

# NATIONAL ACHIEVEMENT SURVEY – CLASS X CYCLE 2 (2017-18)

## STATE REPORT CARD

## KARNATAKA

### PARTICIPATION

2715

Participating  
School

102157

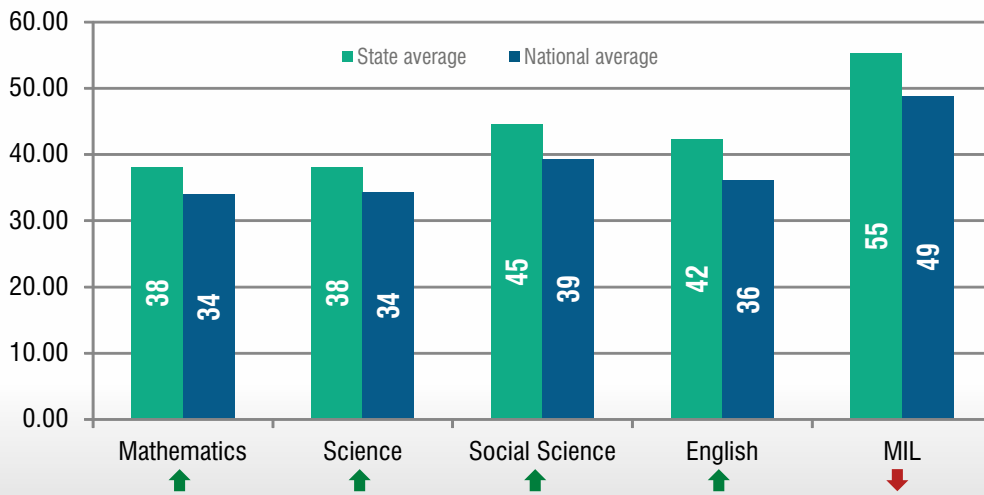
Participating  
Students

100%

School  
Response Rate

This State Report Card (SRC) of National Achievement Survey (NAS) Class X (Cycle 2) provides an overview of students' academic performance in the state. The NAS surveyed a representative sample of all school types in each state and measured students' performance in five subjects – Mathematics, Science, Social Science, English and Modern Indian Languages (MIL) – Reading Comprehension.

### Performance of students in your state: Average Percent Correct



#### KEY

- ↑ State average score is significantly ABOVE National average score
- ↔ No significant difference between State and National average scores
- ↓ State average score is significantly BELOW National average score

### Distribution of students by range (percent correct)

SUBJECTS		0 – 35 (%)	36 – 50 (%)	51 – 75 (%)	76 – 100 (%)
Mathematics	State	53	27	18	2
	National	67	20	11	2
Science	State	47	36	16	1
	National	62	27	10	1
Social Science	State	29	39	31	1
	National	44	38	17	1
English	State	41	30	26	3
	National	61	21	15	3
Modern Indian Language (MIL)	State	14	23	55	8
	National	27	27	39	7

### Performance by: LOCATION

Subjects	Rural (% Correct)	Urban (% Correct)	Significant Difference
Mathematics	39	36	↑
Science	39	36	↑
Social Science	46	42	↑
English	41	44	↓
MIL	57	53	↑

### Performance by: GENDER

Subjects	Girls (% Correct)	Boys (% Correct)	Significant Difference
Mathematics	38	38	↔
Science	38	38	↔
Social Science	45	44	↔
English	43	42	↔
MIL	57	54	↑

### Performance by: SOCIAL GROUP

Subjects	SC			ST			OBC		
	(% Correct)	Others (% Correct)	Significant Difference	(% Correct)	Others (% Correct)	Significant Difference	(% Correct)	Others (% Correct)	Significant Difference
Mathematics	37	40	↓	38	40	↓	38	40	↓
Science	37	39	↓	38	39	↔	38	39	↓
Social Science	44	45	↓	46	45	↔	45	45	↔
English	40	50	↓	40	50	↓	43	50	↓
MIL	54	57	↓	54	57	↓	56	57	↓

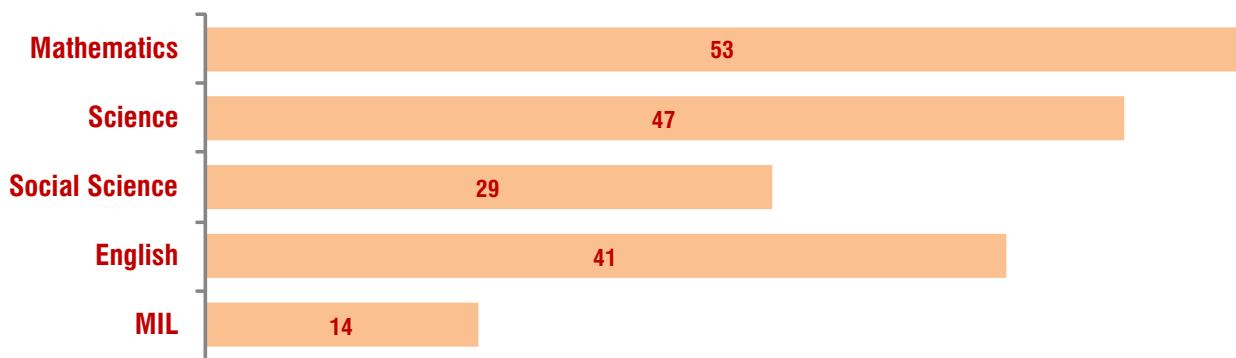
Student participation: **PERCENT**

State sample		
Group	Number of students	%
Girls	51059	50
Boys	51098	50

State sample		
Group	Number of students	%
Rural	61165	60
Urban	40992	40

Group	Number of students	%
SC	19291	19
ST	8220	8
OBC	67221	66
Others	7425	7

**MAXIMUM INTERVENTION REQUIRED** (% of Students score below 35%)



Skill-wise performance: **(ITEM % CORRECT)**

Subjects	Skill 1 (% correct)	Skill 2 (% correct)	Skill 3 (% correct)
Mathematics	42	38	34
Science	42	36	38
Social Science	48	44	42
English	50	38	40
MIL	59	50	56

<b>Skill 1</b>	<b>Remembering:</b> Recognizing or recalling knowledge from memory.
<b>Skill 2</b>	<b>Understanding:</b> Constructing meaning from different types of functions be they written or graphic messages.
<b>Skill 3</b>	<b>Applying:</b> Carrying out or using a procedure through executing, or implementing.

**Performance of Students: CONTENT WISE**

Subjects	Content domain	State average (percent correct)	National average (percent correct)	Significant difference
<b>MATHEMATICS</b>	<b>Mathematics (overall)</b>	<b>38</b>	<b>34</b>	<b>↑</b>
	Algebra	38	35	↑
	Geometry	41	35	↑
	Mensuration	34	34	↔
	Trigonometry	43	37	↑
	Coordinate geometry	28	29	↓
	Number system	39	30	↑
	Statistics	34	33	↑
	Probability	40	35	↑
<b>SCIENCE</b>	<b>Science (overall)</b>	<b>38</b>	<b>34</b>	<b>↑</b>
	Food	43	35	↑
	Materials	37	33	↑
	The living world	45	38	↑
	Moving things, people and ideas	37	35	↑
	How things work	22	22	↔
	Natural phenomena	25	27	↓
	Natural resources	47	40	↑
<b>SOCIAL SCIENCE</b>	<b>Social science (overall)</b>	<b>45</b>	<b>39</b>	<b>↑</b>
	History	44	38	↑
	Geography	42	39	↑
	Economics	46	40	↑
	Political science	46	41	↑
<b>ENGLISH</b>	<b>English (overall)</b>	<b>42</b>	<b>36</b>	<b>↑</b>
	Reading comprehension	43	37	↑
	Language element	42	35	↑
<b>MODERN INDIAN LANGUAGE (MIL)</b>	<b>Modern Indian Language (overall)</b>	<b>55</b>	<b>49</b>	<b>↑</b>
	Reading comprehension	54	52	↑

What students know and can do: **MATHEMATICS** (Performance of the students at the **National level**)

More difficult

**20%**

of students answered this item correctly

If  $ax^2+bx+c=0$  has equal roots, then c is equal to

1.  $\frac{-b}{2a}$
2.  $\frac{b}{2a}$
3.  $\frac{-b^2}{4a}$
4.  $\frac{b^2}{4a}$

Skill: Skill 3 item  
Content Domain: Algebra

% Answers:  
1. 30.0%  
2. 25.1%  
3. 19.5%  
4. **19.8%**

If the  $n^{\text{th}}$  term of an A.P. is  $(3n + 1)$ , then its  $30^{\text{th}}$  term is

1. 31
2. 91
3. 90
4. 94

Skill: Skill 2 item  
Content Domain: Algebra

% Answers:  
1. 25.8%  
2. **32.0%**  
3. 27.8%  
4. 8.9%

**32%**

of students answered this item correctly

AOB is a sector of a circle of radius 4 cm subtending an angle of  $45^\circ$  at the centre 'O' of the circle. Area of the sector, in  $\text{cm}^2$ , is

1.  $\pi$
2.  $2\pi$
3.  $3\pi$
4.  $4\pi$

Skill: Skill 1 item  
Content Domain: Mensuration

% Answers:  
1. 17.4%  
2. **49.6%**  
3. 11.2%  
4. 17.5%

**50%**

of students answered this item correctly

If  $\Delta ABC \cong \Delta PQR$ , then which of the following is true?

1.  $B \leftrightarrow R$
2.  $C \leftrightarrow Q$
3.  $A \leftrightarrow R$
4.  $A \leftrightarrow P$

Skill: Skill 1 item  
Content Domain: Geometry

% Answers:  
1. 11.1%  
2. 13.2%  
3. 15.8%  
4. **56.5%**

**57%**

of students answered this item correctly

If  $\tan \theta = \frac{3}{4}$ , then  $\cot \theta$  is equal to

1.  $\frac{4}{3}$
2.  $\frac{3}{7}$
3.  $\frac{4}{7}$
4.  $\frac{7}{4}$

Skill: Skill 1 item  
Content Domain: Trigonometry

% Answers:  
1. **71.1%**  
2. 11.4%  
3. 9.2%  
4. 5.5%

**71%**

of students answered this item correctly

Less difficult

KEY

NAS items

This ladder shows the percentage of students answering selected NAS items correctly.

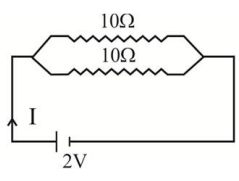
It provides a snapshot of what students know and can do in Mathematics.

What students know and can do: **SCIENCE** (Performance of the students at the **National level**)

**More difficult**

**18%**  
of students answered  
this item correctly

The current  $I$  in the circuit shown in the figure is



**Skill: Skill 3 item**  
**Content Domain: Physics**

**% Answers:**

1.	0.1A	20.2%
2.	0.2A	38.0%
3.	0.3A	17.9%
4.	0.4A	<b>18.2%</b>

The image of an object formed by your eye lens on the retina is

- erect and real
- inverted and real
- erect and virtual
- inverted and virtual.

**Skill: Skill 2 item**  
**Content Domain: Physics**

**% Answers:**

1.	33.1%
2.	<b>31.7%</b>
3.	21.7%
4.	10.9%

**32%**  
of students answered  
this item correctly

Packets of potato chips are filled with nitrogen gas in order to avoid

- Rusting
- Rancidity
- Reduction
- Decomposition

**Skill: Skill 2 item**  
**Content Domain: Chemistry**

**% Answers:**

1.	11.3%
2.	<b>53.4%</b>
3.	19.0%
4.	14.1%

**53%**  
of students answered  
this item correctly

The unit of work is

- joule
- newton
- newton / meter
- watt

**Skill: Skill 1 item**  
**Content Domain: Physics**

**% Answers:**

1.	<b>61.5%</b>
2.	12.0%
3.	11.5%
4.	12.4%

**62%**  
of students answered  
this item correctly

The fluid secreted in our mouth that mixes with food making it slippery and easy to swallow is

- gastric juice
- hormones
- saliva
- bile

**Skill: Skill 1 item**  
**Content Domain: Biology**

**% Answers:**

1.	11.1%
2.	10.0%
3.	<b>71.0%</b>
4.	5.6%

**71%**  
of students answered  
this item correctly

**Less difficult**

# What students know and can do: SOCIAL SCIENCE (Performance of the students at the National level)

More difficult

**20%**  
of students answered  
this item correctly

The legislative powers for the Union List in India does not include

1. Foreign affairs
2. Banking
3. Defence
4. Police

Skill: Skill 1 item  
Content Domain: Political Science

- % Answers:
1. 43.6%
  2. 19.5%
  3. 14.6%
  4. **19.9%**

Observe the table regarding hypothetical data of educational achievement of rural population of a state is given below. Choose one option and fill in the blanks.

Educational Achievement of Rural Population of a State		
Category	Male (%)	Female (%)
Literacy rate for rural population	54	21
Literacy rate for children in age group 10-14 years	69	41
Percentage of rural children aged 10-14 attending school	64	34

Skill: Skill 2 item  
Content Domain: Economics

- % Answers:
1. **30.1%**
  2. 15.4%
  3. 14.6%
  4. 35.5%

- \_\_\_\_\_ of rural girls are not attending school
1. 66%
  2. 64%
  3. 54%
  4. 34%

**30%**  
of students answered  
this item correctly

Which of the following is NOT money?

1. Currency Notes
2. Deposits
3. Coins
4. Credit Card

Skill: Skill 2 item  
Content Domain: Economics

- % Answers:
1. 11.2%
  2. 29.9%
  3. 8.8%
  4. **47.4%**

**47%**  
of students answered  
this item correctly

Which of the following statement is incorrect?

1. People make deposits in banks
2. People take loans from banks
3. People receive interest from banks
4. People repay loans without interest

Skill: Skill 1 item  
Content Domain: Economics

- % Answers:
1. 10.7%
  2. 9.1%
  3. 17.2%
  4. **60.5%**

**61%**  
of students answered  
this item correctly

India is an example of which of the following system?

1. Monarchy
2. Autocracy
3. Democracy
4. Anarchy

Skill: Skill 1 item  
Content Domain: Political Science

- % Answers:
1. 8.4%
  2. 5.8%
  3. **79.6%**
  4. 4.3%

**80%**  
of students answered  
this item correctly

Less difficult

KEY

NAS  
items

This ladder shows the percentage of students answering selected NAS items correctly.

It provides a snapshot of what students know and can do in Social Science.

What students know and can do: **ENGLISH** (Performance of the students at the **National level**)

Read the chart given below and answer the following questions.

A school decided to celebrate Book Week. The chart below shows the schedule of activities planned. Study the chart carefully and answer the questions that follow.

DAY	CLASS / ACTIVITY IN SCHOOL	VENUE	CLASS / OUTDOOR ACTIVITIES
MONDAY	Class 1 - 2 : Designing bookmarks	Classrooms	Class 8 Visit to National Library
	Class 3 - 4 : Role play	Hall -1	
	Class 5 - 6 : My favourite book--talk	Library	
TUESDAY	Class 3 - 4 : Chain story telling	Auditorium	Class 5 – 6 Film : The Jungle Book
	Class 7 - 8 : Theatre workshop by Barry John	Hall -1	
WEDNESDAY	Class 1 - 2 : Meet the fairy tale characters	Auditorium	
	Class 3 - 4 : Show and tell	Hall -1	
	Class 5 - 6 : Poetry recitation	Hall -2	
	Class 7 - 8 : Designing a bookcover— by Santosh Rai	Art room	
THURSDAY	Class 7 - 8 : Quiz: conducted by Mandeep Kaur	Hall -2	Class 3 - 4 Visit to National Book Trust
	Class 9 -10 : Meet the author-- Ruskin Bond	Library	
FRIDAY	Class 5 - 6 : Book reading by students	Classrooms	



More difficult

**30%**  
of students answered  
this item correctly

The school has invited \_\_\_\_\_ experts for different events.

1. Two
2. Six
3. Four
4. Five

**Skill: Skill 2 item**  
**Content Domain:**  
Reading Comprehension

**% Answers:**  
1. 19.9%  
2. 24.5%  
**3. 29.7%**  
4. 21.5%

Which classes will go to see 'The Jungle Book' and when?

1. Class 7 and 8, Tuesday
2. Class 3 and 4, Wednesday
3. Class 9 and 10, Thursday
4. Class 5 and 6, Tuesday

**Skill: Skill 1 item**  
**Content Domain:**  
Reading Comprehension

**% Answers:**  
1. 12.4%  
2. 16.9%  
3. 16.6%  
**4. 51.0%**

**51%**  
of students answered  
this item correctly

On which day can the children meet Ruskin Bond?

1. Monday
2. Wednesday
3. Thursday
4. Friday

**Skill: Skill 1 item**  
**Content Domain:**  
Reading Comprehension

**% Answers:**  
1. 13.3%  
2. 10.8%  
**3. 62.4%**  
4. 10.9%

**62%**  
of students answered  
this item correctly

Less difficult

## SELECTED SCHOOL CHARACTERISTICS



**84%** of schools have a science laboratory.



**41%** of schools have a mathematics laboratory.



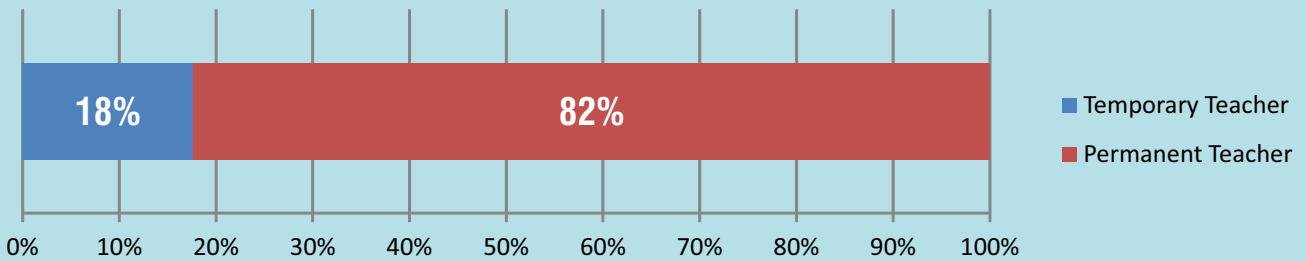
**92%** of schools have a library.

## SELECTED TEACHER CHARACTERISTICS

**47%** of teachers sometimes make use of projects for assessing Class X students.

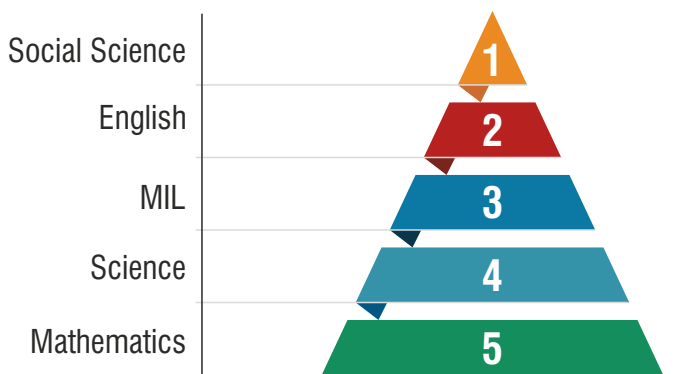
**62%** of teachers always make use of written tests or examinations.

### Employment Status



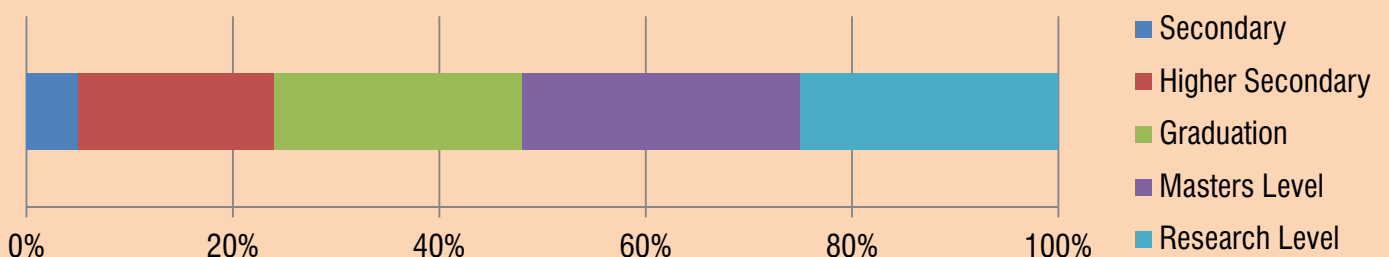
## SELECTED STUDENT CHARACTERISTICS IN YOUR STATE

### Student preference for subjects:



**23%** of students travel more than 5km to school.

### How far students wish to study



# CORE TEAM

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## MHRD

- Ms. Rina Ray, IAS, Secretary School, Education and Literacy (SE&L)
- Shri. Maneesh Garg, Joint Secretary, School Education and Literacy (SE&L)
- Ms. Nigar Fatima Husain, Director (RMSA-I)
- Ms. Nazli Jafari Shayin, Director (RMSA-II)
- Dr. Letha Ram Mohan, Chief Consultant, Quality and Innovation, (TSG)
- Mr. Muktar Alam, Sr. Consultant, Quality and Innovation, (TSG)

## NCERT

- Prof. Hrushikesh Senapaty, *Director*, NCERT
- Dr. Indrani Bhaduri, *Professor & Head*
- Dr. Sridhar Srivastava, *Professor*
- Dr. Veer Pal Singh, *Professor*
- Dr. A.D. Tewari, *Professor*
- Dr. Pratima Kumari, *Associate Professor*
- Dr. Sukhvinder, *Assistant Professor*
- Dr. Vishal D. Pajankar, *Assistant Professor*
- Dr. Satya Bhushan, *Assistant Professor*
- Dr. Gulfam, *Assistant Professor*
- Shri N. L. Srinivas, *Sr. System Analyst*
- Shri Md. Arif Sadiq, *Programmer*
- Shri Vishwa Bandhu, *Programmer*

## EXTERNAL

- World Bank, India

## STATE FUNCTIONARIES

- School Boards, CBSE, ICSE, State Directorate of Education, SCERTs, SIEs, Schools

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी  
NCERT

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**NAS for Transforming School Education**