ENHANCING CONVENTIONAL SIGNS AND SYMBOLS SKILLS THROUGH TECHNOLOGY APPROACHES AMONG STANDARD IX HANDLING TEACHERS IN K V KUPPAM BLOCK

- C KUMAR

Introduction:

"Mother Earth provides enough to satisfy every man's need, but every man is greedy" - M.K.Gandhi

Conventional signs and symbols are essential skills in various fields such as cartography, engineering, architecture, and design. They are used to represent features, objects, or phenomena on maps, plans, diagrams, and other visual representations. Here are some common conventional signs and symbols skills:

1. **Map Reading:**
   - Understanding and interpreting symbols on maps such as contour lines, roads, rivers, buildings, and landmarks.
   - Recognizing scale indicators and understanding distance measurements on maps.
2. **Cartographic Symbols:**
   - Learning symbols for natural features like mountains, forests, lakes, rivers, and deserts.
   - Understanding symbols for human-made features such as roads, railways, bridges, airports, and buildings.
3. **Safety Symbols:**
   - Recognizing safety symbols used in various contexts such as hazardous materials, emergency exits, fire safety, and electrical warnings.
4. **Legends and Key:**
   - Understanding legends and keys that explain the meaning of symbols used in a particular map, diagram, or plan.
   - Creating clear and informative legends for maps and diagrams you create.

5. **Symbol Standardization**
    - Following industry standards and conventions for using symbols consistently and accurately.
    - Updating knowledge of symbols based on evolving standards and practices in different industries.
6. **Communication Skills :**
    - Effectively communicating information using symbols and signs to convey complex ideas and data visually.
    - Collaborating with team members and stakeholders by using standardized symbols for clarity and precision.

Improving your conventional signs and symbols skills requires practice, studying industry standards and guidelines, and staying updated with technological advancements in relevant fields. Taking courses, and workshops, and using simulation software can also be beneficial in honing these skills.

Identifying problems

KV Kuppam block social science handling not specific geography graduate among the teachers, geography subject mappings skills lesson concepts, like Maps, cartography, components of a map, scale, direction, grid system, Projection, Legend, **conventional signs and symbols**, survey, and remote sensing. There was lacking the signs and symbols not understand the concepts. Students learning geography concepts temporarily only. They have achieved very little in terms of outcomes. After the complication of enriching the concepts, surly state and national level signs and symbols directory will be high.

Need for the study:

- Teachers thought in high / higher secondary education should not get their geography concepts properly.
- It is the responsibility of the teachers to teach. Class IX Social Science in mapping skills – Conventional signs and symbols.

- Learning outcomes in SST 905 and 906.
- Open an image in which the geography lesson contains the Map and Atlas.
- Ability to understand and draw Conventional signs and symbols etc.

Objectives of the study:

- To enrich awareness about conventional signs and symbols.
- To additional support conventional signs and symbols in maps or Atlas.
- To help conventional signs and symbols improve the knowledge of mapping reading skills Unknowing areas like (state, country) map key will support gaining the knowledge.
- To know the relevance of PPT and colorful pictures suitable for the conventional signs and symbols

Hypothesis:

There is no significant difference between the Enter–Level measure and Exit level measure performance of the students.

Research Methodology:

Stage1: Entry-level measure

Stage2: Introduced signs and symbols

Stage 3: color Picture**,** Powerpoint

Stage 4 : Exit level Measure

Design of the Study:

A single-group Group Experimental study is adopted

Sample:

IX standard handling teachers in KV KUPPAM Block

(Govt and GADW Schools only)

Higher Secondary schools = 10

1. GHSS – GUDIYATHAM RS
2. SGR GHSS – KOSAVANPUDUR
3. GHSS – PANAMADANGI
4. GHSS – VADUGANTHANGAL
5. GHSS – SENJI
6. GBHSS LATHERI
7. GBHSS KV KUPPAM
8. GGHSS LATHERI
9. GGHSS KV KUPPAM
10. GADWHSS PILLANTHIPATTU

High Schools = 6

1. GHS -Devarishikuppam
2. GHS – Pasumathur
3. GHS – Machanur
4. GHS – Melmoil

5. GHS – Thirumani
6. GHS - PALLATHUR
7. ADWGHS -Ammanagkuppam

Tool

Entry and exit questionnaire

Analysis

‘t’ test is used for analyzing the data collected.

Research Methodology

Stage 1: The researcher and Subject experts (DIET Senior Lecturer) and Handling Subject Teacher) can together discuss and prepare the questions regarding the pre-test and post-test questionnaire.

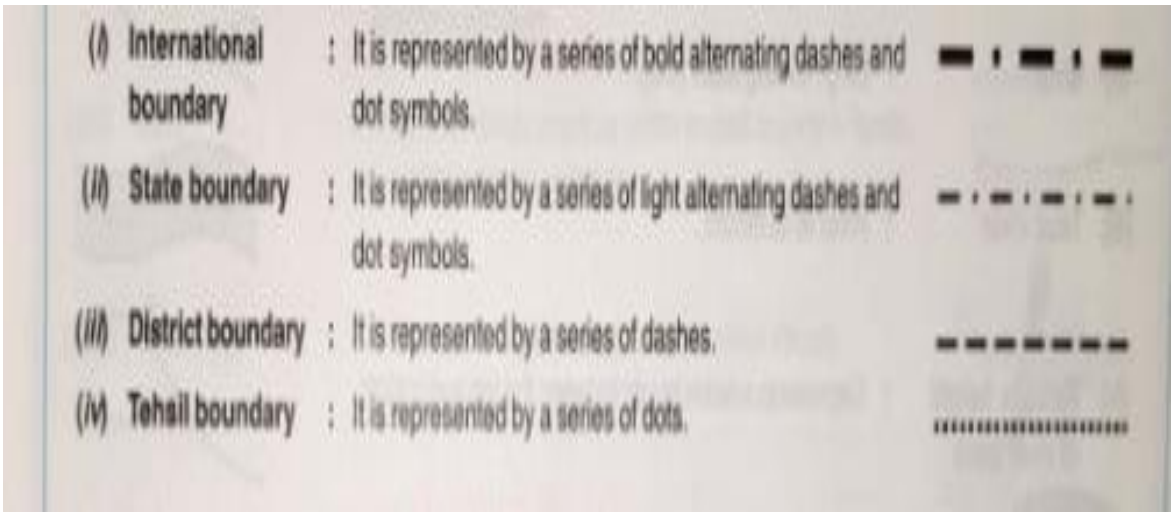
Stage 2: 22.01.2024 Pre-test is conducted IX STD students. The handling of social science subject one - day training was conducted at BRC K V Kuppam

S.NO	NAME OF THE TEACHER	Name of the Teacher	PRE-TEST (20) MARKS	Convert to 100 marks
1	GHSS – GUDIYATHAM RS	P.VIJAYA	8	40
2	SGR GHSS – KOSAVANPUDUR	M.G SANKAR	6	30
3	GHSS – PANAMADANGI	D SANTHI	8	40
4	GHSS – VADUGANTHANGAL	S. SAMUDESWARI	7	35
5	GHSS – SENJI	K. MAGENDIRAN	6	36
6	GBHSS LATHERI	N. SATHIKUMARAN	9	45
7	GBHSS KV KUPPAM	R RAGU	11	55
		A	8	40

		MOHANASUNDRAM		
8	GGHSS LATHERI	V S SHANTHI	9	45
9	GGHSS KV KUPPAM	R PAPPEENA	11	55
		D SURIYA	10	50
		S ARUL JOTHI	8	40
10	GADWHSS PILLANTHIPATTU	D SELVI	7	35
11	GHS -Devarishikuppam	S SHAM KUMAR	8	40
12	GHS – Pasumathur	S JAYAKANTHAN	10	50
13	GHS – Machanur	S MAHESH	11	55
		S KALAI MATHI	9	45
14	GHS – Melmoil	V VIJAYA KUMARI	8	40
15	GHS – Thirumani	A M SEENIVASAN	8	40
16	GHS – PALLATHUR	J PUSHPAVATHI	6	30
17	ADWGHS - Ammanagkuppam	M THAMILHSELVI	6	30

Stage 3: Concept through, PPT, YouTube videos, Conventional signs and symbols explain

1. BOUNDARIES



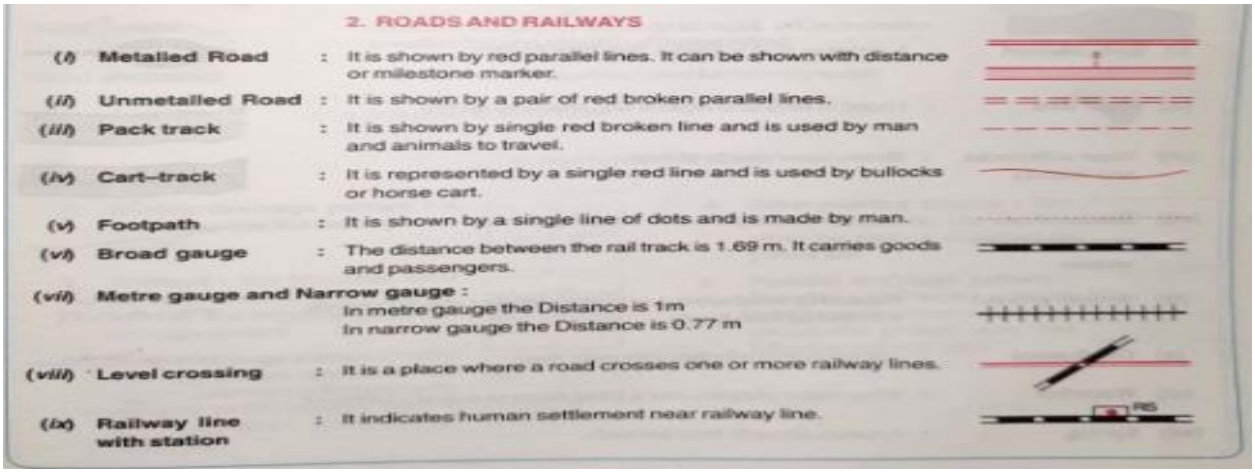
(i) International boundary : It is represented by a series of bold alternating dashes and dot symbols.

(ii) State boundary : It is represented by a series of light alternating dashes and dot symbols.

(iii) District boundary : It is represented by a series of dashes.

(iv) Tehsil boundary : It is represented by a series of dots.

2.ROADS AND RAILWAYS



2. ROADS AND RAILWAYS

(i) Metalled Road : It is shown by red parallel lines. It can be shown with distance or milestone marker.

(ii) Unmetalled Road : It is shown by a pair of red broken parallel lines.

(iii) Pack track : It is shown by single red broken line and is used by man and animals to travel.

(iv) Cart–track : It is represented by a single red line and is used by bullocks or horse cart.

(v) Footpath : It is shown by a single line of dots and is made by man.

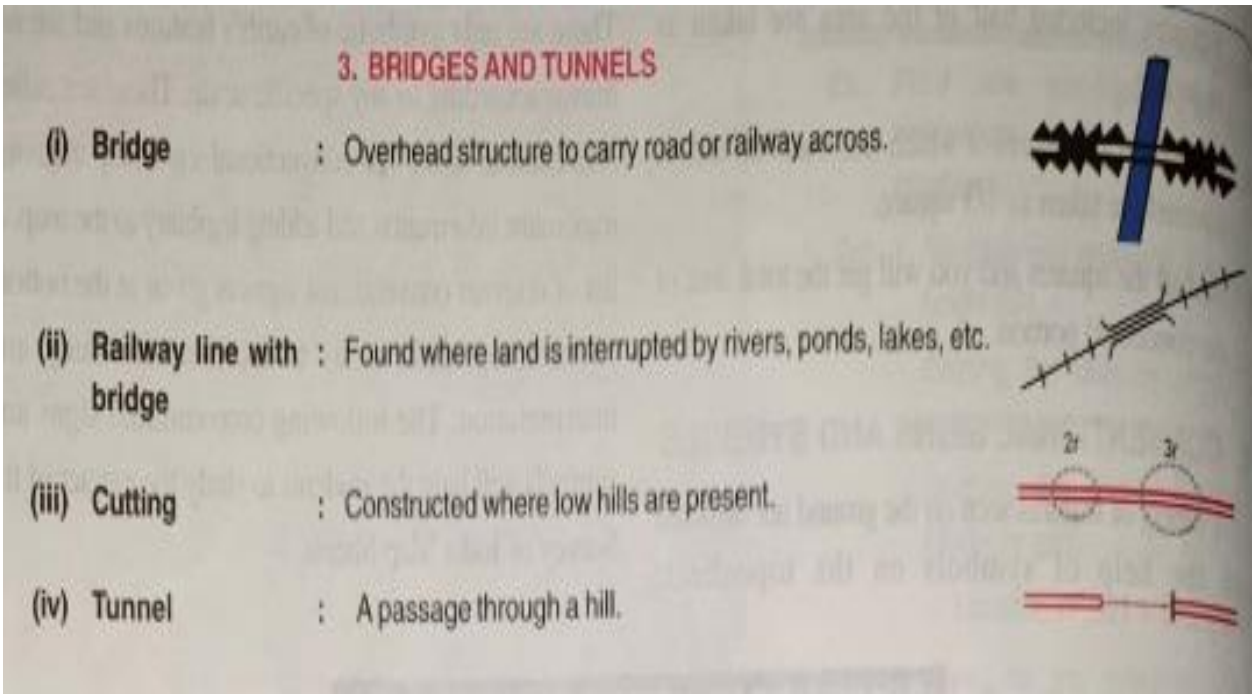
(vi) Broad gauge : The distance between the rail track is 1.69 m. It carries goods and passengers.

(vii) Metre gauge and Narrow gauge :
In metre gauge the Distance is 1m
In narrow gauge the Distance is 0.77 m

(viii) Level crossing : It is a place where a road crosses one or more railway lines.

(ix) Railway line with station : It indicates human settlement near railway line.

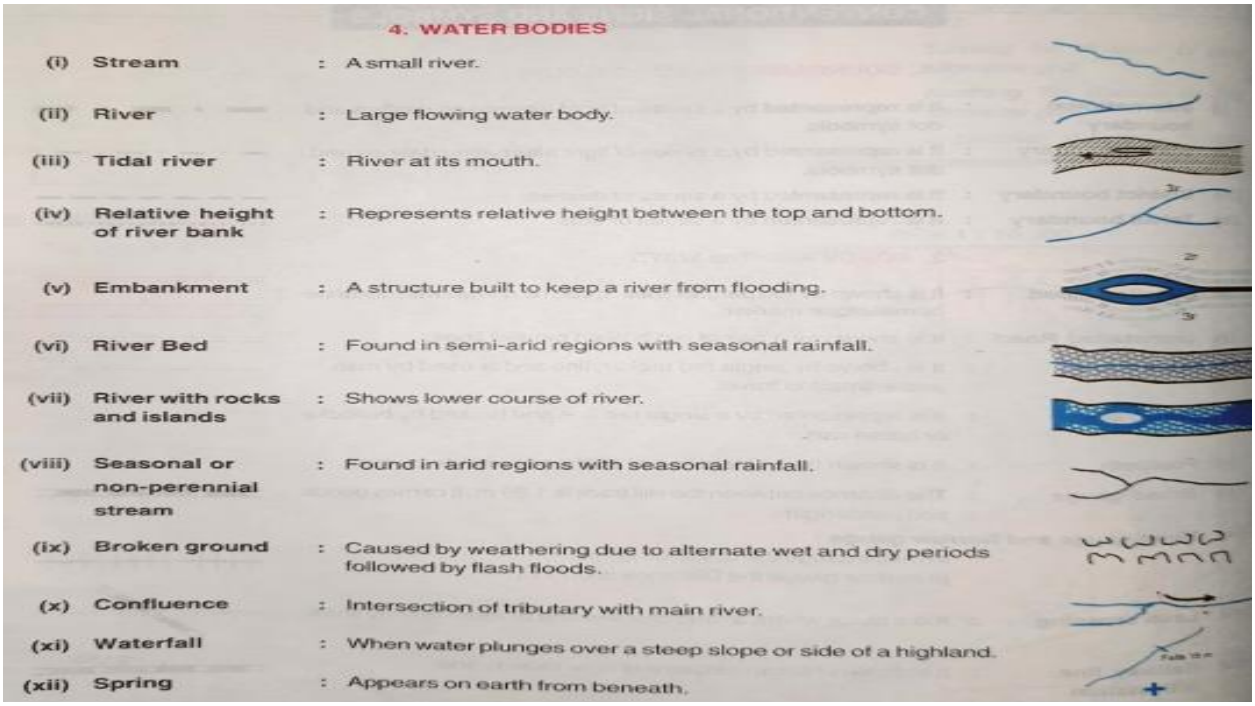
3. BRIDGES AND TUNNELS



3. BRIDGES AND TUNNELS

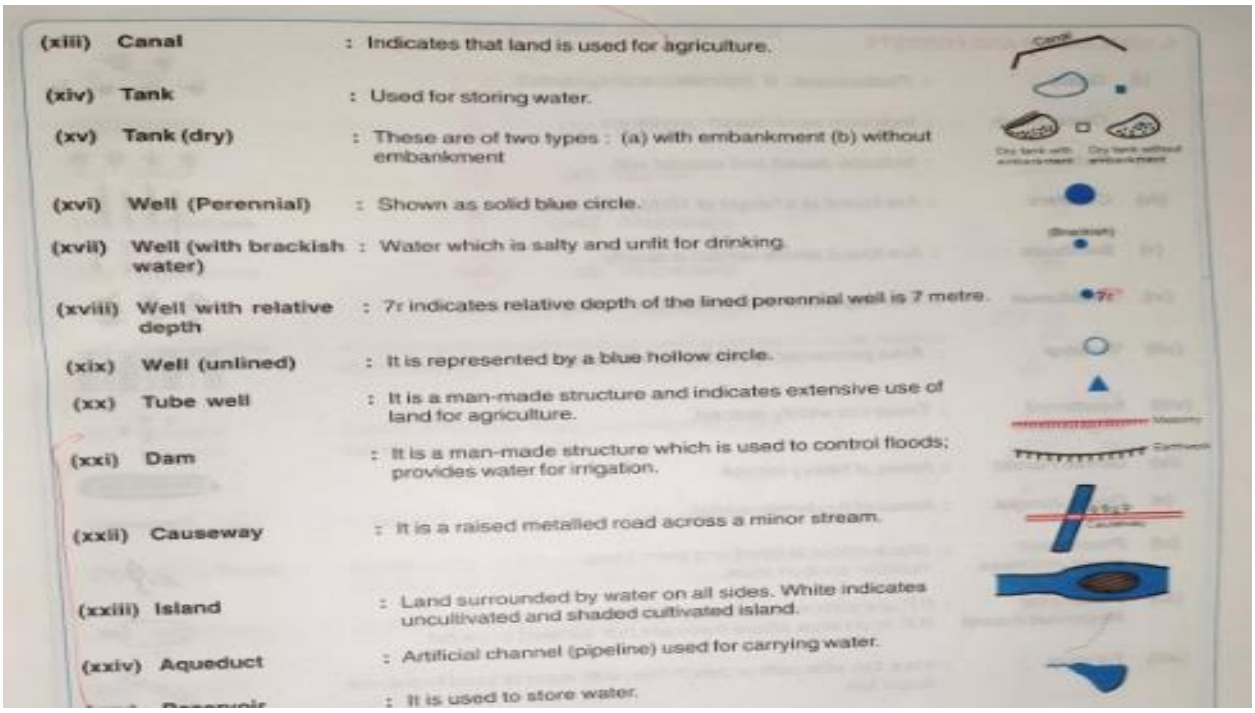
(i)	Bridge	: Overhead structure to carry road or railway across.
(ii)	Railway line with bridge	: Found where land is interrupted by rivers, ponds, lakes, etc.
(iii)	Cutting	: Constructed where low hills are present.
(iv)	Tunnel	: A passage through a hill.

4. WATER BODIES



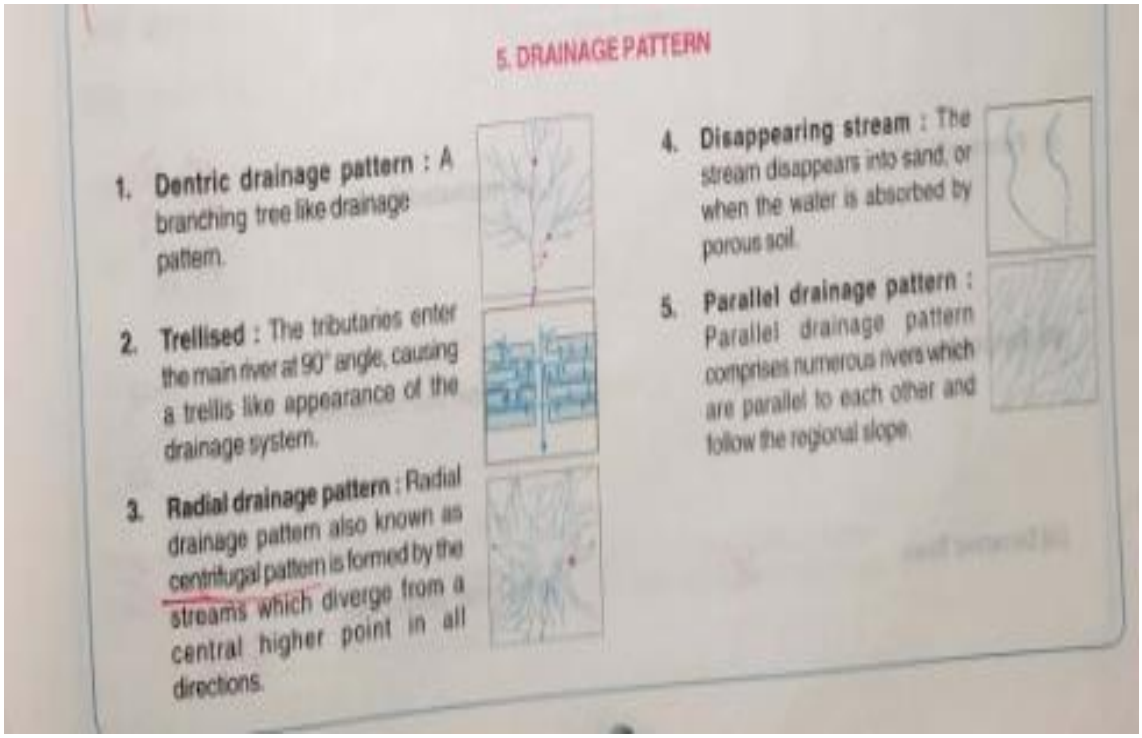
4. WATER BODIES

(i)	Stream	: A small river.
(ii)	River	: Large flowing water body.
(iii)	Tidal river	: River at its mouth.
(iv)	Relative height of river bank	: Represents relative height between the top and bottom.
(v)	Embankment	: A structure built to keep a river from flooding.
(vi)	River Bed	: Found in semi-arid regions with seasonal rainfall.
(vii)	River with rocks and islands	: Shows lower course of river.
(viii)	Seasonal or non-perennial stream	: Found in arid regions with seasonal rainfall.
(ix)	Broken ground	: Caused by weathering due to alternate wet and dry periods followed by flash floods.
(x)	Confluence	: Intersection of tributary with main river.
(xi)	Waterfall	: When water plunges over a steep slope or side of a highland.
(xii)	Spring	: Appears on earth from beneath.



(xiii)	Canal	: Indicates that land is used for agriculture.
(xiv)	Tank	: Used for storing water.
(xv)	Tank (dry)	: These are of two types : (a) with embankment (b) without embankment
(xvi)	Well (Perennial)	: Shown as solid blue circle.
(xvii)	Well (with brackish water)	: Water which is salty and unfit for drinking.
(xviii)	Well with relative depth	: 7r indicates relative depth of the lined perennial well is 7 metre.
(xix)	Well (unlined)	: It is represented by a blue hollow circle.
(xx)	Tube well	: It is a man-made structure and indicates extensive use of land for agriculture.
(xxi)	Dam	: It is a man-made structure which is used to control floods; provides water for irrigation.
(xxii)	Causeway	: It is a raised metalled road across a minor stream.
(xxiii)	Island	: Land surrounded by water on all sides. White indicates uncultivated and shaded cultivated island.
(xxiv)	Aqueduct	: Artificial channel (pipeline) used for carrying water.
	Reservoir	: It is used to store water.

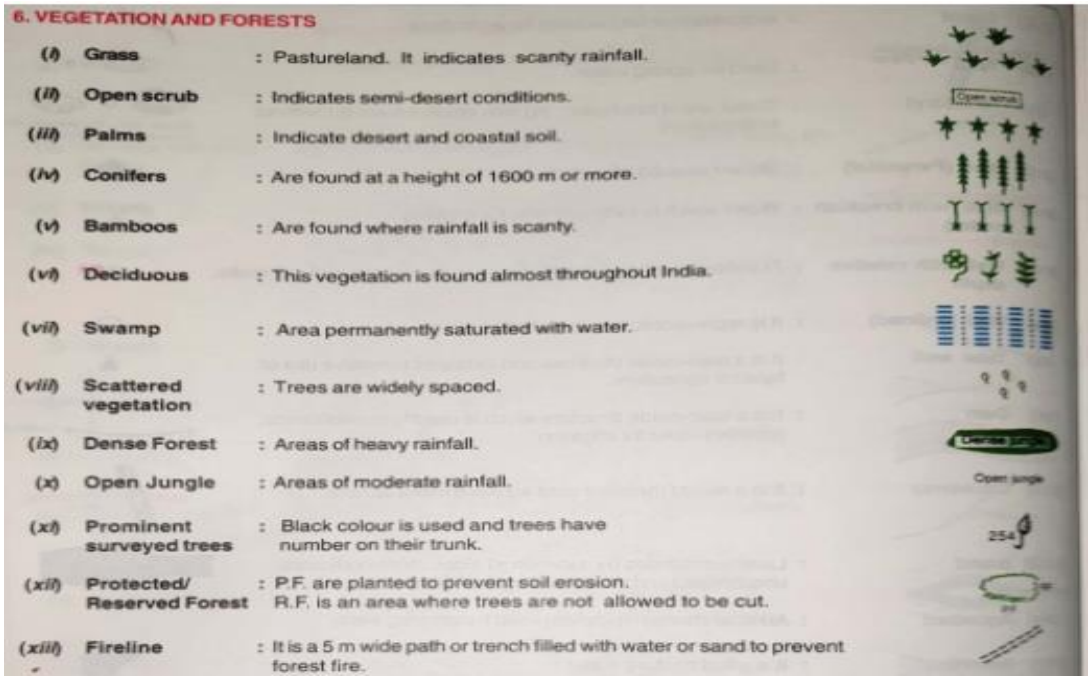
5. DRAINAGE PATTERN



5. DRAINAGE PATTERN

1. **Dentric drainage pattern** : A branching tree like drainage pattern.
2. **Trellised** : The tributaries enter the main river at 90° angle, causing a trellis like appearance of the drainage system.
3. **Radial drainage pattern** : Radial drainage pattern also known as centrifugal pattern is formed by the streams which diverge from a central higher point in all directions.
4. **Disappearing stream** : The stream disappears into sand, or when the water is absorbed by porous soil.
5. **Parallel drainage pattern** : Parallel drainage pattern comprises numerous rivers which are parallel to each other and follow the regional slope.

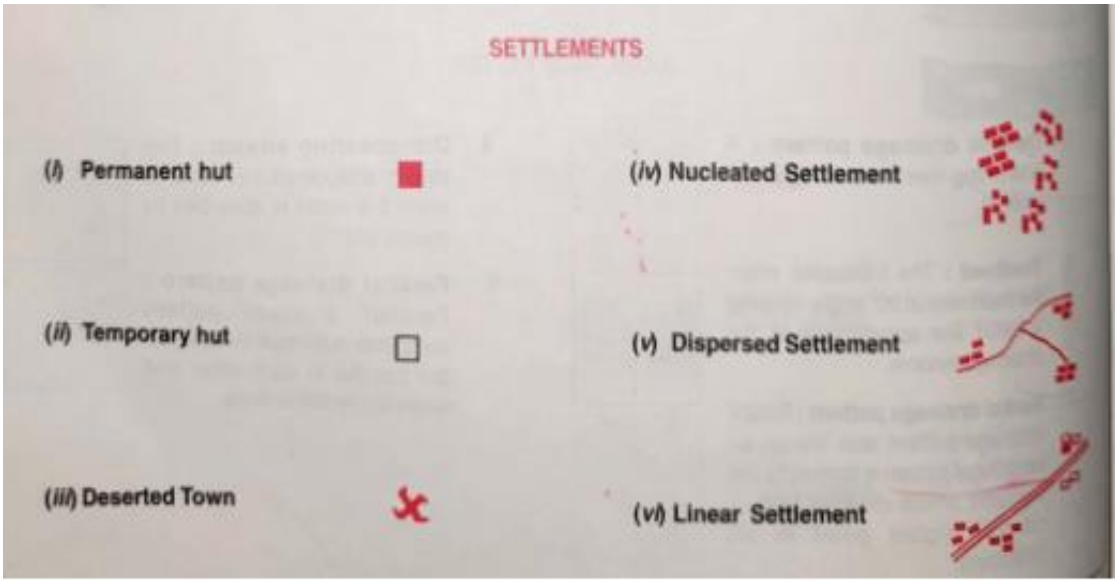
6. VEGETATION AND FOREST



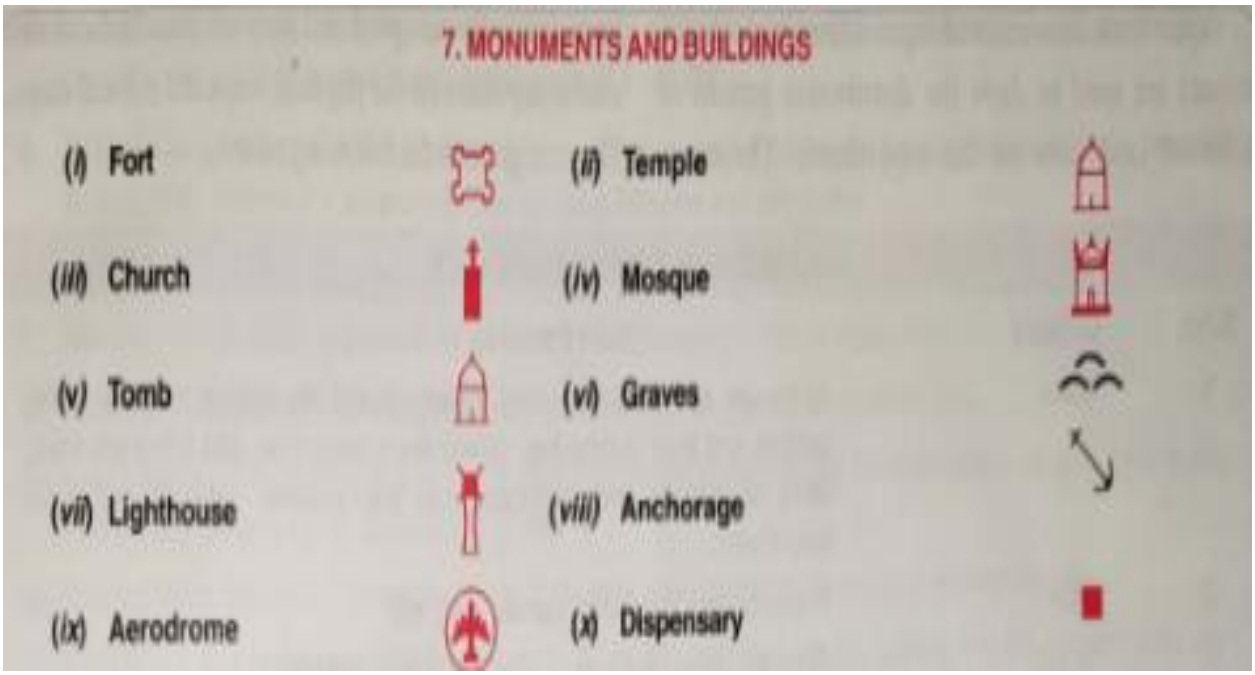
6. VEGETATION AND FORESTS

(*i*)	**Grass**	: Pastureland. It indicates scanty rainfall.
(*ii*)	**Open scrub**	: Indicates semi-desert conditions.
(*iii*)	**Palms**	: Indicate desert and coastal soil.
(*iv*)	**Conifers**	: Are found at a height of 1600 m or more.
(*v*)	**Bamboos**	: Are found where rainfall is scanty.
(*vi*)	**Deciduous**	: This vegetation is found almost throughout India.
(*vii*)	**Swamp**	: Area permanently saturated with water.
(*viii*)	**Scattered vegetation**	: Trees are widely spaced.
(*ix*)	**Dense Forest**	: Areas of heavy rainfall.
(*x*)	**Open Jungle**	: Areas of moderate rainfall.
(*xi*)	**Prominent surveyed trees**	: Black colour is used and trees have number on their trunk.
(*xii*)	**Protected/ Reserved Forest**	: P.F. are planted to prevent soil erosion. R.F. is an area where trees are not allowed to be cut.
(*xiii*)	**Fireline**	: It is a 5 m wide path or trench filled with water or sand to prevent forest fire.

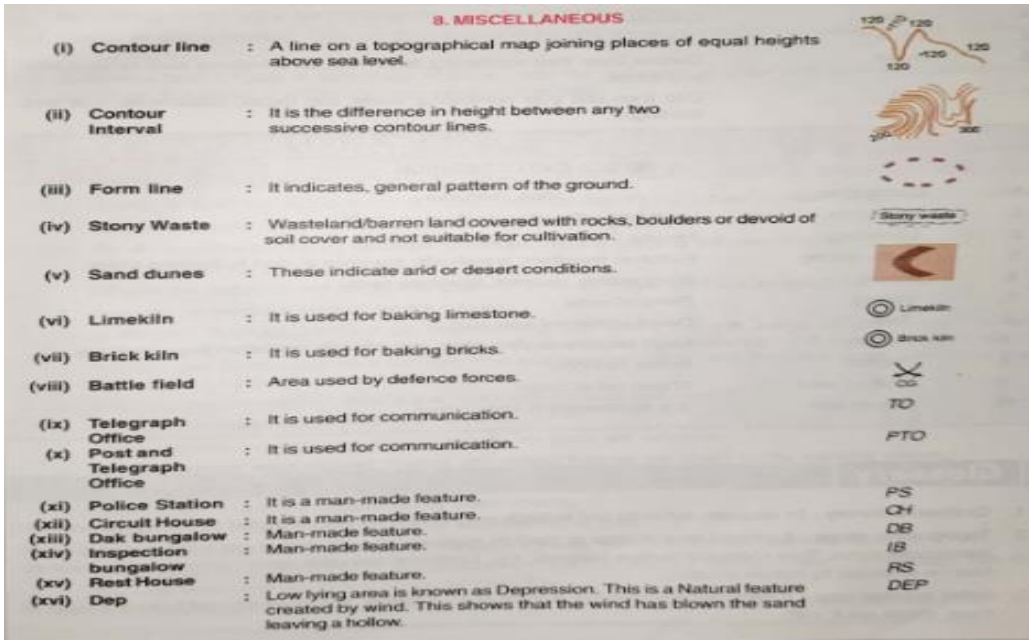
7. SETTLEMENTS



8. MONUMENTS AND BUILDING



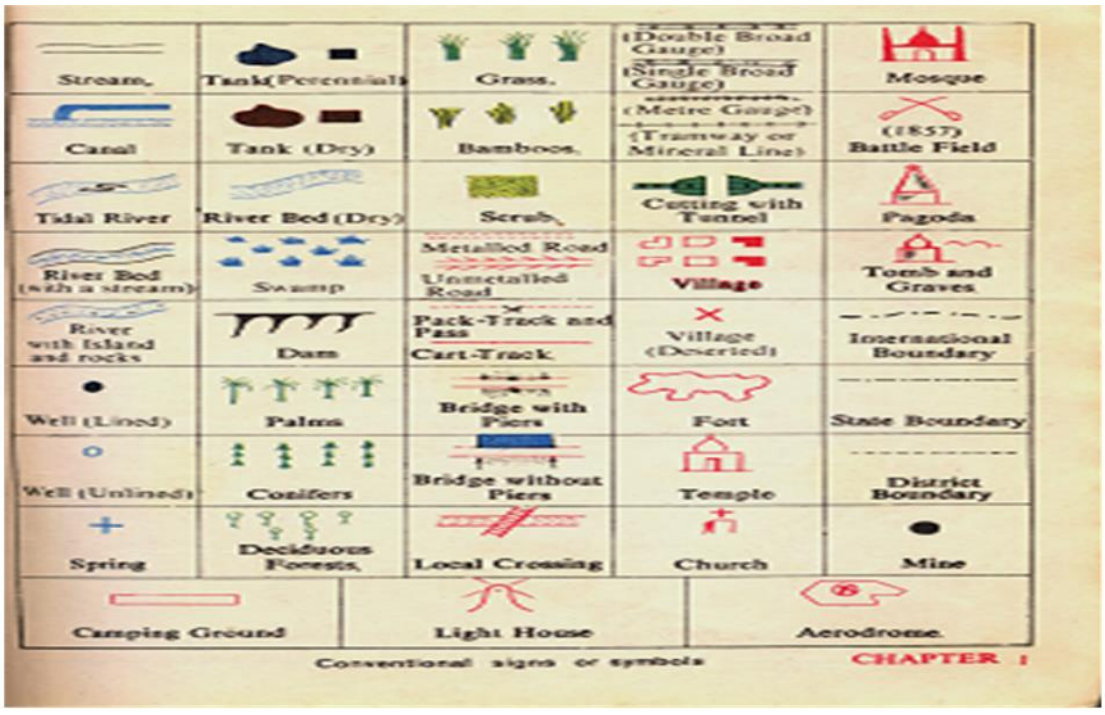
9. MISCELLASIGN



9. MISCELLANEOUS

(i)	Contour line	:	A line on a topographical map joining places of equal heights above sea level.
(ii)	Contour Interval	:	It is the difference in height between any two successive contour lines.
(iii)	Form line	:	It indicates, general pattern of the ground.
(iv)	Stony Waste	:	Wasteland/barren land covered with rocks, boulders or devoid of soil cover and not suitable for cultivation.
(v)	Sand dunes	:	These indicate arid or desert conditions.
(vi)	Limekiln	:	It is used for baking limestone.
(vii)	Brick kiln	:	It is used for baking bricks.
(viii)	Battle field	:	Area used by defence forces.
(ix)	Telegraph Office	:	It is used for communication.
(x)	Post and Telegraph Office	:	It is used for communication.
(xi)	Police Station	:	It is a man-made feature.
(xii)	Circuit House	:	It is a man-made feature.
(xiii)	Dak bungalow	:	Man-made feature.
(xiv)	Inspection bungalow	:	Man-made feature.
(xv)	Rest House	:	Man-made feature.
(xvi)	Dep	:	Low lying area is known as Depression. This is a Natural feature created by wind. This shows that the wind has blown the sand leaving a hollow.

10.COLOURS AND THEIR SIGNIFICANCE



11.TRANSPORT ICONS

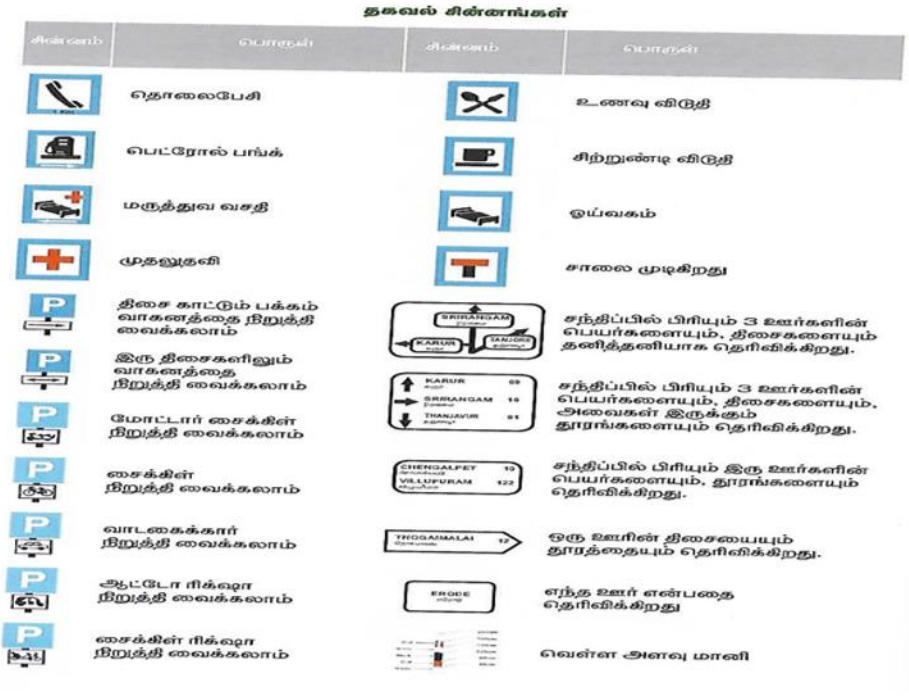
Transport icons

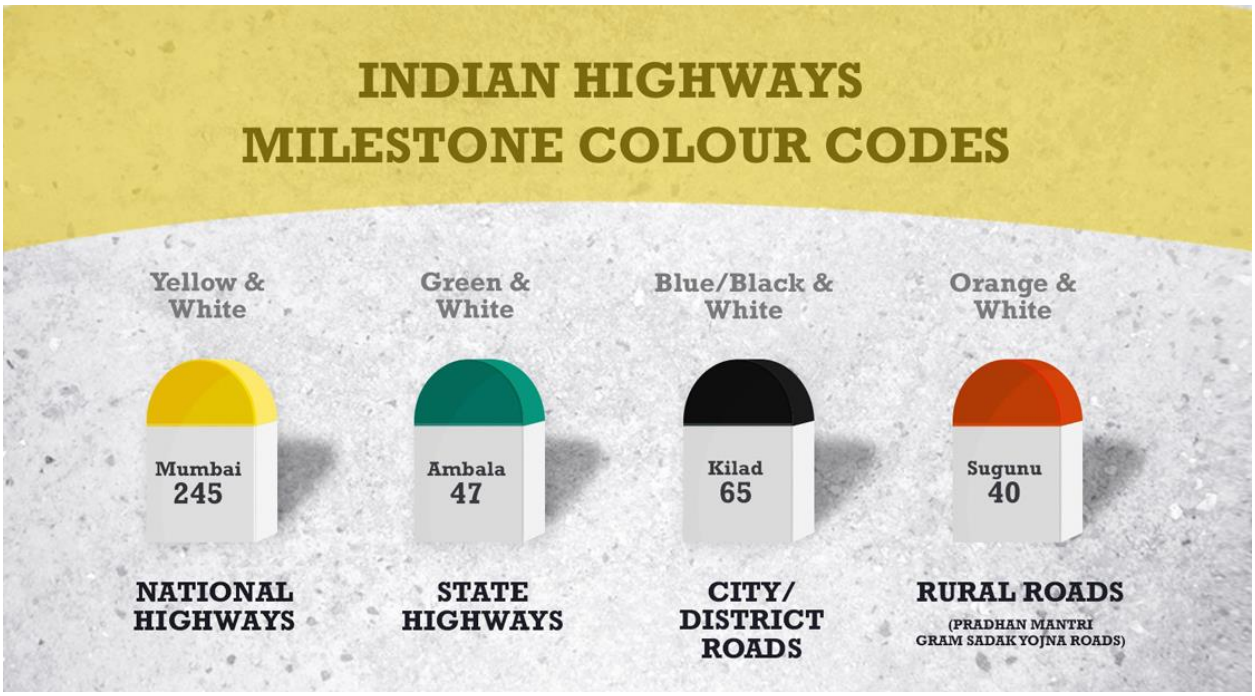
1. Order Icons
2.Alert Icons
3.Information Icons

உத்தரவுச் சின்னங்கள்

சின்னம்	பொருள்	சின்னம்	பொருள்
	நிற்கவும்		வழி கொடுக்கவும்
	வழியில்லை		மாட்டுவண்டி, கை வண்டி செல்லத்தடை
	ஒரு வழிப்பாதை		மாட்டுவண்டிகள் செல்லத்தடை
	ஒரு வழிப்பாதை		குதிரை வண்டிகளுக்கு தடை
	இரு வழிகளிலும் செல்ல தடை		கை வண்டிகளுக்கு தடை
	மோட்டார் வாகனங்களுக்கு தடை		சைக்கிள்களுக்கு தடை
	லாரிகளுக்கு தடை		பாதசாரிகளுக்கு தடை
	வலது புறம் திரும்ப தடை		வேக தடை முடிவு
	இடது புறம் திரும்ப தடை		ஓடும் வாகனங்கள் நிற்க, நிறுத்தி வைக்கத் தடை
	'U' திருப்பம் செய்யத் தடை	50	வேக வரம்பு
	முந்திச்செல்லத்தடை	2M	அகல வரம்பு
	ஹார்ன் அடிக்கத்தடை	3.5M	உயர வரம்பு
	வாகனங்கள் நிறுத்தி வைக்கத்தடை		நீள வரம்பு

எச்சரிக்கைச் சின்னங்கள்
சாலை வளைந்து செல்கிறது
குறுக்குச் சாலைகள்
சாலை இடதுபுறம் வளைந்து செல்கிறது
வலதுபுறம் கிளைச்சாலை
சாலை வலதுபுறம் குறுகிய வளைவு இடங்களில்
இடதுபுறம் கிளைச்சாலை
சாலை இடதுபுறம் குறுகிய வளைவு இடங்களில்
'T' சந்திப்பு
வலதுபுறம் வளைந்து வளைந்து செல்லும் சாலை
கிடுகிய சாலை சந்திப்புகள்
இடதுபுறம் வளைந்து வளைந்து செல்லும் சாலை
கிடுகிய சாலை சந்திப்புகள்


தகவல் சின்னங்கள்
சின்னம்
பொருள்
சின்னம்
பொருள்
தொலைபேசி
உணவு விடுதி
பெட்ரோல் பங்க்
சிற்றுண்டி விடுதி
மருத்துவ வசதி
ஓய்வகம்
முதலுதவி
சாலை முடிகிறது
திசை காட்டும் பக்கம் வாகனத்தை நிறுத்தி வைக்கலாம்
சந்திப்பில் பிரியும் 3 ஊர்களின் பெயர்களையும், திசைகளையும் தனித்தனியாக தெரிவிக்கிறது.
இரு திசைகளிலும் வாகனத்தை நிறுத்தி வைக்கலாம்
சந்திப்பில் பிரியும் 3 ஊர்களின் பெயர்களையும், திசைகளையும், அவைகள் இருக்கும் தூரங்களையும் தெரிவிக்கிறது.
மோட்டார் சைக்கிள் நிறுத்தி வைக்கலாம்
சந்திப்பில் பிரியும் இரு ஊர்களின் பெயர்களையும், தூரங்களையும் தெரிவிக்கிறது.
சைக்கிள் நிறுத்தி வைக்கலாம்
ஒரு ஊரின் திசையையும் தூரத்தையும் தெரிவிக்கிறது.
வாடகைக்கார் நிறுத்தி வைக்கலாம்
எந்த ஊர் என்பதை தெரிவிக்கிறது
ஆட்டோ ரிக்ஷா நிறுத்தி வைக்கலாம்
வெள்ள அளவு மானி
சைக்கிள் ரிக்ஷா நிறுத்தி வைக்கலாம்



Stage 1 Pre-Test

S.NO	NAME OF THE TEACHER	Name of the Teacher	PRE-TEST (20) MARKS	Convert to 100 marks
1	GHSS – GUDIYATHAM RS	P.VIJAYA	8	40
2	SGR GHSS – KOSAVANPUDUR	M.G SANKAR	6	30
3	GHSS – PANAMADANGI	D SANTHI	8	40
4	GHSS – VADUGANTHANGAL	S. SAMUDESWARI	7	35

5	GHSS – SENJI	K. MAGENDIRAN	6	36
6	GBHSS LATHERI	N. SATHIKUMARAN	9	45
7	GBHSS KV KUPPAM	R RAGU	11	55
		A MOHANASUNDRAM	8	40
8	GGHSS LATHERI	V S SHANTHI	9	45
9	GGHSS KV KUPPAM	R PAPPEENA	11	55
		D SURIYA	10	50
		S ARUL JOTHI	8	40
10	GADWHSS PILLANTHIPATTU	D SELVI	7	35
11	GHS -Devarishikuppam	S SHAM KUMAR	8	40
12	GHS – Pasumathur	S JAYAKANTHAN	10	50
13	GHS – Machanur	S MAHESH	11	55
		S KALAI MATHI	9	45
14	GHS – Melmoil	V VIJAYA KUMARI	8	40
15	GHS – Thirumani	A M SEENIVASAN	8	40
16	GHS – PALLATHUR	J PUSHPAVATHI	6	30
17	ADWGHS - Ammanagkuppam	M THAMILHSELVI	6	30

Stage 4: Independently school-wise conducted post-test by K.V. Kuppam block teachers. After conducting an awareness program for fifteen days.

POST TEST

S.NO	NAME OF THE TEACHER	Name of the Teacher	PRE-TEST (20) MARKS	Convert to 100 marks
1	GHSS – GUDIYATHAM RS	P.VIJAYA	19	95
2	SGR GHSS –	M.G SANKAR	20	100

	KOSAVANPUDUR			
3	GHSS – PANAMADANGI	D SANTHI	20	100
4	GHSS – VADUGANTHANGAL	S. SAMUDESWARI	18	90
5	GHSS – SENJI	K. MAGENDIRAN	19	95
6	GBHSS LATHERI	N. SATHIKUMARAN	17	85
7	GBHSS KV KUPPAM	R RAGU	17	85
		A MOHANASUNDRAM	17	85
8	GGHSS LATHERI	V S SHANTHI	18	90
9	GGHSS KV KUPPAM	R PAPPEENA	19	95
		D SURIYA	19	95
		S ARUL JOTHI	19	95
10	GADWHSS PILLANTHIPATTU	D SELVI	18	90
11	GHS -Devarishikuppam	S SHAM KUMAR	18	90
12	GHS – Pasumathur	S JAYAKANTHAN	19	95
13	GHS – Machanur	S MAHESH	20	100
		S KALAI MATHI	17	85
14	GHS – Melmoil	V VIJAYA KUMARI	16	80
15	GHS – Thirumani	A M SEENIVASAN	17	85
16	GHS – PALLATHUR	J PUSHPAVATHI	20	100

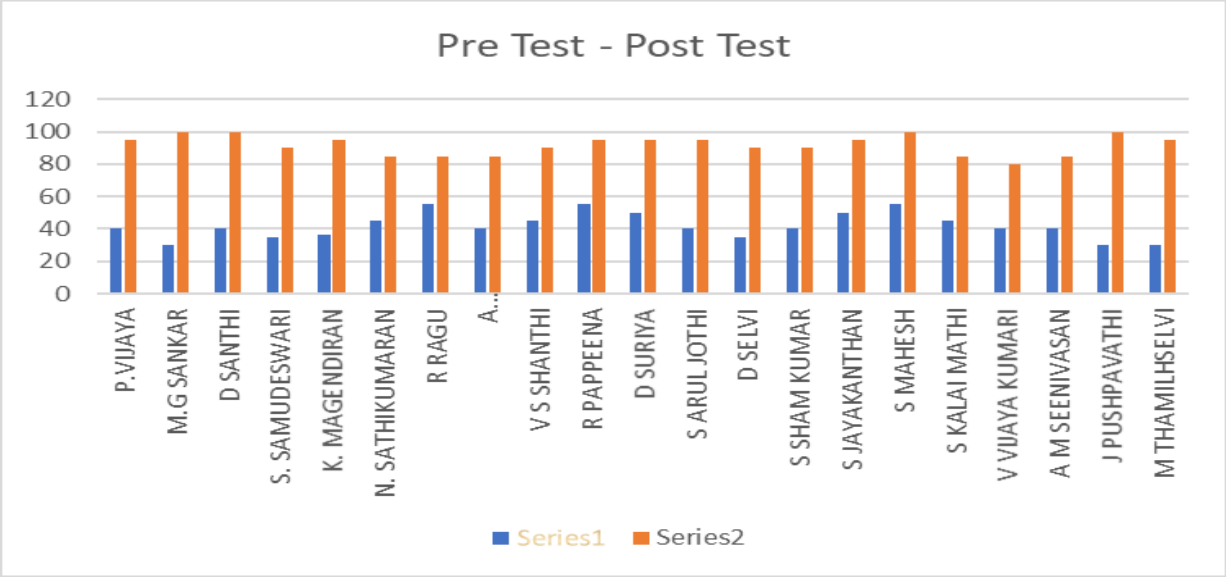
17	ADWGHS - Ammanagkuppam	M THAMILHSELVI	19	95

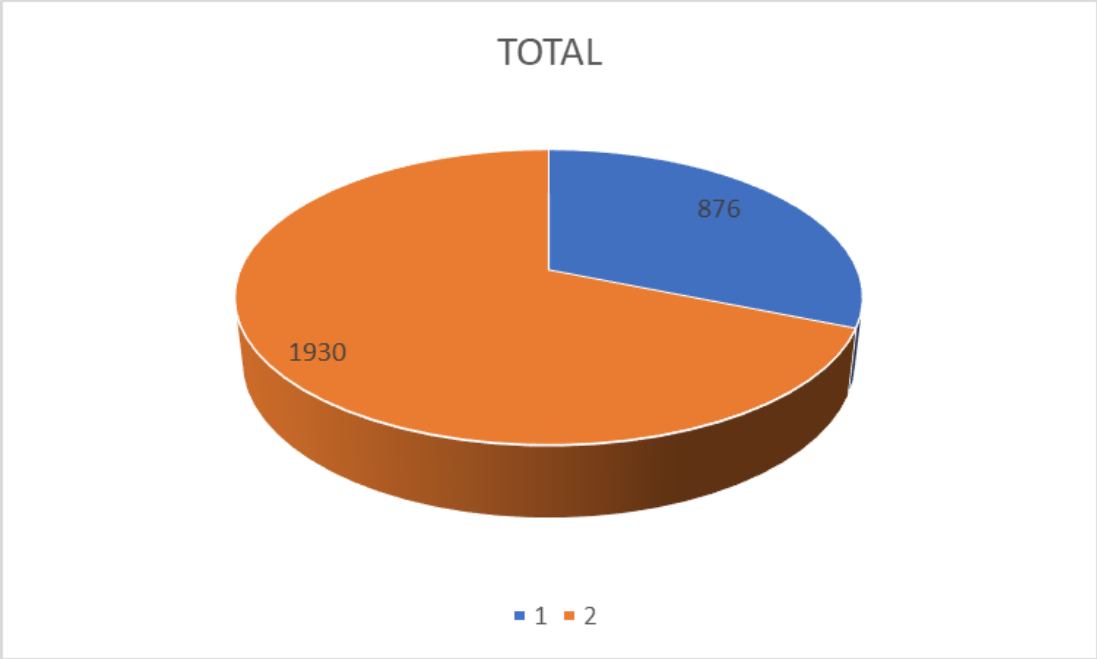
Pre-Test and Post-Test Analysis (100 marks)

S.NO	NAME OF THE SCHOOLS	NAME OF THE TEACHERS	PRE-TEST (Convert to 100 marks)	POST TEST (Convert to 100 marks)
1	GHSS – GUDIYATHAM RS	P.VIJAYA	40	95
2	SGR GHSS – KOSAVANPUDUR	M.G SANKAR	30	100
3	GHSS – PANAMADANGI	D SANTHI	40	100
4	GHSS – VADUGANTHANGAL	S. SAMUDESWARI	35	90
5	GHSS – SENJI	K. MAGENDIRAN	36	95
6	GBHSS LATHERI	N. SATHIKUMARAN	45	85
7	GBHSS KV KUPPAM	R RAGU	55	85
		A MOHANASUNDRAM	40	85
8	GGHSS LATHERI	V S SHANTHI	45	90
9	GGHSS KV KUPPAM	R PAPPEENA	55	95
		D SURIYA	50	95
		S ARUL JOTHI	40	95
10	GADWHSS PILLANTHIPATTU	D SELVI	35	90
11	GHS - Devarishikuppam	S SHAM KUMAR	40	90
12	GHS – Pasumathur	S JAYAKANTHAN	50	95

13	GHS – Machanur	S MAHESH	55	100
		S KALAI MATHI	45	85
14	GHS – Melmoil	V VIJAYA KUMARI	40	80
15	GHS – Thirumani	A M SEENIVASAN	40	85
16	GHS - PALLATHUR	J PUSHPAVATHI	30	100
17	ADWGHS - Ammanagkuppam	M THAMILHSELVI	30	95
TOTAL			876	1930
AVAERAGE Score			41.71	91.70
Difference		49.99		

Pre-Test – Post- Pictorial Representation





13. CONSOLIDATED RESULT

The following results are arrived at based on the analysis:

- The Average Score of pre-test and post-test performance in understanding "Conventional signs and symbols" through integrated approaches is 41.71 and 91.70. There is a significant difference between the Average score of pre-test and post-test performance (49.99) in the understanding of "Conventional signs and symbols" through integrated approaches.
- Before the intervention, the investigator found that most of the teachers were unaware of knowledge/information about basic Conventional signs and symbols like how to react when day-to-day life, etc…
- The investigator found that this training was very crucial for teachers to adopt the techniques used in day-to-day life.

From these awareness programs, the investigator found that students benefitted from the integrated approach which consists of PPT, YouTube videos, and lecturer cum demonstration classes given by the Conventional signs and symbols.

14. FEEDBACK

The Intervention has made the KV Kuppam block teachers to

- Understood Conventional signs and symbols - related information through PPT, and videos.
- Eagerly interacted with the Conventional signs and symbols information asked their doubts and cleared it.
- Felt that the given integrated approaches were useful and helped them to understand the information and adapt to their life.

15. IMPLICATIONS

This Action Research has highly motivated the teachers were participated in the day training classes eagerly and found that it is crucial for daily life situations and also to think a situation how to handle Conventional signs and symbols effectively. and how to teach and find ourselves in these nearby areas or cities. The teachers were actively involved in asking questions first and clarifying their doubts from the team members involved by the Conventional signs and symbols.

References:

1. Interpretation of Topographical Map

2. Basic Geography information

3. Cartographic Teaching

4. www.geographyalltheway.com

5. https://ncert.nic.in/textbook

6. ICSE Geography Map Practice Book

7. https://en.wikipedia.org/wiki/Map_symbol

8. https://egyankosh.ac.in

9. https://uou.ac.in/sites

10. https://www.loc.gov/resource