seconds

3) 42 seconds

4) 45 seconds

None of the above alternatives are correct.

Q.16 The number of times that the two hands of a clock make a right angle between mid-day and midnight is

1) 24

2) 23

3) 12

4) 22

The above question is puzzle and could be included in MAT.

Science

The science section in the test contained 35 questions – 10 in Physics, 12 in Chemistry and 13 in Biology. All the items were of simple multiple choice questions type. Out of 35 items, 9 items were testing higher mental abilities only in Biology and Chemistry. Besides, only 6 items i.e. 2 in Chemistry and 4 in Physics were of average difficulty. Remaining all items were easy.

The questions in science did not cover the topics adequately. In Physics more questions were given from Light and Energy and in Chemistry from Metals and Non-metals and Carbon. In Biology, some questions were seen with distractors which were not plausible. For example

In Q. No. 32. Wool is obtained from

1. fish
2. humans
3. amphibians
4. sheep

In Q. No. 29. Correct answer was not available. The question was

An example of tuber crop is

1. ginger
2. carrot
3. maize
4. cotton

Social Science

The social science section had 35 questions – 12 in History, 14 in Geography and 9 in Civics. All the items were simple multiple choice type. No other variety of multiple choice questions was used in the test. Only 5 items were found to be testing higher mental abilities – 4 in Geography and 1 in Civics. In History, all the items tested only memory. Regarding the syllabus in Geography good coverage of topics was seen. In Civics more focus was on U.N. and India and her Neighbours.

Out of 35 questions in Social Science only 9 questions were estimated of average difficulty and rest were all easy.

In Geography 2 questions were seen as overlapping

Q. No. 20. Which of the following crops originated in India?

1. rice
2. sugarcane
3. maize
4. mango

Q. No. 24. Which crop is not of Indian origin?

1. rice
2. wheat
3. mango
4. maize

The answers of these two questions are doubtful.

Q. No. 13. has clue in the stem

Damodar Valley project is situated on river

1. Damodar
2. Damodara
3. Damodaran
4. Damod

Moreover, there are no such rivers as named in option 2, 3 and 4.

Q. No. 26. has more than one answer.

Destruction of vegetation and overgrazing cause

1. forest depletion
2. land degradation
3. soil erosion
4. water pollution

In this question the option degradation includes soil erosion. In fact first three options are possible answers.

Mizoram

Mathematics

The Maths section in the test contained 20 questions. All the items were of simple multiple choice variety. No question of higher level mental ability was given in the paper. All items were estimated to be easy.

The questions in Maths did not cover the topics adequately. More questions were given from 'Ratio' and 'Prop' and in Geometry fewer questions were from Number System.

Science

The Science section in the test contains 40 questions. 10 in Biology, 13 in Physics and 17 in Chemistry. Almost all questions except one questions (in Physics) were simple memory based multiple choice questions. Out of 40 questions, 11 questions tested higher mental abilities in Biology, Physics and Chemistry. Difficulty wise 3 in Biology, 1 in Physics and 3 in Chemistry were of average; in Biology and 3 in Chemistry were of difficult and the rest were all easy questions.

Social Science

In Social Science, there are 29 items with simple multiple choice type. Out of these 29 items, 13 items were found to be testing higher mental abilities -5 in Civics, 7 in Geography and only one in History. Regarding the syllabus coverage, in Civics good coverage of topics was seen. Questions in Geography cover various topics. History questions too are well spread to cover syllabus.

Out of 29 items in Social Science only 3 items were estimated of higher difficulty level. The 4th option of the following questions either "All the above" or "None of the above".

Civics - Question Nos. 75, 76, 77 and 78

Geography - Question Nos. 66, 67 and 68

History - Question No. 61

In question no. 76. The first explosion of an atomic device in India was carried out in

- (a) J & K
- (b) Rajasthan
- (c) Both the places
- (d) None of the above.

In this question 'both the places' is highly improbable as the first explosion would take place only at one place. In fact 2 options have been wasted in this question.

Orissa

Mathematics

The Maths section in the test contained 18 questions. Normally these are 20 questions. All the items were simple multiple choice variety. Out of 18 questions only one question tested higher mental ability. Besides only 1 item was of average difficulty. Remaining all items were estimated to be easy.

The questions in Maths did not cover the topics adequately. More questions are from Number System and less weightage is given to Ratio Proportion and Data Handling.

In paper some questions were seen with distracters. For example:

Q.26 Option none of these should be avoided.

Q.28 None of the alternatives are right. Something else should be given.

Q.32 $p+q=4, p^2+q^2=7$, then pq .

Comma after 7 is missing.

Q.35 Stem defective and options were also not proper.

Q.38 Value of Π is missing. 'None of these options' should be avoided.

Q.40 Language of the stem is defective. Diagonal – whether one or both not mentioned.

Q.41 Quadratic equations are not in syllabus of class VIII.

Q.42 In stem it should be $\angle A, \angle B, \angle C$ and O instead of $\angle A, \angle B, \angle C, \angle D$.

Science

Out of a total of 38 questions, 16 were memory based. 22 questions were higher mental ability questions.

Only one question each was difficult in Physics, Chemistry and Biology. The numbers of average and easy questions were 18 and 17 respectively out of total of 38 questions.

In Biology (i) one question (Q.No.45), option 2 was included in option 4 so not a good distractor. Also reading load on the stem can be reduced by mentioning Plants only once.

Q.No.45. In which way cellulose in cell walls of plants might be helping the plants.

- (i) making them stand so tall
- (ii) protecting them from parasites
- (iii) making them useful for man
- (iv) protecting them from enemies.

In Q.No.54. Nuclear reticulum is an old concept. It is now well known that bacteria have only a single DNA molecule and no nucleus, so the term nuclear reticulum should be avoided.

Similarly, the queeric names (e.g. Q. 53) should be written as *Plasmodium* and in italics or underlined. The questions are given below.

Q.No.54. If you find a nuclear reticulum in a cell with a cell wall, what could the cell be?

- (i) Dead protozoan (not Protozoa)
- (ii) A crystal (absurd)
- (iii) A root section
- (iv) Cell of bacterium (not bacteria)

Nuclear reticulum is old concept. Better avoid.

Q.No.53. A friend of yours suffered from Malaria after 35 days of mosquito bite. Which of the following species of Malarial parasite had infected him?

- (i) *P. malarial*
- (ii) *P. ovale*
- (iii) *P. vivax*
- (iv) *P. falciparum*.

Fenus should be completely written as *Plasmodium*, not P. Being biological names they should be in italics.

General Instructions are satisfactory.

Coverage to be wider over topics done in the previous classes also.

Social Science

The social science section comprises of 35 questions – 13 in Geography, 11 in History and 11 in Civics. All the items are of simple multiple choice type. No varieties of multiple choice questions are given. 11 questions are found to be testing higher mental abilities – 6 in Geography, 1 in History and 4 in Civics. The coverage of topics is good for all the three subjects.

Out of 35 questions in social science 9 questions are difficult, 13 are of average difficulty and the rest are easy i.e. 13 are easy. Some questions in Civics are good.

The Geography questions are good. Only the terminology should be consistent like in :

Q. No.59. What is the time gap between the high tide and the ebb tide?

It is either high tide or low tide

OR

Neap tide and ebb tide.

In History

Q.No.85. Omission of letter “Who was the founder of Ramakrishna Mission”.

In Civics

Q.No.69. which of the following “is” not a feature of democracy instead of “in”.

Q.No.70. In appropriate use of technical term.

Right to Constitutional Remedies instead of Constitution Remedies.

Q.No.73. the stem is complicated.

Q.No.76. In which year the process of globalization started in India?

The point is the process started long before the (1985,1987, 1990, 1991) option given as the answers.

Punjab

Mathematics

There are 20 questions in this section and all are simple multiple choice questions. Out of 20 questions, Number System – 4, Algebra – 6, Ratio and Proportion – 3, Mensuration – 4, Geometry – 2 and Data Handling – 1.

Only one question of average difficulty and 19 questions were very easy.

Q.No.3 Is out of syllabus as the topic continued fraction is not in the syllabus.

Q.No.6 Answer is not one of the option which is $\sqrt{3}:2$.

Q.No.10 Symbol of square root on 225 is missing.

Q.No.13 Error in the figure i.e. symbol of degree is missing.

Q.No.17 Typing mistake

isocetes → 180

Science

The science section in the test contained 35 questions - 12 in Physics, 12 in Chemistry and 11 in Biology. All the items were of simple multiple choice variety. Out of 35 questions 13 questions tested higher mental abilities only in Biology and Chemistry. Besides only 5 items i.e. 3 in Chemistry and 2 in Biology were of average difficulty. Remaining all items were estimated to be easy.

In Physics more emphasis is on the topic 'Light' and 'Sound & Heat' is totally ignored.

In Biology more appropriate distractors could be used e.g.

Q.No.1. The balance of CO₂ and O₂ in the atmosphere is due to

- 1) Photo respiration
- 2) Photo synthesis
- 3) Respiration
- 4) Leaf Anatomy

The 4th alternative could be 'Transpiration'.

In Chemistry the stem of some of the questions was found to be inadequate according to the alternatives given e.g.

Q10 When CO₂ gas is dissolved in water it forms a weak and unstable acid called

- i) Magnesium carbonate
- ii) Calcium carbonate
- iii) Carbonic acid
- iv) None of these

The alternative iv) None of these could be avoided.

The stem could be written as – “The compound formed when CO₂ gas dissolves in water.

Social Science

Out of 35 questions in Social Science: 12 are from Civics, 12 from History and 11 from Geography. All questions are **Simple Multiple Type** except one in Civics which is matching **type**. Other types have not been put to test. In terms of higher mental abilities all history questions are memory based, two in Civics and four in Geography go beyond memory to test higher mental ability. In terms of coverage, Civics and History papers is evenly distributed except that History has three questions on National Movement. In Geography, weightage is given to physical features and climate.

In general, problems in translation, grammatical mistakes are observed which indicates lack of editing. In some cases stems have not been properly framed. For example

In Civics Q. 7 and Q .12

Q. 7. **The President** strength of Lok Sabha is

It has to be

‘The **present** strength of Lok Sabha or the strength of Lok Sabha’

Q. 12. On what date UN has come into existence and effect?

Existence and effect would mean the same and bound to confuse the child.

Q. 2. Who **chaired** the **meeting** of Rajya Sabha? It seems the question is about one meeting having been chaired by one person at some point of time.

The correct wording is:

Who **chairs the meetings** of Rajya Sabha?

Q. 3. The minimum age of marriage of **Males...**

Males with a capital ‘M’ and not ‘m’ may indicate bias.

Another common mistake observed across papers is wrong spelling of names of eminent personalities or technical words not used properly. For example:

In History paper

Q. No. 4. Bankim Chander ‘Bose’ has been used instead of Bankim Chandra Chatterjee.

In Q. 8. The newspaper ‘Kesri’ is actually ‘KESARI’

In Q. 9. ‘Dharam Chakra Parvartan’ is actually ‘Dharm Chakra Pravartan’.

In Q 12. ‘Abdul Fazal’ has to be ‘Abul Fazal’.

In Q. 5. The word ‘reign’ is used instead of time or period.

Pondicherry

Mathematics

There are 18 questions in this section of which 5 are from Number System, 3 are from Algebra, 5 from Geometry, 3 from Mensuration and 2 from Ratio and Proportion. In number system there are 1 question involving base 2 and another involving base 5. However, these bases are included in the syllabus at National level. Out of 18 questions only 2 are of average difficulty level and remaining 16 are easy. All the questions are simple MCQ.

It is remarked that there is no question of difficult category. Also there is no question from Data Handling.

Science

A total of 36 science questions are there in the test paper, 12 each in Physics, Chemistry and Biology. All the questions are simple MCQ type and there is no variety. Too many questions are memory based – 9 in Biology, 8 in Chemistry and all 12 in Physics. Higher mental ability questions are only 3 in Biology and 4 in Chemistry.

The difficulty level of questions is low as only a single question (Chemistry Q.No.11) has been estimated to be difficult. Average questions are 3 in Biology, 3 in Chemistry and 1 in Physics. Rest is all easy questions.

All questions are simple MCQ and there is no variety.

The stem of the question should be clear enough to elicit one correct answer and it should not be ambiguous e.g.

Q. 36. Fish contains maximum

- (i) Carbohydrates
- (ii) Fats
- (iii) Vitamins
- (iv) Proteins

The question does not specify whether “maximum” with respect to other food items or as a group of animals or with respect to the nutrients mentioned.

There should not be any clue in the stem e.g. Q.No.34 of Biology.

Q.34. This is the contribution of Louis Pasteur

- (i) Canning
- (ii) Pasteurisation
- (iii) Drying
- (iv) Dehydration

Coverage- No question on Measurement and Electricity.

General instructions - language, scope and relevance are all right.

Social Science

The social science section had 36 questions (equal distribution of no. of questions i.e. 12 in each of the sections) All the items were simple multiple choice type. No other variety of multiple choice questions were used in the test. Only 4 items were found to be testing higher mental abilities. (one in Civics and three in Geography) In History all the questions were of memory based.

In Geography and History, there is a good coverage of the syllabus but in Civics some of the questions are not directly related to the subject.

Q. 57. World Population Day is observed on

- a) 11th July
- b) 11th Sept.
- c) 11th June
- d) 11th April

It is a question of Geography and not of Civics.

Q. 53. The United Nations Organizations was established on

- a) 24th October 1945
- b) 24th Oct, 1954
- c) 24th Oct, 1948
- d) 24th Oct,1950.

‘United Nations’ is itself a complete name by adding ‘Organizations’ with it, becomes a technical mistake.

Q. 48. The Atomic Power Plant in Tamil Nadu is in

- a) Chennai-Kalpakkam b) Madurai c) Trichy d) Tanjore

This may not be a History question

Q. 68. A deep, steep-walled, V-shaped valley cut by a river through resistant rock is often called

- a) Depression b) Canyon c) Lakes d) Oxbow Lake

The correct answer is not given in the distractors

In social science section, only one question had higher difficulty level and 26 questions were of easy level.

Rajasthan

Mathematics

The Mathematics section contains 20 questions. All the items were of simple MCQs. None of the questions were having high difficulty level. Out of 20 questions, 3 questions were from Number System, 3 were from Ratio of Proportion, 4 questions were from Algebra, 5 questions were from Geometry, 4 questions were from Mensuration and only 1 question was from Data Handling.

Science

The science section in the test contained 35 questions – 10 in Physics, 10 in Chemistry and 15 in Biology. Questions had variety – 2 were of AR type and 2 MT, remaining all were simple multiple choice variety. Out of 35 questions, 16 questions tested higher mental abilities – 2 in Physics, 2 in Chemistry and 12 in Biology. In total 5 questions pertain to difficult level, 7 were of average and remaining 23 were estimated to be easy. Q. No. 32 is a good analytical question.

The questions did not cover the topics adequately. More emphasis should have been laid on Measurement and Electrostatics in Physics.

In general several spelling mistakes are there. Language of stem needs modification e.g.

Q. 32. Amount of which of the following components in air does not change in the process of respiration –

- (1) Oxygen (2) Carbon dioxide (3) Nitrogen
(4) Water vapour

This question may be written as

Which one of the following components in air does not change in concentration during respiration –

- (1) Oxygen (2) Carbon dioxide (3) Nitrogen
(4) Water vapour

Q. 22. Which disease is cured by DOTS strategy?

- (1) T.B. (2) Typhoid (3) Rabies (4) Malariya

Options should have been

- (1) Tuberculosis (2) Typhoid (3) Rabies (4) Malaria

Instructions are concise, clear and easy to follow.

Social Science

In social science these are 31 items out of which 29 items are simple multiple choice type. Nine items were found to be testing higher mental abilities, 1 in History, 6 in Civics and 2 in Geography. Questions in Civics have covered all the important topics like Constitution, Foreign Policy and the U.N. Geography questions seem to put emphasis in Drainage! Questions in History are more related to historical personalities/figures.

Q.No. 46. Some facts are given below–Match them and select the correct option

(1) The main cause which makes difference between boy and girl	(a) opening of day care centre
(2) Men and women to feel similarity between	(b) male dominating society
(3) Nuclear families a cause responsible for increasing	(c) Gender sensitivity
(4) The result of neglecting elderly person	(d) Increasing population

Option- 1

In the question mentioned above, too many words are used to convey simple ideas. Answers can be subjective. Statement A does not indicate gender discrimination. Statement B makes no sense. Statement D has no answer.

Sikkim

Mathematics

The Maths section in the test contained 20 questions. All the items were of simple multiple choice variety. No question of higher mental ability was given in the paper. All items were estimated to be easy.

The questions in Maths did not cover the topics adequately. Fewer questions were given from Geometry. Some questions carry some errors. For example:

Q.1 Alternative (b) and (c) are same i.e. $\frac{1}{8}$ and 8^{-1}

Q.4 'x' to be written as 'χ'

Q.6 Error in language of the stem – It is 'their' instead of 'then'.

Science

The science section in the test contained 38 questions—11 in Physics, 12 in Chemistry and 15 in Biology. All the items were of simple multiple-choice variety. Out of 38 questions—7 questions tested higher mental abilities only in Biology and Chemistry. Besides, only 1 item in Biology was of difficult level, only 7 items i.e. 2 in Chemistry and 5 in Biology were of average difficulty. Remaining all items were estimated to be easy. In Chemistry some questions were seen with distractors which were not plausible. For example

Q. No. 23. Water becomes saline due to the presence of

1. Iron
2. Sodium
3. Aluminum
4. Mercury

All the above distractors are incorrect.

Q. No. 23. Which is the crystalline form of carbon

1. Graphite
2. Coal
3. Diamond
4. None of the above

The '4' distractors should be avoided. In Biology scientific name should be italicized. For example

Q. No. 23. The Protozoa which can perform photosynthesis is

1. Amoeba
2. Euglena
3. Plasmodium
4. Paramecium

Social Science

All the questions in social science are simple multiple choice type. A weightage of 40 marks is given to Social Science out of which 20 marks are for History, 13 for Geography and 7 for Civics. Only 5 questions test higher mental abilities—4 in Geography and 1 in Civics. 26 questions are easy, 10 of average difficulty level and 4 different. In History all the questions are easy and test only memory.

Q. No. 61 and 96 have one distractor which is not appropriate i.e. not homogeneous.

Q. No. 61. Which of the following is exhaustible but renewable resource?

1. iron
2. petroleum
3. coal
4. cereals

Q. No. 96. The process of bringing the world economies together is known as

1. cooperation
2. globalization
3. degradation
4. nationalism

In certain questions the language used is not very appropriate e.g. Q. No. 90

This lord followed the policy of Doctrine of Lapse.

1. Lord Lytton
2. Lord Dalhousie
3. Lord Wellsley
4. Lord Minto

Tamil Nadu

Mathematics

The Mathematics section had 20 questions. All the questions were of easy type. There was no question on Data Handling. There could have been more questions on algebra. In question No.145 data is not realistic because size of a room having a height 8 m is absurd. In the question No.135 word given is repeated. In question No.137 cube should be replaced by ice cube. In question No.139 language should be only one pair of opposite side. In question No.141 how much should be replaced by how much %. In question No.142 no option is correct.

Science

The science section in the test contained 35 questions: 12 in Physics, 11 in Chemistry and 12 in Biology. All the items were of simple multiple choice variety. Out of 35 questions, 13 questions tested higher mental abilities, none in Physics, 5 in Chemistry and 8 in Biology. Besides these 11 items i.e. 4 in Chemistry and 7 in Biology were of average difficulty. Remaining all items were estimated to be easy.

The syllabus is adequately covered for Chemistry and Biology. But chapters of Sound, Heat and Electricity in Physics were not represented. Good paper with reference to Biology but no question is of difficulty level which is not desirable.

Few typographical errors were observed and the paper required editing e.g.

Q. No. 102. The S.I. unit of electric charge is

(a) Ampere (b) Coulomb (c) Ohm (d) Volt.

It should be

Q. No. 102. The S.I. unit of electric charge is

(a) ampere (b) coulomb (c) ohm (d) volt.

Q. No. 118. The organ of locomotion in E. Coli bacteria
(a) Pilus (b) Pseudo podium (c) Cilia (d) Flagella.

It should be

Q. No. 118. The organ of locomotion in E. Coli bacteria is
(a) pilus (b) pseudopodium (c) cilia (d) flagella.

In general from stem (dash) should be removed.

Instructions are concise, clear and complete.

Social Science

There are 35 items in the Social Science component. Subject-wise breakup: Civics-10, Geography – 17, History – 08. All the 35 items were of simple multiple choice type. All the 35 items were based on memory/recall. No single question was found testing higher mental abilities. 29 items were estimated of easy level. 6 items were found to be of average difficulty level. No questions were found testing higher difficulty level.

Items in History were adequately distributed. Questions in Civics covered wide range of topics. Items in Geography were spread over the entire syllabus. It indeed, can be said as good coverage.

180. controls World Trade.

1. World Bank
2. World Trade Centre
3. Indian Reserve Bank
4. Indian Trade Centre.

- In this question, all options are incorrect. If 2nd option is intended, then it should be World Trade Organization and not Centre.
- All 35 items are of fill in the blanks type.
- More emphasis on regional history. National Freedom Struggle - questions pertaining to landmarks are missing.

Tripura

Mathematics

The Maths section in the test contained 20 questions. All the items were of simple multiple choice variety. Out of 20 questions, 5 questions tested higher mental abilities and rest 15 were based on memory or recall. Besides, only 1 question was of difficult type and 4 were of average type. Remaining all items were estimated to be easy.

The questions in Maths did not cover the topics adequately. No question was included on Data Handling. Also the division of units should be more equitable.

Language of some questions is incomplete and defective. For example:

Q.43. Sonali is 8 years older than Poushali. After 4 years the age of Sonali is equal to the time of the age of Poushali. What is the present age of Sonali? Here, in this question it should be specified how many times (e.g. 2 times, 3 times or 4 times). Without mentioning the specific time, the question is meaningless.

Q.49. The internal bisectors of angles of a quadrilateral PQRS meet of O. If $\angle PQR = 75^\circ$ then $\angle ROS = ?$ Here again it should specify bisectors of which angles, without which the question is meaningless.

Q.52 Figure should have been given. The question says AB and CD are two parallel lines. EF is a transversal and intersects AB & CD at G & H respectively. If $\angle EGB = 50^\circ$ then $\angle BGH = ?$

Q.51 Figure is defective.

Q. In the adjacent figure $BC = AC$ and $BC \parallel AE$. What will be the value of $\angle CAE$ and $\angle ACD$.

But in the figure $BC \neq AC$.

Science

The science section contained 35 questions - 12 in Physics, 7 in Chemistry and 16 in Biology. All the items were of simple multiple choice variety. Out of 35 questions, 13 questions tested higher mental abilities only in Physics and Biology. Besides only 4 items i.e. 2 in Physics and 2 in Biology were of difficult level. 8 items i.e. 6 in Physics and 2 in Biology were of average difficulty. Remaining all items were estimated to be easy.

The questions in science had only 7 questions in Chemistry. No question on the topic “carbon” was given in Chemistry.

Proper editing of the paper should be done.

In Biology Q.26 the alternative (d) is all of the above. Such alternatives should be avoided.

Q. 26. Deforestation causes

- a) soil erosion
- b) more floods
- c) reduced rainfall
- d) all of the above.

Such a question may be termed into a double faced question.

Social Science

The social science section has 35 questions with 18 questions in Geography, 12 in History and only 5 in Civics. The weightage to Civics is not adequate. The questions are all of simple multiple-choice variety. No other variety of multiple-choice questions has been used in the test. Only 5 questions—4 in Geography and 1 in Civics test higher mental abilities. Remaining 30 questions test only memory. Regarding the difficulty level of the questions it was estimated that only 1 question was difficult, 6 average and all others easy.

Coverage of syllabus was seen to be adequate in Geography and History.

The question paper needs to be edited more thoroughly as number of spelling mistakes were noticed in History portion.

Uttarakhand

Mathematics

The Mathematics section was supposed to have 20 questions but one question in the paper was found to be missing at No. 73, it was seen that all the questions were of simple multiple choice type and only 3 questions tested higher mental abilities. 4 questions were estimated to be of average difficulty level and rest of them was all easy.

Some problems were seen in the questions, for example, in question no. 86 two alternatives were seen to be correct. The question papers needs a thorough editing as missing question is a very serious omission. Printing mistakes and spelling mistakes were also seen in the paper.

Science

The science section in the test contained 35 questions – 12 in Physics, 10 in Chemistry and 13 in Biology. All the questions were of simple multiple choice variety. Out of all questions 12 questions tested higher multiple abilities – 0 in Physics, 4 in Chemistry and 8 in Biology. Among all the questions only one question in Chemistry was difficult; 9 were of average level (3 in Chemistry and 6 in Biology) remaining all questions were easy.

The syllabus was adequately covered. More emphasis was laid on Light and Heat in Physics; chemical reaction in Chemistry.

In general editing is poor and several spelling errors and distractors are not plausible.

Q. 22. If a ball of iron is heated, the more percentage will increase in

- (i) Rodius (ii) Area (iii) Volume (iv) Density

It should have been “Radius”

Q. 26. Fossil fuel is

- (a) Charcoal (b) Water energy (c) Biogas (d) Petrol

It should have been petroleum.

Instructions also have spelling mistakes.

Social Science

The social science section had 35 questions – 12 in History, 11 in Civics, 12 in Geography. All the questions are of simple multiple choice type. No other variety of multiple choice questions is used in the test. Only 5 questions are found to be testing higher mental abilities – 1 in Geography, 4 in Civics. In History all the items tested only memory. Good coverage of topics in History and Civics. In Geography although many fields have been covered but “Industries” and “Population” has not been judged at all which are given in the 8th standard syllabus.

Out of 35 questions in social science only 1 question is difficult, 8 are of average difficulty and 26 are easy.

In Geography questions there are many spelling errors like in Q.No.63. It should be “Hematite” instead of Hematide.

Q. No. 64. The world’s currencies are measured by the metal

- A. Copper
- B. Boxite
- C. Gold
- D. Mica

It should be Bauxite instead of “Boxite”. Moreover, the distractors of the question are not plausible because of the word metal used in the stem.

Moreover the distractors of the question are not plausible because of the word metal used in the stem

In Civics

Q.No.49. Distractor 4 “None of these” is not desirable.

Q.No.51. There is no correct option in English version though it is OK in Hindi. Same is the case of Q.No.53. Hindi version is OK.

Q.No.52. Names of the eminent personalities are not written with proper care. It should be B.N.Rai instead of B.N. Rav.

Q.No.58. The item is not satisfactory. It should be Legislature instead of “Legislative”.

The spelling of 2nd distractor is wrong. “Executive” instead of “Exeutive”.

Instruction 6 is very positive.

Uttar Pradesh

Mathematics

The Mathematics sections contains 20 questions of simple multiple variety items. Out of 20 items, 7 questions tested higher mental abilities and the remaining 13 items tested simple memory of the students. Out of 20 questions, 15 questions were easy in their nature, 4 have average type and only 1 was difficulty. The questions were not distributed evenly. For example, Ratio Proportion have only 1 mark, Trigonometry have only 2 marks, Number System having 7 marks, Mensuration having 2 marks, Algebra and Geometry having 4 marks each respectively. It is observed that the question Nos. 168, 169, 177 and 178 were out of syllabus.

Science

The science section in the test contained 35 questions – 9 in Physics, 13 in Chemistry and 13 in Biology. All the items were of simple multiple choice variety. Out of 35 questions, 10 questions tested higher mental abilities - 1 in Physics, 2 in Chemistry and 7 in Biology. Out of these questions three questions (one in Physics and 2 in Biology) were of difficulty standard; 7 were categorized as average in difficulty and remaining questions were easy.

Coverage of syllabus was adequate but in Biology few questions were beyond the scope of 8th standard such as Q. No. 116, 117, 120 and 122. Two correct options in the answer should not be there. For example

Q. 115. Mimicry is commonly reported in

- (i) Insects (ii) Fishes (iii) Birds (iv) Plants

Mimicry is seen in insects and fish, therefore two answers are correct.

Marks allocated are 90 whereas instructions suggest 100 marks.

Social Science

The Social Sciences section has 35 questions- 13 in History, 14 in Geography and 8 in Civics. All the questions are simple MCQs. No other varieties of MCQs have been used. Only 3 items were found to be testing higher mental abilities. In History, all the items tested only memory. In Geography wider coverage of topics were seen. In Civics, the coverage of the syllabus was found not satisfactory. In History, 3 items were of world history and 10 of Indian history out of the 13 questions. Out of 35 questions, only 1 question was estimated difficult, 3 average and 21 easy. In Geography, stem of a question was wrongly constructed, e.g. Q.No. 38. World's sweetest water lake is

1. Superior
2. Baical
3. Victoria
4. Chilka

(Instead of 'sweetest', 'Fresh' is the correct term).

In Civics, in one question, more than one key were found.

Q. No. 154. Which is the Principle feature of Indian Constitution?

1. Federal Government
2. Unitary Government
3. Presidential Government
4. Parliamentary Government (Parliamentary)

(Alternatives 1 and 4 are correct.).

In the General Instructions, it is found that total is 100 marks but the number of questions are 90 and question carries 1 mark each (Instruction No. 3). It is contradictory and may lead to difficulty in evaluation.

West Bengal

Mathematics

The Maths section in the test contained 20 questions. All questions were of simple multiple choice variety. No question tested high mental ability. Besides only 3 items were of average difficulty. Remaining all items were estimated to be easy.

The questions in Maths did not cover the topics adequately. More questions were given from Geometry and less from Mensuration and Data Handling. Some questions were seen in the distractors. For example:

Q.1 Statement not complete.

Q.2 Alternatives are not appropriate. (b) and (c) should also have L.C.M. 108 but different ratio.

None of the above can be avoided.

Q.13 Language of stem is ambiguous.

Q.14 Spelling error 'triangle' instead of 'triangle'.

Science

The science section contained 35 questions with a break up of 17 questions in Biology, 10 in Chemistry and 8 in Physics. The coverage was not balanced as Physics was given too low a weightage.

All the questions were of simple multiple choice variety. No other variety of MCQ was used in the test. Out of 35 questions, 22 questions tested higher mental abilities – 10 in Biology, 8 in Chemistry and 4 in Physics. 6 questions were found to be difficulty, 16 of average difficulty level and 13 easy. On the whole the difficulty level of the test was adequate from the point of view of talent identification.

The question paper needs thorough editing. Some mistakes were noted. For example.

Q.No.45. in place of Epithem, it should be Epithelium.

Q.No.53. In place of “Cravial nerves in human is”, it should be “The number of cravial nerves in human is”

Q.No.40. in place of “Centriole”, it should be “Centrosome”.

The coverage of syllabus in Chemistry was seen to be inadequate. Topics like “Metals and non-metals” and “Carbon” were not covered.

Questions 33 and 36 were confusing. For e.g.

33. On a day of nor'mester, the height of the mercury column of a barometer at a place is found to be

- a) greater than 2.5 feet
- b) less than 2.5 feet
- c) equal to 2.5 feet
- d) zero

The question is not clear and the alternatives are not correct. Units are not given in feet. They should be in mm or cm.

Q. No.36. A&B are two points separated by a distance of 5 cm. At A, a negatively charged body of mass 1 mg is placed. The electrical force will be zero if at B is placed a

- a) negatively charged body of mass 1 mg
- b) positively charged body of mass 1 mg
- c) negatively charged body of mass 2 mg
- d) plastic ball of mass $\frac{1}{2}$ mg.

The task was not clear and hence the alternatives are not plausible.

Social Science

Social science has 35 questions – 17 in History and 18 questions in Geography. There is no question from Civics. All the questions are SIMPLE MCQs. Other types of MCQs are not used. Out of these 35 questions, only 10 questions are of higher mental abilities -

Geography – 10 questions, History – NIL. As such, in History all the questions are memory based.

In geography, uniform coverage of the topics was seen. However, in History, out of the 17 questions, 4 are of Indian History and 13 are of World History.

Out of 35 Questions of Social Science, 17 questions were estimated of EASY, 10 were AVERAGE and 8 were DIFFICULT.

In History, in the alternatives, years were represented without AD or BC (which is so important in History) e.g. Q.No.58, 59, 66, 70. In some questions, some wrong spellings were seen e.g. Q. No. 72 Mein Kampf was written as Main Kampf. In Q. No.71, only “Napoleon” is written which can be vague as there are Napoleon I, Napoleon II, Napoleon III etc.

In Geography, the uniform coverage of the memory based and of higher mental abilities is seen. However, the number of EASY questions is very low.

CHAPTER-III

State-wise Analysis of Mental Ability Test (2007-2008)

Andhra Pradesh

Specific Observations

The MAT paper consists of 90 items of which 20 were verbal and 70 were non-verbal items. Out of 90 items 20 items were not testing Mental ability. (Q. Nos. 26-45). These items were testing language ability. There should not be more than 5 or 6 items under any category but in this test one can find 10 to 15 items of same category. (Items : 1 – 10, 16 – 25). Q.No.9 is wrongly framed or key is wrong. The difficulty level of the items could be improved. The test is on the easier side and has a scope for improvement. Out of 90 items only one item was difficult, 62 were average difficulty level and 27 were easy.

General Suggestions

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Arunachal Pradesh

Specific Observations

- The test contains 90 items to be attempted in 90 minutes.
- Most of items (73) are Non-Verbal which is good.
- Most of items (63) are very easy. Only 25 items are of average difficulty. The discrimination power of majority of items is poor.
- Item types used are generally Analogy, Classification, Series, Trends and Space Visualization. Several major areas like Space Orientation, Syllogistic Reasoning, Problem Solving, etc. are generally missing.
- Some items are vague or wrong. Item No.57 has a wrong stem. Item No.72 has wrong key. Items 79-81 under Figural Series are actually Figural Analogy items.
- Test is comparatively easy, non-discriminating and less representative.

General Suggestions

- Instructions for different types of items were not standardized.
- Item analysis for item discrimination and item difficulty must be undertaken for proper feedback to item writers.
- The test must have some more difficult and average level items for proper discrimination.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.

- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Assam

Specific Observations

The MAT paper consists of 100 items of which 76 were non-verbal items and only 24 were verbal. Most of the items are of the coding type and series (both figural & number). Generally the questions of numerical series (item nos. 93-100) are either wrong or the stem is defective or has more than one logic. Figural series (item nos. 73 to 82) are either too easy to be used for class VIII level or use incorrect logic. Verbal semantic analogy (item nos. 58 to 62) should not be used because of wrong logic, wrong spelling or wrong answer. A few items like item nos. 44 to 47 are too easy but can be made more challenging by changing the alternatives/distractors. Generally, items on coding (item no. 03 – 06) & (12 – 14) are just too easy for use. Overall there are around 40 items which can be used for MAT. Main instruction no. 6 is not correct. Either of the two, i.e. encircling or crossing should be used.

General Suggestions

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Andaman & Nicobar Islands

Specific Observations

- Limited Sample of item types used.
- Difficulty level of items is low. (Such low index may be a consequence of author's familiarity with the content).
- Similar logic used in various items e.g. items 3 – 5 & 6 – 7 in number series, 16 – 17 in number analogies, 83 – 84 in Venn diagrams.
- Figural representations not exact e.g. item 34.
- Key to some items not correct e.g. items 18, 25, 51.
- Distractors to some items not plausible viz. 8, 23, 24, 62, etc.
- Few items require general awareness and facility in language usage i.e., 24, 29, 80, 81.
- No. of figural items is 24, verbal 15 and approximately 49 nonverbal.
- Directions were too long and not clear for items 24 – 29.

General Suggestions

- More variety of items may be used.
- Avoid use of similar logic in a particular type of item category.
- Figural representations can be more exact.
- Avoid items based on general awareness and language usage.
- Figural analogy items need to be included.
- Directions need to be simplified.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Bihar

Specific Observations

- The MAT consists of 90 questions which is based on completion of series questions and odd man out. No other test items has been included to measure mental ability.
- Difficulty level of the test is very little, it can not discriminate the candidates belonging to high or low level of intellectual capabilities.
- Question Nos. 37, 62, 68 could have two logics.
- No figural questions are used in the test.

General Suggestions

- Difficulty level of the test should be high enough to discriminate among the candidates. Other than series on odd man out, other parameters measuring the reasoning ability should be included.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Chandigarh

Specific Observations

The MAT has 90 questions in which 68 non-verbal and 22 verbal items. It has easy, average and very few difficult items. Quite a few items are too easy to be used and either the distractors should be more similar to the answer or the difficulty level of the question itself should be increased. For e.g. for item nos. 4, 5, 7, 12, 13, 14, 15, 26, 28, 40, 41, 45, 59, 64-66, 67, 68, 75, 76, 77, 78, 79, 80, 81, 82 are too easy and does not challenge a class VIII student to think and reason. Wrongly spelled question like item no. 25 should be avoided. The logic for question nos. 21, 23 are too confusing. Item nos. 50 – 53 can have more than one logic and so the questions appear defective. For item nos. 11 and 16 the answers are wrong.

General Suggestions

The paper consists of eleven different types of mental abilities. Certain items like item nos. 04, 05 can be made better by changing the distractors. Few items are too easy and do not challenge the mental faculties of the students of class VIII. Answers for certain questions like item nos. 4 – 7 are too obvious. Items 49-53 is good but should be reworded properly so that more than one logic is not possible.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.

- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Chattisgarh

Specific Observations

- Construction of test items : pattern of item construction is quite adequate except the difficulty level. Some of the items are very easy. Question numbers 61 – 65 should be avoided. By the time students reach 8th std. he could be able to see such relationships. Where analogy questions are there, this type of questions are not required.
- Instructions related to questions should be just above the question – not on the different page. It saves the time to solve the problems.
- Question numbers 9, 13, 28 needs to be examined because repetition of questions and answer.

General Suggestions

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Delhi

Specific Observations

Overall difficulty level of test seems to be low as there were about 50% of very easy items. Some of the items in the test were vague and some have two or more than two similar options. Some of the items require knowledge of English language and numerical ability before 'reasoning' out the answer. Proper weightage is not given to different aspects of Mental Ability tapped in the test.

General Suggestions

The test has to be more balanced and difficult in tapping out different aspects of Mental Ability as proper weightage was not given to different types of items in the test. Item writers should be provided with a proper understanding of what predominantly constitute 'Mental Ability'. A feed back of item parameters provided to them could certainly help them to escape from writing vague items and items have non-plausible options and also items having same options.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.

- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Goa

Specific Observations

This question paper contains 100 questions in which 19 are verbal and 81 are non-verbal questions. There are 34 difficult questions, 43 average questions, 18 easy question and 5 questions have wrong answers. No. of easy questions should be more. General knowledge questions are there which is not part of MAT. e.g. 29, 56, 95.

Most varieties of MAT are covered in this question paper. Water reflection, classification paper folding, cubes can be added which give scope for MAT.

Questions of reasoning are based on Arithmetic reasoning. Calendar unit is used for a question. Question based on pyramid, rule formation are very good. Q.Nos. 86 to 94 are very difficult. Difficulty level is very high for std. VIIIth students.

Out of 100, 5 questions have wrong answers, and one question has spelling mistake in its alternatives. Overall question paper is good. Difficulty level should be slightly lower. More units of MAT can be used and there is scope for improving further.

General Suggestions

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Gujarat

Specific Observations

The MAT for class VIII students was analysed in respect of the type, quality and the difficulty level of the items. The following observations are made:

- A major issue with this test pertains to the difficulty level of the items. Nearly 60% of the items were rated to be 'easy'. Some of these were very easy, and are therefore not suitable for MAT at class VIII level. Only 4% of the questions were rated to be 'difficult' posing mental challenge for good students. The questions that were judged to be difficult are: Question Nos. 51, 52, 83 and 85. The number of difficult items should be raised to about 25% to 35%. The number of easy questions should be reduced to less than 15% or 20%.
- 16 questions (17%) out of 90 were rated to be improper/incorrect. 9 questions (10 – 18) are not correct. For example, the word 'BID' is coded with 4 letters n, n, r and w. Similar errors occurred in other questions. Question Nos. 65-71 are rated as improper, because the figures in the alternatives are not properly drawn. This would increase students guessing the answers, some of which would be correct by chance. Proper care should be taken to ensure correctness of the question stem and alternatives.
- 9 questions (10%) out of 90 (Question Nos. 73 – 81) require students to find the odd one based on his/her semantic/general/real-world knowledge. These questions are not suitable for MAT, and should therefore be avoided.
- Please refer to questions 28-36. The instructions are not clear. If a rotated version of the figure can be judged as identical with the target figure, this should have been mentioned in the instructions. For example the target figure is rotated and placed as an alternative in Q. Nos. 28, 31, 33, 34, 35 and 36. The instructions may be appropriately modified.
- The answers to questions 52 and 85 are not correct. For question No. 52, alternative (2), may be correct. The number of triangles in Q.No.85 is 12, which does not appear as an alternative.

- The instructions should be clear and precise, not lengthy.
- Different questions should not have the same intellectual demand on students. For example, Q.No. 85 requires students to count the number of squares, which he has already done to obtain answer to Question No. 82.

General Suggestions

- Instructions should be clear and not lengthy.
- The difficulty level of the questions should be increased. Only 4% of the questions are considered difficult. There should be 25% to 35% difficult questions. The number of easy questions should be reduced to less than 25%.
- Items requiring semantic/general/real-world knowledge should be avoided, as they are not suitable for MAT.
- Figures should be drawn properly respecting their shape and size. These are particularly important for questions on Figure Matching and Hidden Figures.
- The paper should incorporate as many types of items as possible. In the present paper, there were 10 categories of questions. It would be better if there would be 18 to 20 different types of questions.
- It would be better if the item writer solves the problems about 2 – 3 weeks after they are prepared in order to ensure the correctness of the alternatives.
- An item analysis may be done at the state level to ascertain item difficulty level. Items solved by more than 60% to 70% of the students may be discarded.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Dadar & Nagar Haveli

Specific Observations

The MAT for class VIII students was analysed in respect of the type, quality and the difficulty level of the items. The following observations are made:

- A major issue with this test pertains to the difficulty level of the items. Nearly 60% of the items were rated to be 'easy'. Some of these were very easy, and are therefore not suitable for MAT at class VIII level. Only 4% of the questions were rated to be 'difficult' posing mental challenge for good students. The questions that were judged to be difficult are: Question Nos. 51, 52, 83 and 85. The number of difficult items should be raised to about 25% to 35%. The number of easy questions should be reduced to less than 15% or 20%.
- 16 questions (17%) out of 90 were rated to be improper/incorrect. 9 questions (10 – 18) are not correct. For example, the word 'BID' is coded with 4 letters n, n, r and w. Similar errors occurred in other questions. Question Nos. 65-71 are rated as improper, because the figures in the alternatives are not properly drawn. This would increase students guessing the answers, some of which would be correct by chance. Proper care should be taken to ensure correctness of the question stem and alternatives.
- 9 questions (10%) out of 90 (Question Nos. 73 – 81) require students to find the odd one based on his/her semantic/general/real-world knowledge. These questions are not suitable for MAT, and should therefore be avoided.
- Please refer to questions 28-36. The instructions are not clear. If a rotated version of the figure can be judged as identical with the target figure, this should have been mentioned in the instructions. For example the target figure is rotated and placed as an alternative in Q. Nos. 28, 31, 33, 34, 35 and 36. The instructions may be appropriately modified.
- The answers to questions 52 and 85 are not correct. For question No. 52, alternative (2), may be correct. The number of triangles in Q.No.85 is 12, which does not appear as an alternative.

- The instructions should be clear and precise, not lengthy.
- Different questions should not have the same intellectual demand on students. For example, Q.No. 85 requires students to count the number of squares, which he has already done to obtain answer to Question No. 82.

General Suggestions

- Instructions should be clear and not lengthy.
- The difficulty level of the questions should be increased. Only 4% of the questions are considered difficult. There should be 25% to 35% difficult questions. The number of easy questions should be reduced to less than 25%.
- Items requiring semantic/general/real-world knowledge should be avoided, as they are not suitable for MAT.
- Figures should be drawn properly respecting their shape and size. These are particularly important for questions on Figure Matching and Hidden Figures.
- The paper should incorporate as many types of items as possible. In the present paper, there were 10 categories of questions. It would be better if there would be 18 to 20 different types of questions.
- It would be better if the item writer solves the problems about 2 – 3 weeks after they are prepared in order to ensure the correctness of the alternatives.
- An item analysis may be done at the state level to ascertain item difficulty level. Items solved by more than 60% to 70% of the students may be discarded.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Daman & Diu

Specific Observations

The MAT for class VIII students was analysed in respect of the type, quality and the difficulty level of the items. The following observations are made:

- A major issue with this test pertains to the difficulty level of the items. Nearly 60% of the items were rated to be 'easy'. Some of these were very easy, and are therefore not suitable for MAT at class VIII level. Only 4% of the questions were rated to be 'difficult' posing mental challenge for good students. The questions that were judged to be difficult are: Question Nos. 51, 52, 83 and 85. The number of difficult items should be raised to about 25% to 35%. The number of easy questions should be reduced to less than 15% or 20%.
- 16 questions (17%) out of 90 were rated to be improper/incorrect. 9 questions (10 – 18) are not correct. For example, the word 'BID' is coded with 4 letters n, n, r and w. Similar errors occurred in other questions. Question Nos. 65-71 are rated as improper, because the figures in the alternatives are not properly drawn. This would increase students guessing the answers, some of which would be correct by chance. Proper care should be taken to ensure correctness of the question stem and alternatives.
- 9 questions (10%) out of 90 (Question Nos. 73 – 81) require students to find the odd one based on his/her semantic/general/real-world knowledge. These questions are not suitable for MAT, and should therefore be avoided.
- Please refer to questions 28-36. The instructions are not clear. If a rotated version of the figure can be judged as identical with the target figure, this should have been mentioned in the instructions. For example the target figure is rotated and placed as an alternative in Q. Nos. 28, 31, 33, 34, 35 and 36. The instructions may be appropriately modified.
- The answers to questions 52 and 85 are not correct. For question No. 52, alternative (2), may be correct. The number of triangles in Q.No.85 is 12, which does not appear as an alternative.

- The instructions should be clear and precise, not lengthy.
- Different questions should not have the same intellectual demand on students. For example, Q.No. 85 requires students to count the number of squares, which he has already done to obtain answer to Question No. 82.

General Suggestions

- Instructions should be clear and not lengthy.
- The difficulty level of the questions should be increased. Only 4% of the questions are considered difficult. There should be 25% to 35% difficult questions. The number of easy questions should be reduced to less than 25%.
- Items requiring semantic/general/real-world knowledge should be avoided, as they are not suitable for MAT.
- Figures should be drawn properly respecting their shape and size. These are particularly important for questions on Figure Matching and Hidden Figures.
- The paper should incorporate as many types of items as possible. In the present paper, there were 10 categories of questions. It would be better if there would be 18 to 20 different types of questions.
- It would be better if the item writer solves the problems about 2 – 3 weeks after they are prepared in order to ensure the correctness of the alternatives.
- An item analysis may be done at the state level to ascertain item difficulty level. Items solved by more than 60% to 70% of the students may be discarded.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Haryana

Specific Observations

- The overall test is good.
- There are 9 verbal items testing linguistic ability, 65 non-verbal consisting of numbers/letters, and 16 figural items. Figural items can be increased.
- There are 60 easy items, 20 average and only 04 are difficult. Difficulty level of items must be increased.
- Instructions for items 36-38 are a little unclear. If these papers are folded and **punched**, correct alternative would become different. If it is only folded and **patterned**, then correct alternative might be different.
- For item no. 8, alternative 2 and 3 are exactly alike.
- For word construction items (no. 61, 62) the given correct alternatives are wrong. Care must be taken to eliminate such errors altogether.
- Item no. 70 has running up to 4 figures, that too - and +. The logic might be kept complex, not the alternatives.
- Items 36 – 38 have 4 alternatives A, B, C, D in the key, these are numbered 1, 2, 3, 4.
- Effort must be made to obtain some more innovative/interesting/fresh items which depart from the stereotypical, routine items.

General Suggestions

- Increase difficulty level of items.
- The test has too many simple items. Reduce it.
- Avoid items which have such huge and varied no. as is given in item # 70.

- Six items either have more than one correct alternative (eg. Q. Nos. 8, 36) or an answer which is debatable (eg. Q.Nos. 61, 62).
- ‘None of these’ must not be used as one of the alternatives as is done in items 69-73, 75-76.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Himachal Pradesh

Specific Observations

The items in MAT were analysed in respect of their types, quality and difficulty level. The observations are given below:

- There are altogether 20 different types of items with 18 items (20%) belonging to 'Verbal' Category and 72 items (80%) belonging to the 'Non-Verbal' category.
- Item No. 9 is based on a long-drawn logic. The logic would not strive naturally to the student. It would encourage guessing and the student may hit upon the correct answer accidentally.
- Some items were very easy. Question Nos. 6, 67 and 76 are very easy. Questions of this type should be avoided.
- Arithmetic questions should be avoided as far as possible. Particularly items 17, 18 and 20 should not be included in MAT.
- Questions 25 – 27 should be reconsidered. There are problems in the alternatives. If it is a logical inference, the alternative 'probably true' is not appropriate. The answer to Q. 27 is not correct.
- The answer to Question No.32 does not appear in the alternative. (possibly a printing error). Question No. 78 is not a good item, because the same figure appears twice and the logic is not clear. Similarly the answers for questions 82 and 87 should be reconsidered.
- Items requiring semantic knowledge (Question Nos. 39, 40, 41 and 87) should be avoided.
- Items that do not activate reasoning and critical thinking should be avoided. Items 44, 45, 46, 47 and 48 should be avoided.
- Instructions should be clear. For questions 66 to 71, the instructions should give an idea that these are figure series. Item 66 is more like a figural analogy than figure series.

- This test has 14 (16%) difficult items, 39 (43%) average items and 33 (37%) easy items. The number of difficult items should be increased.
- It is important that the item writer solves the question paper 15-20 days after they are prepared. The manuscript must be thoroughly proofread.

General Suggestions

- There are altogether 20 different kinds of items. The test is more or less a good test except that the number of difficult items should be increased to about 30% (i.e., approximately 28-30 items).
- Arithmetic items should be avoided.
- Instructions should be as clear as possible. For example, the Venn diagram in questions 11-15 are not numbered. Questions 66 to 71 are Figural Series. This should have been mentioned in the ‘instructions’.
- Items requiring interpretation of word meanings should be avoided. For example Questions 39, 40, 41, 42, 43 and 87 require general and semantic knowledge. These items should not be included in MAT.
- The manuscript should be thoroughly proofread. It is always better that the question setter solves his/her set of questions 15-20 days after they are prepared to ensure correctness of items.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.

- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Jharkhand

Specific Observations

Mental ability test consists of 100 questions of average difficulty level. The questions measuring MAT belong to mainly analogies and series type though Venn diagram is used but key has not been provided to the examinees. Figural questions are totally avoided and not used. Instead of repeating the same kind of functions being measured, questions are tackling other kind of mental ability should be included:

Certain other observations

Logics are not clear, debatable or answer could be wrong : 21 – 25, 34 – 35, 36 – 38, 40, 43 – 45, 46, 66, 68 – 70, 71, 76 – 80.

Answers are wrong : 19, 26 – 30, 31, 41, 43 - 45, 55 – 57, 61 – 63, 73 – 75, 83, 85, 88 – 90.

91 – 100 Key is missing.

General Suggestions

Under each type of items 5 questions of similar type are appropriate. Different aspects could be tackled if items are arranged properly from low difficulty level to moving higher cognitive functions, figural items, including matrices, should also be included.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.

- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Jammu & Kashmir

Specific Observations

The Jammu & Kashmir MAT consists of 100 questions of which 11 items were non-verbal and the remaining 89 items were verbal items. Out of 100 items, 16 were difficult, 10 were average and 74 items were easy. The most disturbing fact is that out of 100 items 52 items tested only knowledge. In other words they were not MAT items. Those items were 1, 5 to 21, 33 to 40, 48 to 50, 52 and 57 to 78. In addition to these item nos. 41 – 45 and 81 – 85 were language items. Item no. 83 is wrongly constructed. Most of the items were easy which should be avoided.

General Suggestions

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Karnataka

Specific Observations

- The test contains 90 items to be attempted in 90 minutes.
- Out of 90 items 55 are of average difficulty and 32 are quite difficult. Easy items are negligible.
- Most of the items (85) are of Non-Verbal nature.
- All abilities have been tapped by using variety of item types.
- Some difficult items, mainly of numerical nature are very time consuming.
- In general test is very good, culture-free, discriminating and representative.

General Suggestions

- Item analysis to see the item difficulty and item discrimination is must. Several items are quite difficult and time consuming. How these have behaved should be ascertained.
- Standardized instructions should be used for each item category for all states and at national level.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Kerala

Specific Observations

- There were altogether 12 different types of items, all from the ‘non-verbal’ category. Some categories had relatively large number of items. These categories were : Letter Coding (15 items), missing numbers (11), word decoding (10 items), Letter Series (10 items), and Figural Analogy (19 items). As far as possible, there should not be more than 5 to 6 items per category. The objective is to include as many types of items as possible to tap a wide variety of mental functions. It is good that all the items were non-verbal in nature.
- The distribution of items on the basis of difficulty level were: Easy – 31 items (35%), Average – 22 items (24%), and Difficult – 25 items (28%). One might reduce the number of easy items to less than 20%, and increase the number of ‘difficult’ and ‘average’ items.
- Questions 27 – 36 were based on word/letter decoding. The instruction clearly specifies that code for each letter be inferred. In fact code for letters ‘A’ and ‘C’ cannot be ascertained. Further more, the questions should give the letters in correct order. That is why these questions need to be revised or the instructions may be set accordingly.
- For questions 4 and 63, the correct answers are not available in the alternatives. For Q. 4, the correct answer is 164, and for Q. 63, the correct answer is 13. For Q. 7, the correct answer is shown as 2, when in fact it should be 3. Necessary corrections may be made.
- Q. 6 – 15 are relatively easy questions. What is required is attention to details, particularly at a simpler level. These questions may be avoided.
- Question No. 16 should have contained at least 2 proceeding diagrams so as to enable the testee to infer rules with certainty.
- The logic is not very clear for questions 21 and 25. In Q.81, the figure in alternative (1) is not properly drawn. In Q. 86, there should not be a vertical line in alternative (4).

- It is suggested that the item writer solves the problems approximately 2 to 3 weeks after the questions are framed to ascertain the correctness of items.

General Suggestions

- The number of easy items should be reduced.
- Questions involving letter-digit substitution (Q. 6 –15) are very easy and therefore should be avoided.
- Questions on word-decoding should not be more than 5 in number.
- The no. of item types should be increased, and the practice of setting a large number of questions from one category be discontinued. The no. of questions in a single category may be restricted to 5/6 items.
- The correctness of the answers and instructions may be thoroughly checked.
- The number of alternatives should be reduced to 4.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Lakshadweep

Specific Observations

- There were altogether 12 different types of items, all from the ‘non-verbal’ category. Some categories had relatively large number of items. These categories were : Letter Coding (15 items), missing numbers (11), word decoding (10 items), Letter Series (10 items), and Figural Analogy (19 items). As far as possible, there should not be more than 5 to 6 items per category. The objective is to include as many types of items as possible to tap a wide variety of mental functions. It is good that all the items were non-verbal in nature.
- The distribution of items on the basis of difficulty level were: Easy – 31 items (35%), Average – 22 items (24%), and Difficult – 25 items (28%). One might reduce the number of easy items to less than 20%, and increase the number of ‘difficult’ and ‘average’ items.
- Questions 27 – 36 were based on word/letter decoding. The instruction clearly specifies that code for each letter be inferred. In fact code for letters ‘A’ and ‘C’ cannot be ascertained. Further more, the questions should give the letters in correct order. That is why these questions need to be revised or the instructions may be set accordingly.
- For questions 4 and 63, the correct answers are not available in the alternatives. For Q. 4, the correct answer is 164, and for Q. 63, the correct answer is 13. For Q. 7, the correct answer is shown as 2, when in fact it should be 3. Necessary corrections may be made.
- Q. 6 – 15 are relatively easy questions. What is required is attention to details, particularly at a simpler level. These questions may be avoided.
- Question No. 16 should have contained at least 2 proceeding diagrams so as to enable the testee to infer rules with certainty.
- The logic is not very clear for questions 21 and 25. In Q. 81, the figure in alternative (1) is not properly drawn. In Q. 86, there should not be a vertical line in alternative (4).

- It is suggested that the item writer solves the problems approximately 2 to 3 weeks after the questions are framed to ascertain the correctness of items.

General Suggestions

- The number of easy items should be reduced.
- Questions involving letter-digit substitution (Q. 6 –15) are very easy and therefore should be avoided.
- Questions on word-decoding should not be more than 5 in number.
- The no. of item types should be increased, and the practice of setting a large number of questions from one category be discontinued. The no. of questions in a single category may be restricted to 5/6 items.
- The correctness of the answers and instructions may be thoroughly checked.
- The number of alternatives should be reduced to 4.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Manipur

Specific Observations

The mental processes tapped by the test were: Verbal Classification (10 items), Verbal Relations (10 items), Visual Classification (7 items), Visual Relations (10 items), Visual Orientation (8 items), Orientation of Direction (1 item), Visual Systems (8 items), Sequential Order (5 items), Visual Analysis (1 item), Visual Transformation (5 items), Letter Classification (3 items), Letter Arrangement (1 item), Letter Transformation (5 items), Number System (13 items) and Problems (3 items). As the mental abilities are not differentiated at class VIII level, it would have been much better to give proper weightage for each facet and to include more and more facets of mind, so that the test would have been a better tool to assess general mental functioning of the children at this stage or rather to have a Omnibus test of Mental Ability.

General Suggestions

Overall difficulty level of the test seems to be very low in comparison to the National Level Class VIII examination. However, keeping in view the National Selection, it is desirable to find out the over all intellectual level of the class VIII students of Manipur State and to workout remedial strategies so that students of the state get proper representation in the final i.e. National Selection.

Further, there is strong need to train the state level persons i.e. from Manipur State as the test lacks in exploring at least some important mental processes and items were very weak.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.

- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Madhya Pradesh

Specific Observations

- The test is dominated by verbal and easy items. Out of 90 items, 47 are verbal and 72 are easy items.
- There are no difficult items.
- Figural items are only 11 in number.
- There are some eight items who have debatable/wrong answers. It is a serious mistake so please do take care.
- This test consists of some sixteen types of items. The NCERT format of item types lists 41 types, which is not the ultimate list of item types. Item writers can be encouraged to do some out-of-the-box thinking and come up with more innovative/interesting items particularly of figural/non-verbal variety. If done, this will be a commendable job.

General Suggestions

- Must increase the variety of items.
- Use more figural items of various types.
- The test must not have G.K. items or items requiring linguistics/semantics (e.g. synonyms/opposites etc.).
- Make efforts to obtain some more innovative/interesting items which depart from the stereotype.
- Ensure that each item has one – only one – correct alternative.
- The test is dominated by easy items. Must increase the difficulty level of items.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Maharashtra

Specific Observations

- It is overall a good test. Items as well as alternatives and the correct answers are carefully selected.
- There are only three wrong/debatable answers. These are for items # 6, 57 and 59.
- Identification/discrimination of no. or letters (example item no. 17 and 75) are too simple to be included in a State Level Test.
- While selecting correct answer for Paper Folding/Unfolding, a paper could actually be folded and unfolded so as one ensures selection of correct figure as the answer (For example, see item # 57 and 59).
- Although it is a difficult task, but effort must be made toward obtaining items that are more innovative and interesting. Otherwise most items are so routine and stereotypical that a test can almost be predicted.

General Suggestions

- Make efforts for more innovative items.
- Percentage of difficult items not to be increased.
- Items must be screened carefully so as to weed out any items with debatable logic or answer.
- Do not include items requiring discrimination/counting of alphabet or numbers as these are (1) not mental ability items, (2) are too simple.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Meghalaya

Specific Observations

- The test has restricted number of test item types. No. of items in each item type rather large.
- Quite a few wrong responses viz. items 25, 26, 27, 29, 30, 47, 48, 52, 54 and 56.
- Distractors in few questions not plausible viz. 31, 66, 67, 86, 88, 89.
- Improper use of words whose meanings are not clear viz. mannerly (Item 71), hireling (Item 74), dullard (Item 87) and one time (Item 88).
- Logic not distinct clear in a no. of items like in item 5, 34, 35, 45, 36-40.
- Continuity of ideas missing in word ordering items.
- Counting of geometrical figures → answers need to be verified.
- Some numerical problems involve long Mathematical calculations viz. 18, 36 – 40.

General Suggestions

- Number of items in each item type to be drastically reduced.
- Key needs to be validated.
- No. of questions need to be restricted in problem solving questions followed by a set of premises viz. items 46 – 50.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.

- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Mizoram

Specific Observations

The paper consists of 100 items of which 18 are verbal and 82 are non-verbal. The time limit is 90 minutes. Overall the paper has a few items which are very good for e.g. Item Nos. 18, 19, 20, 71, 72 and 73. A few items either are wrong or is not suitable for MAT. The difficulty level of the items could be improved to make it of an average difficulty level. The paper has more of series and coding items. Few other types and that too of the verbal kind can be added. On the whole items of 16 different types have been included through the distribution of the number of items under different types is much varied.

Overall, a good paper though on the easier side and has scope for improvement. Items No. 17 is not correct. The items should read as u, o, j, ? A. instead of I it should be J. Item No. 21 & 22 are not logical. Item No. 34 – problem figure is wrong. Item No. 45 – question speaks of 5 boys but names are given of 6 boys. 2 groups of children having no link with the other. Item No. 69 – wrong direction of paper folding. Item nos. 86, 87 and 88 are not suitable for MAT. Item Nos. 18, 19 and 20 are very good items.

General Suggestions

The paper is more interspersed with easy items. Through it covers 16 different types of items measuring mental ability, more verbal items can be added to make it balanced. Geometrical items should be avoided.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.

- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Orissa

Specific Observations

- The test contains 90 items to be attempted in 90 minutes.
- Out of 90 items, 83 items are Non-Verbal. Only 7 items could be classified as verbal.
- Most of the items (57) are figural or figure based.
- Test is balanced with 37 items of average difficulty, 31 easy and only 16 with some difficulty.
- Most of the item types have been used.
- Some items (6), particularly of Mirror Image type were vague. There were no instructions about the placement of mirror. The problem letters were unnecessarily underlines suggesting the placement of mirror. Otherwise items were O.K.
- Items 12, 16, 19, 20, 23, 30, 40, 63, 64, 65, 77, 78 and 79 have some vagueness/defects. Either alternatives are not plausible or figures are not appropriate. Item 12 has defective stem.
- In general test is good, balanced, more culture-free, reliable and representative of item types.

General Suggestions

- Standard instructions should be used for different types of items.
- Sample item analysis must be undertaken for proper feedback about the item discrimination and difficulty for future guidance.
- Some items were having defective alternatives, figures or items. These should be thoroughly checked to avoid vagueness.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.

- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Punjab

Specific Observations

The test paper contains 90 questions in which 35 questions are verbal and 55 are non-verbal. Non-verbal questions are based on Mathematics. Units of MAT i.e. folding papers, space visualization, Venn diagram, mirror images, water reflection, pyramids, cubes etc. can be included. This paper contains Mathematical based questions which are on series, missing numbers, letter series, figural questions are less in numbers.

Some questions have wrong stem and incorrect alternatives. eg. Q.No. 19, 27, 33, 39. Q.No. 21, 22, 23, 29, 61, 62, 63, 64, 65 are not questions of MAT, they are G.K. based questions.

Overall questions are easy. Difficulty level of question paper has more scope. It should have higher difficulty level questions. 13 questions are difficult, 5 questions are wrong in stem. Some questions has wrong alternatives. Units of MAT used less in numbers. Overall there is scope for improvement.

General Suggestions

- No. of difficult questions should be more in question paper.
- Figural questions should be more in MAT & verbal questions less in numbers.
- Overall question paper is easy. Difficulty level should be higher.
- Paper folding, mirror images, water reflection, pyramid, Venn-diagram this type of units can be taken for MAT.
- More weightage is given for Mathematical items.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Pondicherry

Specific Observations

The MAT paper consists of 90 items which are further divided into 74 non-verbal items and only 16 verbal items. The paper is too easy for class VIII students and would not be challenging for them at all. Out of 90 items 45 cannot be used as they are either defective or too easy for the level of class VIII. Further, 40 more items are easy but can be used. Only 05 items are there which might make the students to think and reason. These items are 09, 11, 25, 31 and 57. The paper can be improved by increasing the difficulty level of the items. Comments on a few items are as follows:

Item nos. 1 – 5: The distractors can be changed so that the candidate is made to think and reason rather than get onto the correct answer immediately. One does not have to process more than two choice options to get the answers. Therefore, the other 2 choice options are redundant.

Item No. 15 : The answer is wrong. Should be PNLJ.

Item No. 26: Images in options 2 & 3 are same. The size of figures, whether circle or square should be the same across all the options.

Item No. 28: Wrong answer. Correct option choice has not been given.

Item No. 34: More than one logic can be used to arrive at the answers.

Item No. 48: Defective question. Answers does not match the options.

Item No. 51 Option 2 i.e. (10) should not be given, otherwise there should be two answers.

Items No. 61 to 65: Too easy size of lines in option (item no. 65) do not match.

65:

Further, the following item nos. are too easy to use for MAT for class VIII level. Item nos. 1 to 7, 13, 15, 16, 19, 20, 21 to 24, 26, 28 – 30, 34, 41 to 45, 48, 52, 58, 59, 61-75.

General Suggestions

The MAT for Pondicherry is too easy to be used for class VIII students. The items do not challenge the mental faculties of the students.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Rajasthan

Specific Observations

The test contains total 90 questions. Out of which 10 verbal and 80 are non-verbal. Question No. 34 is G.K. based question which is not a MAT based question.

Out of 90 questions 14 are difficult, 33 average while 39 are easy. 4 questions are incorrect/wrong answers. They are Q. Nos. 1, 15, 19, 51. Q. No. 76 to 81 are figural series. Q. Nos. 76 & 77 has three questions, figures and Q.No. 78, 79, 80 has four question figures.

Types and pattern of questions are good. Various units and weightages are properly represented. Coding-decoding type questions are very difficult for VIIIth std. students which takes large time. No. of easy questions comparatively more. No. of average questions are also more. Therefore, question paper is an easy one. There is scope for adding difficult questions, so that difficulty level of question paper should be higher than this one.

Over all question paper is good. Major units of MAT are covered. Various patterns of questions are covered. For setting difficult questions care should be taken that they take level of age group of Std. VIII students.

General Suggestions

- Most of the item types are covered.
- Types of questions are good.
- Coding-decoding pattern base questions are very difficult. It takes more times to solve.
- Translation of Hindi has minor mistakes.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Sikkim

Specific Observations

The MAT consists of 90 questions of which 67 are non-verbal and 23 are verbal. 14 different types of mental abilities have been included. It is felt that items measuring analogy, series and coding are too many and those of Venn diagram, matrix, paper folding etc. can be added to this paper.

There are few items which are very good, for e.g. item No. 10, 14, 16, 18, 21, 59, 70, 71. More such items can be added which can challenge the students of class VIII to think and reason.

Certain minor changes in the following items can be made to make it better for e.g.:

Item No. 14 – A good item but has an option been MHHGV or the word in the stem been of 06 letters rather than of 05 (LIGHT) it would have been better.

Hand made figural items do not have the precision that a computer generated figure would have with regard to angles, size and tilt of figures and therefore, efforts should be focused on getting figural items made on the computer.

Item No. 28 – The distractors could be made better so that the answer does not become too obvious to the students.

The option ‘none of these’ should not be generally used. Avoid if possible. Items which are too easy for use or are defective are as follows: Q.Nos. 1, 3, 15, 19, 27, 30, 35, 38, 42, 43, 55, 60, 78, 80, 85 to 90. Overall, a good effort by the item writers and with scope for further improvement.

General Suggestions

On the whole the paper has a few items which are of average difficulty but most of the items are easy. A few items are very good and more such items can be added on to the MAT. Overall 14 mental ability types have been included.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Tamil Nadu

Specific Observations

The MAT for class VIII students of Tamil Nadu was analysed in respect of the type, quality and difficulty level of the items. The following observations are made:

- There were altogether 19 different types of items with a heavy concentration on general knowledge (10%), and arithmetic + algebra + geometry (30%). Questions 21, 22, 26, 27, 57, 86 – 90 are based on general knowledge. Questions 23 – 25, 30, 36 – 49, 52, 58, 80, 81 – 85, and 87 are arithmetic/geometry/algebra questions. These items are not usually considered suitable for MAT as they are highly loaded on memory of facts and formula. Further more, these skills are assessed in SAT. MAT questions should be a self-contained logical unit from which inferences can be drawn with minimal involvement of real world knowledge. The importance is on recalling information rather than recalling facts from memory.
- 10% of the questions were found to be incorrect or based on improper logic. Only 42 questions (47%) were found to be proper in all respects. 36 questions (40%) were not suitable for MAT. Questions 66, 68 and 70 did not have the correct answer among the alternatives.
- The question paper consisted of 38 (42%) verbal items and 52 (58%) non-verbal items. There is a need to reduce the number of verbal items.
- Only 9 (10%) items were rated to be difficult, 37 (41%) to be of average difficulty, and 35 items (39%) to be easy. The rest 10% were incorrect. The number of difficult items should be raised to 25%; the number of average items be raised to 50% to 60%; the number of easy items be restricted to 15% to 25%.
- Care must be taken to frame the instructions carefully so as to avoid ambiguity and increase precision. The instructions should not be lengthy.
- The manuscript must be proofread properly to avoid typing errors. For example, a number (possibly 441) is missing in the item stem in Q.No.7. In question No. 9, the alternative (1) should be an English letter, not a Tamil letter. The correct answer for

Q.No. 31 should appear as one of the alternatives. The correct alternative appears twice in Q.No.35.

- While framing verbal items, one should carefully attend to language forms. For example, the item stem in Q. 66 does not mean only orange juice. The number of lawyers who take orange juice is $12 + 5 = 17$, (not 12). In Q. 68, the word ‘persons’ include lawyers. In Q. 70, the word ‘persons’ includes lawyers. The item writer used the ‘persons’ as those who are not lawyers. This is not tenable.
- The question paper does not mention the class for which it is meant.
- The logic for choosing the correct alternative should be clear, not a long-drawn one. The logic for items 11 and 12 are not clear. For Q.No. 11, the equation $(10 + x + 22) - (9 + x + 21) = 2$ would be true for any value of x. how did the item writer know that $x = 11$. The same is true for question No. 12. In Q. No. 16, alternative (2) is 6879, which is an odd number, the rest are even. But the item writer uses a different logic.

General Suggestions

- The question paper must mention the class for which it is meant.
- The instructions for different types of questions must be standardized.
- Number of verbal items should be reduced considerably. In the present form 42% of the items are verbal in nature.
- There should not be any question based on general knowledge. In the present form, 10% of the questions assess general knowledge.
- Questions based on Arithmetic, Geometry and Algebra should be avoided. In the present form 30% of the questions assess these skills.
- All questions (stem + alternatives) should be clear, correct and based on proper logic, not on long-drawn inferences. In the present form 10% of the questions are either not correct or based on improper logic.

- The number of difficult questions should increase. Number of easy questions should be reduced. In the present form only 10% of the questions are rated as 'difficult' and approximately 40% of the questions are considered 'easy'.
- Thorough proofreading of the manuscript is necessary to avoid omissions and commissions. (For example, a number is missing in question No.7; All answers are correct for questions 11 and 12; Question No. 31 does not have a correct alternative; In question 35 the correct alternative appears twice).
- The question setter should solve his/her set of questions 2 or 3 weeks after the questions are prepared by him/her to discover the flow of logic and the logical sequencing of the items.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Tripura

Specific Observations

The MAT items were analysed in respect of the type, nature and the difficulty level of the items. The following observations are made:

- The MAT contains 25 different types of items with 5 items (6%) being verbal in nature, and 85 items (94%) being non-verbal in nature. It is good that there are substantial number of non-verbal items. Among the verbal items, item Nos. 68 and 71 are not appropriate for MAT. Further more, the words in these items do not follow a series. The items closely resemble odd man out (Semantic) type of items. This type of items should be avoided.
- In terms of the difficulty level, the items are categorized as follows:

Easy – 28 items (31%)

Average – 37 items (41%)

Difficult – 13 items (15%)

The rest 12 items (13%) were not judged to be proper with reference to the requirements of MAT.

- The items which were judged not to be proper were as follows:

Item 1. There is possibly a mistake in the 2nd term of the first pair. Instead of GIKM, it should have been GIKI.

Item 15. The educated Indians are shown by numbers 5, 6 and 7. No.7 will be the correct answer if the question is reframed as ‘educated Indians, who are neither ladies nor beautiful’.

Item 17. The same kind of logic as applicable to item No. 15 applies here.

Item 26. Two alternatives have the same answer, i.e. 16.

Item 31. This should be a problem with cube rotation not a number series. The number 5 (given as answer) is adjacent to 3, and therefore cannot be opposite to 3.

Item 34. The same logic as that of item 31 applies here.

Item 36. The item is not based on proper logic.

Item 37. It is based on a long-drawn logic. Not suitable for MAT.

Item 55. The answer is not found among alternatives. It should be (possible a printing error).

Item 68. These words do not form a series. It is like finding the odd one out.
& 71.

Item 75. The correct answer is not available. Please mark the direction of rotation.

- The instructions can be made clearer and precise. The English language requirements in the instructions as well as in the questions may please be attended to.
- The answer sheet contains alternatives marked as 1, 2, 3 and 4 whereas the question paper contains alternatives marked as a, b, c, d. Both should match.
- Attention should be given for properly sequencing the items. The same types of items appear at different places, crating a necessity for the same type of instruction to be repeated again and again.
- In items involving figures, a log depends on the shape, size and the quality of the figures drawn. Proper care must be taken to draw the figures properly.
- Arithmetic items may please be avoided. Further more many of the arithmetic items in the MAT are quite easy for a good student of class VIII.
- Items with high semantic content should be avoided as the objective is not to assess testee's language competence.
- Many items in Questions 62 – 71 (particularly items 68, 69 and 71) do not form a series. It is like finding the odd one in the group.
- It is suggested that the item-writer solves the items himself/herself 2 to 3 weeks after they are prepared in order to ensure correctness of the items.

General Suggestions

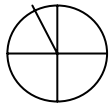
- The instructions as well as the questions should be clear and precise. The language and syntactic requirements should be properly attended to.
- As far as possible, there should be proper sequencing of questions in order to avoid duplicity of instructions. The same type of items should not appear at different places.
- The marking of the alternatives (such as a, b, c and d, or 1, 2, 3 and 4) should match with the answer sheet.
- Arithmetic items and items with high semantic content should be avoided.
- The number of difficulty items may be increased to about 30% of the total number of items. The number of easy items should be reduced.
- The item-writer should solve the questions 2 to 3 weeks after the questions are prepared by him/her to ensure the correctness of the items.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

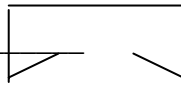
Uttarakhand

Specific Observations

- The test has approximately 31 verbal, 31 figural and 28 non-verbal and Mathematical items.
- The test paper have five distractors and in quite a few, 5th distractor is none of these.
- Word classification items 1 – 10 are easy. Item 3 is knowledge based, while in 5, spelling of garage is wrong.
- Alphabet series items 1, 12 & 20 are too easy.
- Number series items 13 & 16 use the same logic. 19 is also a repeat logic. Item 18 has wrong key. Logic not clear. 4^2 , 9^2 , 16^2 ,should be 25^2 .
- Item 22- spelling of distractor E.... celcious should be centigrade. Items 23 & 29 are knowledge based. Items 28 & 30, distractors are not functional.
- Item 31 - wrong answer and wrong structuring of stem.
- Item 34 – 35.. also need to be grammatically correct. Item 35 & 36 distracting E – Non should be none (Suggestions done in test paper).
- Item 36 – coding too easy.
- Item 39 – Mathematics item.
- Item 43 – Instead of none of these, correct answer IERSNO should be written.
- Item 48 – wrong answer.
- Item 50 – spelling mistakes & wrong answer.
- Item 56 – 60 – To be avoided. Subject to many answers, logic may vary. Item 59 – Distractor **speakers** instead of **speaker**. Item 60 – to be reframed.
- Figural classification items 61 – 64 too easy and obvious.
- Item 66-70 – Too easy, more suitable for clerical aptitude.
- Items 71 – 73 – distractors not plausible.

- Items 76 – 80 – Figural Series – wrong directions Instead of series, analogies directions. Such ambivalence also reflected in structuring of test items. Accordingly subject to wrong answers, as examiner’s logic in mind may not be discernible. Item 78 – wrong answer. Item 80 wrong stem. Fourth figure should be



- Item 83 – Distractors B & C not plausible. Item 85..... D not plausible.
- Item 86 – 87 – Stem missing as well as alternative in 86.
- Item 88 – Wrong answers. It should be 
- Item 89-90 – figural representations not exact.
- The test items are generally easy.
- Quality of paper poor becomes more apparent in case of figural items where reverse page pictures tend to interfere with the perception.
- Instructions are too lengthy, incorrect at some places, as it also the structuring of stem in few instances.
- Attempt is made to include variety in figural items but they do not seem to reflect the mental processes required.
- Less number of higher order coding items used.

General Suggestions

- Careful structuring of questions and instructions.
- Avoid long directions. Substitute with easy to follow clear directions.
- Do not include none of these as a fifth distractor.
- Include more difficult test items.
- Use quality paper to print the question paper.
- Avoid knowledge & Mathematics based items.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

Uttar Pradesh

Specific Observations

Pattern of constructing the test is O.K. for 8th std. It consists around 90 questions. The question paper is dominated by non-verbal questions which have a weightage of 64 out of 90. Most of them especially measure numerical ability. Out of 90 questions, for 12 – 14 questions either the answer was wrong or the logic applied to get the answer was wrong.

Problems were seen with the following questions:

Q.No. – 3, 13, 21, 31, 39, 67, 69, 75 and 87 – either the answer was wrong or the logic applied to get the answer was wrong. For example : In question No. 67 two alternatives are the same.

Q.No. 45-49 in the directions of question No. 45 – 49 it say A is bigger than E. In the next sentence it says A is smaller than E. Such questions are confusing to the child.

Q. No. 86 to 90 – The size of the hidden figure should be the same as the given figures. Accuracy can gained by using computer Coral Draw programme.

Moreover in question 90 the answer given in the key is 1 whereas it should be 2.

Q.No. 20 – 24 – Instructions are not clear. In some of the questions the sign of = is also changing which should not be the case.

General Suggestions

- Figural tests should be computerized or the figures should be constructed using Coral Drawing to give accuracy to the figure.
- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.

- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

West Bengal

Specific Observations

Test of 90 items – constructed with care with minor problems in three questions only. However, the test looks easy as a selection tool. Difficulty level of the test should be kept little higher than this. Hidden figures, matrices, rotations, mirror and water images test items could also be included instead of measuring the same ability with similar kind of items. Thus item numbers could be reduced under each type and other ability item like measuring the spatial ability orientation direction, paper folding, dice could be included.

Problem questions found in the test are:

Q. No. 20 - (5), 8, 13, 18

5 should have been 3.

$$3 + 10 = 13$$

$$8 + 10 = 18$$

$$13 + 10 = 23$$

Q.No. 62 could have two logics

c – using other logic

b – against one logic seems to be more correct.

Q. No. 65 – Logic is not understood.

General Suggestions

Number of questions in similar type should be reduced and items measuring different type of mental abilities should be included.

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.

- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.

CHPATER-IV

Major Findings

The major findings were given under two separate headings namely findings based on the analysis of Scholastic Aptitude Tests (SAT) and findings based on the analysis of Mental Ability Tests (MAT).

Findings Based on the Analysis of Mental Ability Tests (MAT)

- Generally the items were found to be very easy, especially in Chandigarh, Bihar and Jammu & Kashmir State tests.
- Types of items are very limited. The major chunk of items is series and analogy and odd-man out.
- There is a lot of variation among the states. It is not just a type of items, it is other aspects-a lots of items have semantic content and are not properly worded. Such items should be avoided.
- Editing should be done properly-many mistakes in the test papers were found.
- Instructions are not very clear-a set pattern of instructions can be given.
- There is heavy concentration of same type of items. Various types of items should be there.
- Items should be properly sequenced. Similar type of items should be grouped together and not scattered all over the paper.
- The correct answer did not tally with the key.
- Directions are not clear for paper folding and punching items in Haryana test.
- Interesting and innovative items were non-existent.
- Arunachal Pradesh and Jammu & Kashmir states test papers were too easy, very few types of items were used.
- Karnataka test was quite balanced, Orissa state test was also quite good.

Suggestions

- The MAT paper should consist of items which have a high difficulty level in order to adequately discriminate the candidates.
- A large variety of items may be used. No single type should be used for more than 5 items as it leads to practice effect and does not serve any purpose.
- Items which test general knowledge or the language ability should be avoided as they do not belong to a Mental Ability Category. Questions based on Arithmetic, Geometry and Algebra should also be avoided.
- Ensure that each item has only one correct answer even if you apply different logics/criteria.
- The proof reading should be very thorough to ensure that the test paper is free of spelling, grammatical or other type of mistakes.
- The figures should be drawn properly as the correct answer depends on the shape, size and the quality of the figures.
- Different items can be introduced – data interpretation, tables, exploration, generalization, etc.
- Language based tests are difficult to translate into several languages so every care must be taken while translating.
- Get into touch with Indian Institute of Managements (IIMs) and have an interaction with their faculty about the type of tests.
- Standardized instructions should be given to the states.
- States should do item analysis.
- 15 to 20 types of items should be there in each type.
- Rationale should be available along with the key.

Findings Based on the Analysis of Scholastic Aptitude Tests (SAT)

MATHEMATICS

- In most of the states/UTs, there were 20 questions in Mathematics. However, in Orissa and Pondicherry, there were only 18 questions, in Andaman & Nicobar there were 30 questions and in Gujarat there were 35 questions.
- Most of the questions were found to be quite simple in all the states/UTs. Only a few questions were of higher mental ability. In some questions, the key was found to be wrong.
- It was found that most of the states/UTs tests test limited content, limited number of categories of items to ambiguous instructions, poor editing and multiple correct answers to items.

SCIENCE

- Most of the questions have spelling mistakes and editing errors.
- The questions did not cover the domain of topics adequately.
- Most of the tests were not properly edited.
- In some of the state tests clues were found in the stem.
- The questions in some states were too simple, printing errors and wrong language of the stem, use of obsolete terms (big brain and small brain in Biology) were some glaring mistakes.
- Most of the state tests did not use italics for scientific names.
- General instructions are adequate but reading load is more.
- All questions are simple MCQs and there is no variety.

- The difficulty level of the tests was low from the point of view of talent identification.

SOCIAL SCIENCE

- West Bengal test have no Civics questions.
- In some states the questions were not prepared with precaution as was evident from History questions where A.D. /B.C. after the given year was found missing.
- In some questions there were more than one answer.
- Some questions had spelling mistakes which changed the meaning of the question.
- Some questions were found to be not so well written. For example
 - (a) Who is President of America listed below.
 - (b) A television or radio programme that is widely published.
- Largely simple MCQs were used. Other varieties of MCQs were not found to be common in the state tests.
- Largely questions were based on memory/recall.
- In some questions mistakes were found like:
 - (a) In Civics ‘Constitutional Committee’ is used in place of ‘Constituent Assembly’.
 - (b) In a Geography question ‘world’s largest sweetest lake’ is used for World’s largest fresh water lake’.
- In some questions ‘none of the above’ and ‘all of the above’ were used as alternatives, which should be avoided. It was found that most of the states/UTs tests were having items testing general knowledge, limited content, limited number of categories of items to ambiguous instructions, poor editing and multiple correct answers to items.

APPENDICES

Proforma for Analysing SAT Question Papers

Question-wise Analysis of SAT for NTS 2007

Name of the State:

Subject:

S.No.	Topic	Type of MCQ (S,MT,SQ,AR,TF,PB)	Mental Process (Memory/Recall) (Higher Mental Ability)	Estimated difficulty level A-Difficult B-Average C-Easy	Remarks about the quality of MCQs: 1. Whether the task is clear or not 2. Stem is precise and understandable 3. Whether alternatives are plausible if not how many 4. Whether there is any language clue given 5. The question has only one key 6. Punctuation in the question is correct 7. Whether item in your subject has all the four alternatives printed properly
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

S=Simple Memory; MT=Matching Type; SQ=Sequencing; AR=Assertion: Reason; TF=True or False; PB=Passage Based

Name of the Evaluators:

Name of the State:

ABSTRACTS OF ANALYSIS OF EACH QUESTION PAPER
(BASED ON PROFORMA – A)

The purpose of this abstract is to see as to how much weightage has been given to each aspect of the question paper. For this purpose, the marks assigned to individual questions with reference to their objectives, type of questions, topics etc. as required under different tables given below, may have to be added for a comparative look with the blue print prepared by the paper setters.

Class VIII:

Year: 2007-08

1. WEIGHTAGE TO MENTAL PROCESSES

2.

S.No.	Mental Processes	Marks allotted as per analysis	Comments
1.	Memory		
2.	Higher Mental Abilities		

2. **WEIGHTAGE TO DIFFERENT CONTENT UNITS**

S.No.	Name of the Unit	Marks allotted as per analysis	Comments
1	2	3	4

3. **DIFFICULTY LEVEL OF QUESTIONS**

S.No.	Difficulty Level	Marks allotted as per analysis	Comments
1.	Difficult (A)		
2.	Average (B)		
3.	Easy (C)		

4. **ADEQUACY & CLARITY OF INSTRUCTIONS TO STUDENTS**

(Study of general instructions and specific instructions in relation to each question wherever required with reference to total number of questions to be attempted, expected length of answers for each group of questions, sketch or diagram to be provided etc.

5. **COMMENTS REGARDING QUALITY OF QUESTIONS
(LANGUAGE/SCOPE/RELEVANCE TO CONTENT)**

6. **GENERAL SUGGESTIONS FOR FURTHER IMPROVEMENT**

With reference to different aspects discussed
necessary)

(Use extra-sheets, if

ABSTRACT OF ANALYSIS OF EACH QUESTION PAPER

(BASED ON PROFORMA – A)

The purpose of this abstract is to see as to how much weightage has been given to each type of item in the test. For this purpose, weightage to different mental abilities, weightage to verbal/non-verbal items and weightage to the difficulty levels may be filled up in the tables given below.

Class VIII:

Year: 2007-08

1. **WEIGHTAGE TO MENTAL ABILITIES**

S. No.	Mental Abilities	Marks allotted as per analysis	S. No.	Mental Abilities	Marks allotted as per analysis
1.			21.		
2.			22.		
3.			23.		
4.			24.		
5.			25.		
6.			26.		
7.			27.		
8.			28.		
9.			29.		
10.			30.		
11.			31.		
12.			32.		
13.			33.		
14.			34.		
15.			35.		
16.			36.		
17.			37.		
18.			38.		
19.			39.		
20.			40.		

2. **WEIGHTAGE TO VERBAL/NON-VERBAL ITEMS**

S.No.	Verbal/Non-Verbal Items	Marks allotted as per analysis
1	2	3
1.	Verbal	
2.	Non-Verbal	

3. **ESTIMATED DIFFICULTY LEVEL OF QUESTIONS**

S.No.	Difficulty Level	Marks allotted as per analysis
1.	Difficult (A)	
2.	Average (B)	
3.	Easy (C)	

4. **GENERAL SUGGESTIONS FOR FURTHER IMPROVEMENT**

With reference to different aspects discussed (Use extra-sheets, if necessary)

5. **CONSOLIDATED REPORT ABOUT THE MENTAL ABILITY TEST**

List of SAT Resource Persons

S.No.	Name of the Participant	Office Address	Residence Address
	Mathematics		
1.	Shri A.K. Gupta	Dept. of Mathematics Ramjas College Delhi University Delhi-110007 Ph. 27667706	IIB/244, Vaishali Ghaziabad (U.P.) Ph. 0120 – 2778839 9871574616 (M)
2.	Shri. Mahendra Shanker	---	DP 203, Maurya Enclave, Pitampura Delhi-110088. Ph. 27313625 9968093127 (M)
3.	Shri Sunil Bajaj	HOD, Maths SR. SPL. SCERT (HR) Sohna Road Gurgaon Ph. 0124-2320628 2301981	Adhyapak Bhawan SCERT (HR) Opposite Panchayat Bhawan Sohna Road, Gurgaon Ph. 0124-2301401 09868339380 (M)
4.	Shri P.K. Tewari	---	Flat No. O-460, Jal Vayu Vihar, Sector 30, Gurgaon Pin 122001 Ph. 0124-2380830 09313774167 (M)
	Biology		
5.	Ms. Anjali Sareen	The Indian School Josip Broz Tito Marg, (Near Moolchand Flyover), Sadiq Nagar New Delhi-110049 (HOD – Biology) Ph. 26265956, 26265957	C-4/33, D.D.A. Flats, East of Kailash, New Delhi-110065 Ph. 26936875 9818632020 (M)
6.	Ms. Neeta Sehgal	Dept. of Zoology University of Delhi Delhi-110007 Ph. 27667443 Ext. 135 9810784839 (M)	University Hostel for Women, University of Delhi Delhi-110007 Ph. 27667720

7.	Ms. Kalyani Krishna	Dept. of Botany Sri Vankateswara College Dhaura Kuan New Delhi-110021 Ph. 24112196 9810637363 (M)	CII/76, Moti Bagh-I New Delhi-110021 Ph. 26117003
8.	Ms. Bharati Sarkar	---	40/186 Chittaranjan Park New Delhi-110019. Ph. 41600538, 41600539 9312421295 (M)
9.	Physics Ms. Jyoti Puri	The Indian School Josip Broz Tito Marg, Near Mool Chand Flyover New Delhi-49. Ph. 26265956, 26265957	40/74, Chittaranjan Park, New Delhi-19. Ph.26426519, 26419899
10.	Shri Sushil Kumar Sharma	SCERT, Haryana Gurgaon	125 , Sector – 10 A Gurgaon
11.	Chemistry Dr. Vinod Kumar	Deptt. of Chemistry Hans Raj College Delhi-110 007.	156, Anupam Apartments M.B. Road New Delhi-110068 Ph. 29536420 9810533555 (M)
12.	Ms. Sunita Kher	St. Anthony's Sr. Sec. School, C-6, S.D.A. New Delhi-16. Ph. 26514779	D-19, Pamposh Enclave Greater Kailash-I New Delhi-110048. Ph. 41633743, 9811573306 (M)
13.	Civics Ms. Sanchita Dasgupta	A.P.C. College NBK, Kolkata	Flat 1C, Gangotri Apartment, Panchavati Complex, VIP Road, Kolkata-700052 9830188581 (M)
14.	Ms. Sadhana Kulkarni	St. Mira's College for Girls, Pune Ph. 020-26124846	7 B, Krishna-dham Prabhat Road, 12 th Lane, Pune-411001 Ph. 020-25678230 9423009904 (M)

15.	Ms. Chandrika Gulati	Deshbandhu College Delhi University Kalkaji New Delhi-19 Ph. 26439565	I-14, Indraprastha Apartments, 114, I.P. Ext., Delhi-92. Ph. 45018864 9910227878 (M)
16.	Geography Ms. Anuradha Jaswal	DAV Public School Vasant Kunj New Delhi P. 26892800	N-347, FF, Mayfield Gardens, Sec.-51, Gurgaon (Haryana) P. 0124-2217219
17.	Ms. Lalita Jha	Yuvashakti Model School Sector-III, Rohini Delhi-85 Ph. 27515659	25-A, Pocket D-6 Sector-VI, Rohini Delhi-85 P. 27055692 9871595748 (M)
18.	History Ms. Ruby Guha	Reader, Dept. of History Gargi College, Delhi University (Retd.)	A-41, Gulmohar Park New Delhi-110049
19.	Shri A. Sukumar Singh	Sr. Lecturer Nambol Hr. Sec. School Bishnupur Dist. Manipur	Thangmeiband Hijam Dewan Leikai Imphal, Manipur-795004 09856146478 (M)

List of MAT Resource Persons

1.	Dr. Shashikant E. Chavan Wonder City 1- 701 Katraj – Dehu By-Pass Katraj Pune-411046	2.	Dr. (Mrs.) Girish Bala Chowdary Staff Quarters Lady Irwin College, Sikandara Road New Delhi – 110 001
3.	Shri K.P. Garg B-49, Paryavaran Complex IGNOU Road New Delhi – 110030	4.	Mr. J.P. Mittal B-1/1529 Vasant Kunj New Delhi – 110 070
5.	Prof. (Mrs.) Archana Shukla B-1/125, Sector – G Aliganj Lucknow – 226 024	6.	Prof. U.N. Das Q.No. SF-3 Utkal University Campus Vani Vihar Bhubaneswar – 751004
7.	Dr. Soumi Awasthi 592, Sector – A Pocket B&C Vasant Kunj New Delhi – 110070	8.	Mrs. Surinder Kaur Scientist C Defence Institute of Psychological Research, DRDO Ministry of Defence, Lucknow Road Timarpur, Delhi-110054

Resource Persons from DEME

1. Prof. Avtar Singh, Head
2. Prof. Mamta Agrawal, Professor
3. Prof. S.K.S. Gautam, Professor
4. Prof. K.M. Gupta, Professor
5. Dr. A.D. Tewari, Reader
6. Dr. Santosh Kumar, Reader
7. Dr. Veer Pal Singh, Reader
8. Dr. Indrani Bhaduri, Reader
9. Dr. K. Chandrasekhar, Sr. Lecturer
10. Dr. Y. Sreekanth, Sr. Lecturer

Programme Coordinators

Dr. K. Chandrasekhar

Prof. Mamta Agrawal