Analysis of Pupil Performance

Humanities & Commerce

GEOGRAPHY

Research Development and Consultancy Division

Council for the Indian School Certificate Examinations

New Delhi

Year 2018

_____

This document of the Analysis of Pupils' Performance at the ISC Year 12 and ICSE Year 10 Examination is one of its kind. It has grown and evolved over the years to provide feedback to schools in terms of the strengths and weaknesses of the candidates in handling the examinations.

We commend the work of Mrs. Shilpi Gupta (Deputy Head) of the Research Development and Consultancy Division (RDCD) of the Council and her team, who have painstakingly prepared this analysis. We are grateful to the examiners who have contributed through their comments on the performance of the candidates under examination as well as for their suggestions to teachers and students for the effective transaction of the syllabus.

We hope the schools will find this document useful. We invite comments from schools on its utility and quality.

Gerry Arathoon
October 2018   **Chief Executive & Secretary**

The Council has been involved in the preparation of the ICSE and ISC Analysis of Pupil Performance documents since the year 1994. Over these years, these documents have facilitated the teaching-learning process by providing subject/ paper wise feedback to teachers regarding performance of students at the ICSE and ISC Examinations. With the aim of ensuring wider accessibility to all stakeholders, from the year 2014, the ICSE and the ISC documents have been made available on the Council's website www.cisce.org.

The documents include a detailed qualitative analysis of the performance of students in different subjects which comprises of examiners' comments on common errors made by candidates, topics found difficult or confusing, marking scheme for each answer and suggestions for teachers/ candidates.

In addition to a detailed qualitative analysis, the Analysis of Pupil Performance documents for the Examination Year 2018 have a component of a detailed quantitative analysis. For each subject dealt with in the document, both at the ICSE and the ISC levels, a detailed statistical analysis has been done, which has been presented in a simple user-friendly manner.

It is hoped that this document will not only enable teachers to understand how their students have performed with respect to other students who appeared for the ICSE/ISC Year 2018 Examinations, but also provide information on how they have performed within the Region or State, their performance as compared to other Regions or States, etc. It will also help develop a better understanding of the assessment/ evaluation process. This will help teachers in guiding their students more effectively and comprehensively so that students prepare for the ICSE/ ISC Examinations, with a better understanding of what is required from them.

The Analysis of Pupil Performance document for ICSE for the Examination Year 2018 covers the following subjects: English (English Language, Literature in English), Hindi, History, Civics and Geography (History and Civics, Geography), Mathematics, Science (Physics, Chemistry, Biology), Commercial Studies, Economics, Computer Applications, Economic Applications, Commercial Applications.

Subjects covered in the ISC Analysis of Pupil Performance document for the Year 2018 include English (English Language and Literature in English), Hindi, Elective English, Physics (Theory), Chemistry (Theory), Biology (Theory), Mathematics, Computer Science, History, Political Science, Geography, Sociology, Psychology, Economics, Commerce, Accounts and Business Studies.

I would like to acknowledge the contribution of all the ICSE and the ISC examiners who have been an integral part of this exercise, whose valuable inputs have helped put this document together.

I would also like to thank the RDCD team of, Dr. M.K. Gandhi, Dr. Manika Sharma, Mrs. Roshni George and Mrs. Mansi Guleria who have done a commendable job in preparing this document.

Shilpi Gupta

October 2018   *Deputy Head - RDCD*

CONTENTS

	Page No.
FOREWORD	*i*
PREFACE	*ii*
INTRODUCTION	1
QUANTITATIVE ANALYSIS	3
QUALITATIVE ANALYSIS	10

INTRODUCTION

This document aims to provide a comprehensive picture of the performance of candidates in the subject. It comprises of two sections, which provide Quantitative and Qualitative analysis results in terms of performance of candidates in the subject for the ISC Year 2018 Examination. The details of the Quantitative and the Qualitative analysis are given below.

Quantitative Analysis

This section provides a detailed statistical analysis of the following:

- Overall Performance of candidates in the subject (Statistics at a Glance)
- State wise Performance of Candidates
- Gender wise comparison of Overall Performance
- Region wise comparison of Performance
- Comparison of Region wise performance on the basis of Gender
- Comparison of performance in different Mark Ranges and comparison on the basis of Gender for the top and bottom ranges
- Comparison of performance in different Grade categories and comparison on the basis of Gender for the top and bottom grades

The data has been presented in the form of means, frequencies and bar graphs.

Understanding the tables

Each of the comparison tables shows N (Number of candidates), Mean Marks obtained, Standard Errors and t-values with the level of significance. For t-test, mean values compared with their standard errors indicate whether an observed difference is likely to be a true difference or whether it has occurred by chance. The t-test has been applied using a confidence level of 95%, which means that if a difference is marked as 'statistically significant' (with * mark, refer to t-value column of the table), the probability of the difference occurring by chance is less than 5%. In other words, we are 95% confident that the difference between the two values is true.

t-test has been used to observe significant differences in the performance of boys and girls, gender wise differences within regions (North, East, South and West), gender wise differences within marks ranges (Top and bottom ranges) and gender wise differences within grades awarded (Grade 1 and Grade 9) at the ISC Year 2018 Examination.

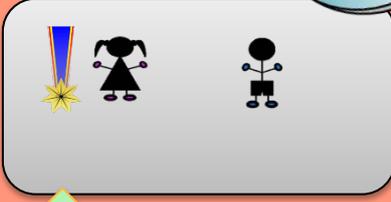The analysed data has been depicted in a simple and user-friendly manner.

Given below is an example showing the comparison tables used in this section and the manner in which they should be interpreted.

Comparison on the basis of Gender

Gender	N	Mean	SE	t-value
Girls	2,538	66.1	0.29	
Boys	1,051	60.1	0.42	

*Significant at 0.05 level

11.91*

Girls performed significantly better than boys.

The table shows comparison between the performances of boys and girls in a particular subject. The t-value of 11.91 is significant at 0.05 level (mentioned below the table) with a mean of girls as 66.1 and that of boys as 60.1. It means that there is significant difference between the performance of boys and girls in the subject. The probability of this difference occurring by chance is less than 5%. The mean value of girls is higher than that of boys. It can be interpreted that girls are performing significantly better than boys.

The results have also been depicted pictographically. In this case, the girls performed significantly better than the boys. This is depicted by the girl with a medal.
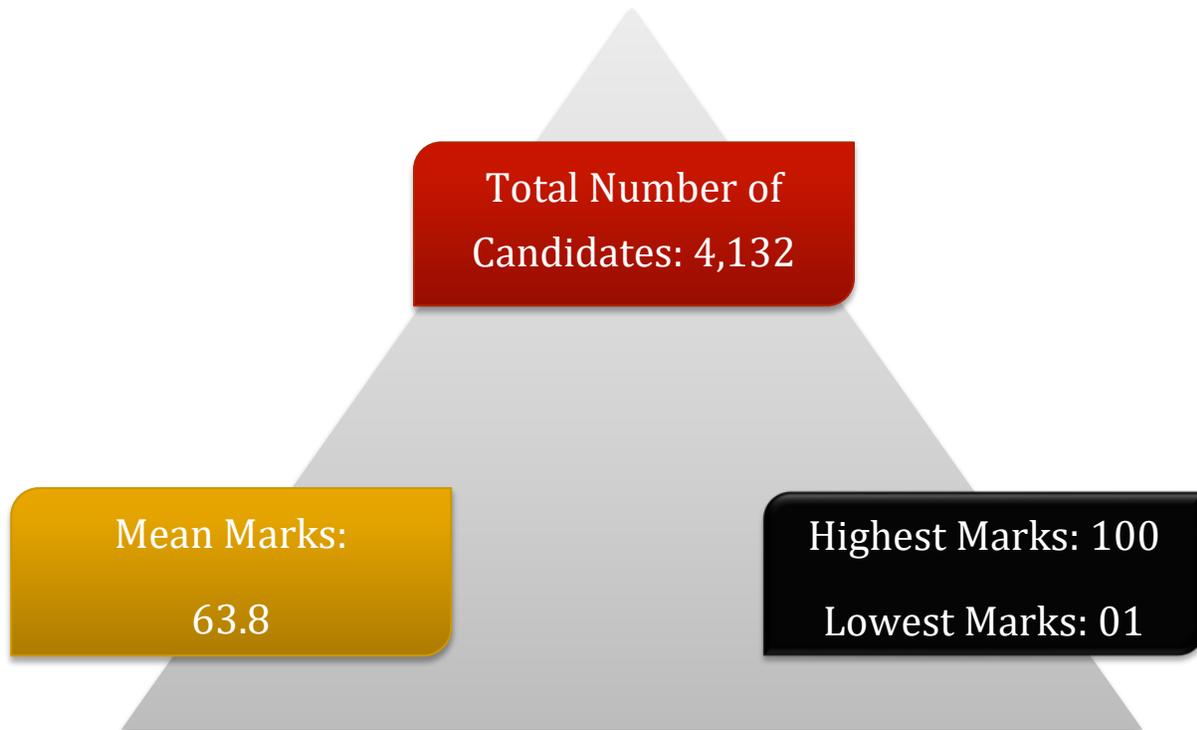
Qualitative Analysis

The purpose of the qualitative analysis is to provide insights into how candidates have performed in individual questions set in the question paper. This section is based on inputs provided by examiners from examination centres across the country. It comprises of question wise feedback on the performance of candidates in the form of *Comments of Examiners* on the common errors made by candidates along with *Suggestions for Teachers* to rectify/ reduce these errors. The *Marking Scheme* for each question has also been provided to help teachers understand the criteria used for marking. Topics in the question paper that were generally found to be difficult or confusing by candidates, have also been listed down, along with general suggestions for candidates on how to prepare for the examination/ perform better in the examination.
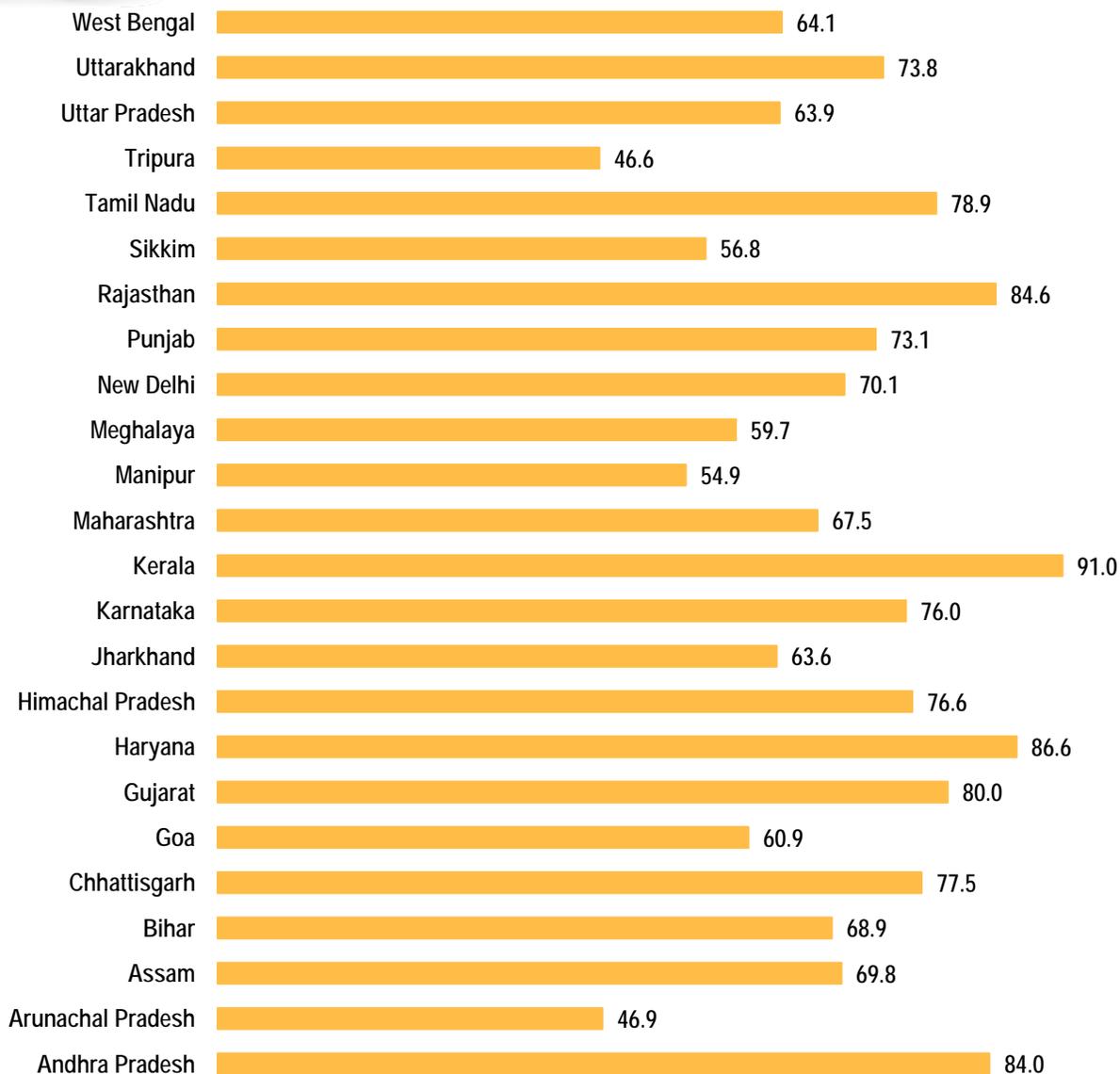
QUANTITATIVE ANALYSIS

STATISTICS AT A GLANCE

Total Number of Candidates: 4,132

Mean Marks: 63.8

Highest Marks: 100

Lowest Marks: 01

PERFORMANCE (STATE-WISE)

State	Score
West Bengal	64.1
Uttarakhand	73.8
Uttar Pradesh	63.9
Tripura	46.6
Tamil Nadu	78.9
Sikkim	56.8
Rajasthan	84.6
Punjab	73.1
New Delhi	70.1
Meghalaya	59.7
Manipur	54.9
Maharashtra	67.5
Kerala	91.0
Karnataka	76.0
Jharkhand	63.6
Himachal Pradesh	76.6
Haryana	86.6
Gujarat	80.0
Goa	60.9
Chhattisgarh	77.5
Bihar	68.9
Assam	69.8
Arunachal Pradesh	46.9
Andhra Pradesh	84.0

The States of Kerala, Haryana and Rajasthan secured highest mean marks.

GENDER-WISE COMPARISON

GIRLS

Mean Marks: 65.9

Number of
Candidates: 2,831

BOYS

Mean Marks: 59.2

Number of
Candidates: 1,301

Comparison on the basis of Gender

Gender	N	Mean	SE	t-value
Girls	2,831	65.9	0.29	13.05*
Boys	1,301	59.2	0.42	

*Significant at 0.05 level

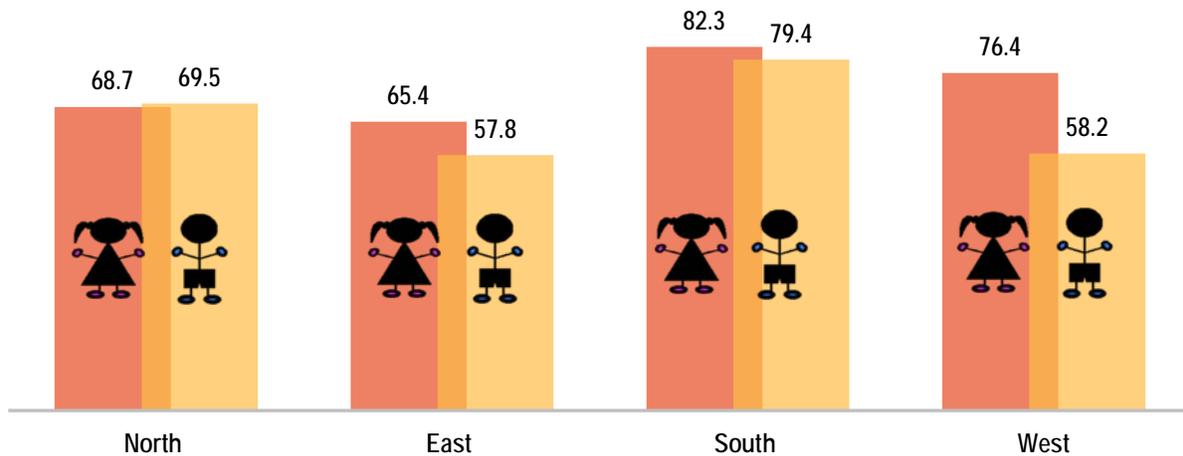**Girls performed significantly better than boys.**

REGION-WISE COMPARISON

East

Mean Marks: 63.0

Number of Candidates: 3,691

Highest Marks: 100
Lowest Marks: 01

North

Mean Marks: 69.0

Number of Candidates: 346

Highest Marks: 98
Lowest Marks: 35

REGION

Mean Marks: 80.5

Number of Candidates: 19

Highest Marks: 92
Lowest Marks: 68

Mean Marks: 71.1

Number of Candidates: 76

Highest Marks: 100
Lowest Marks: 29

South

West
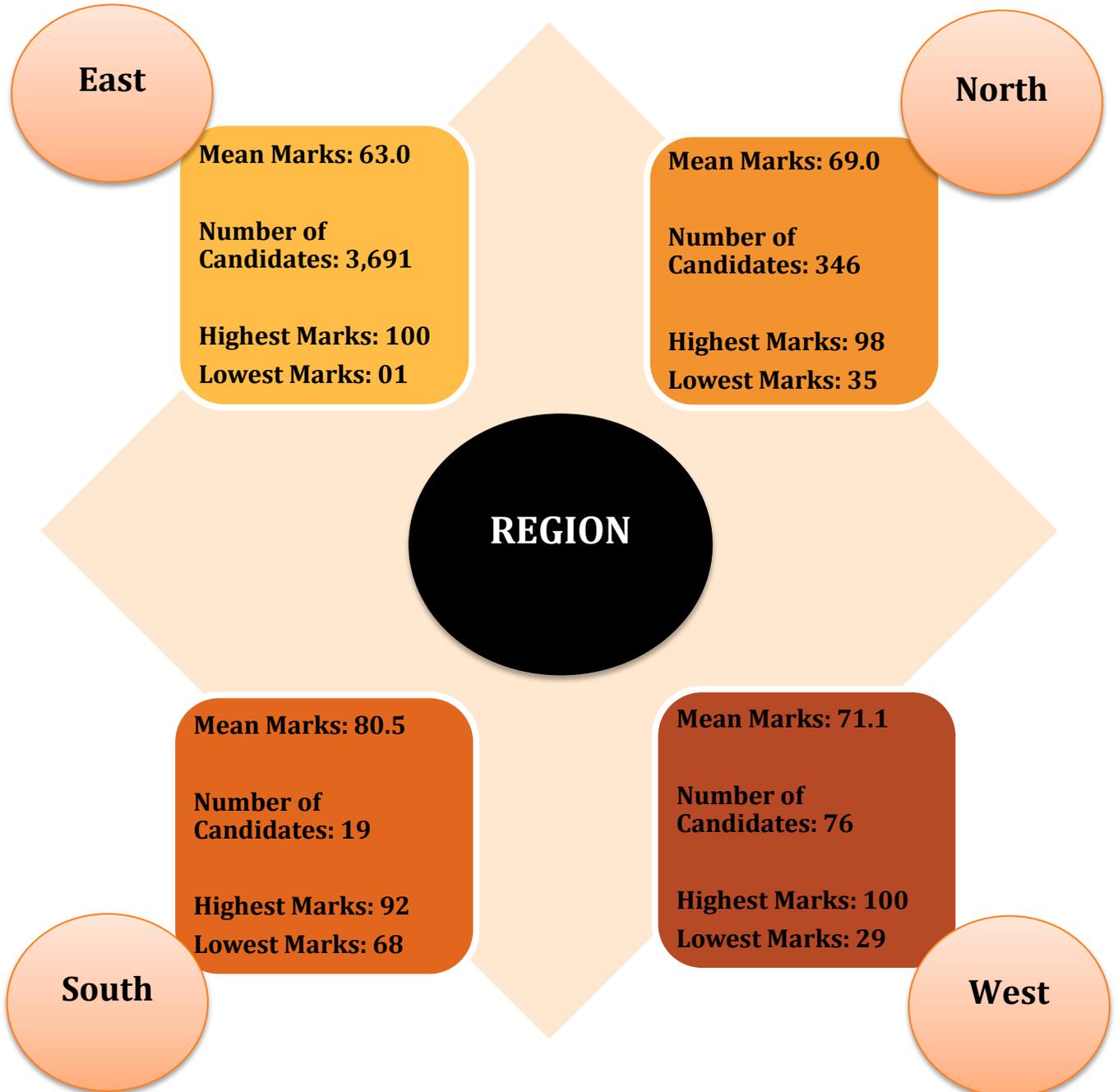
Mean Marks obtained by Boys and Girls-Region wise

North	East	South	West
68.7 69.5	65.4 57.8	82.3 79.4	76.4 58.2

Comparison on the basis of Gender within Region

Region	Gender	N	Mean	SE	t-value
North (N)	Girls	213	68.7	1.11	-0.47
	Boys	133	69.5	1.07	
East (E)	Girls	2,557	65.4	0.31	14.09*
	Boys	1,134	57.8	0.45	
South (S)	Girls	7	82.3	2.45	0.91
	Boys	12	79.4	1.96	
West (W)	Girls	54	76.4	1.86	4.38*
	Boys	22	58.2	3.72	

*Significant at 0.05 level

The performance of girls was significantly better than that of boys in the eastern and western region. In other regions no significant difference was observed.

REGION (E, W)
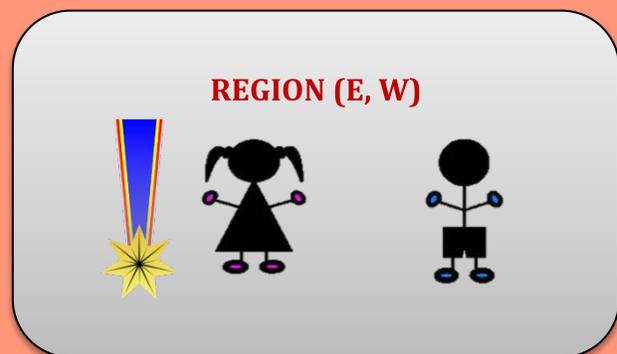
MARK RANGES : COMPARISON GENDER-WISE

Comparison on the basis of gender in top and bottom mark ranges

Marks Range	Gender	N	Mean	SE	t-value
Top Range (81-100)	Girls	567	87.5	0.20	2.23*
	Boys	138	86.6	0.38	
Bottom Range (0-20)	Girls	2	8.5	7.50	-0.87
	Boys	3	15.3	2.40	

*Significant at 0.05 level

Marks Range (81-100)

Performance of girls was significantly better than the performance of boys .

Marks Range (81-100)

Boys **Girls** **All Candidates**

Range	Boys	Girls	All Candidates
81 - 100	86.6	87.5	87.3
61 - 80	69.4	70.4	70.1
41 - 60	51.1	51.8	51.5
21 - 40	37.1	37.4	37.2
0 - 20	15.3	8.5	12.6
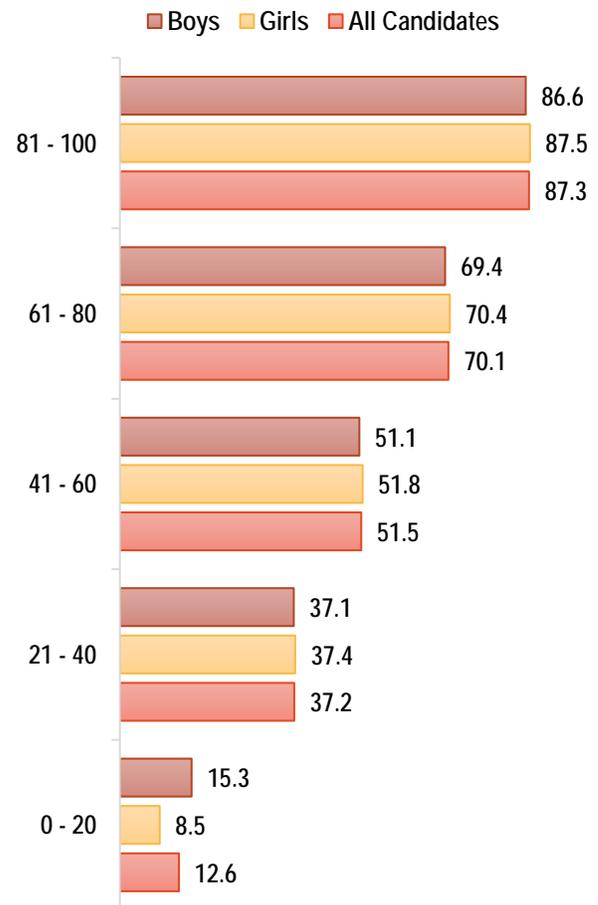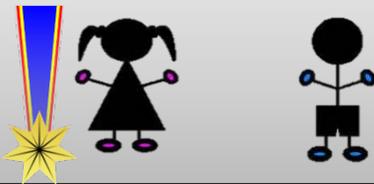
GRADES AWARDED : COMPARISON GENDER-WISE

Comparison on the basis of gender in Grade 1 and Grade 9

Grades	Gender	N	Mean	SE	t-value
Grade 1	Girls	182	93.3	0.20	1.21
	Boys	38	92.7	0.47	
Grade 9	Girls	10	22.8	2.73	-1.02
	Boys	16	25.9	1.38	

No significant difference was observed between the average performance of girls and boys.

Legend: Boys | Girls | All Candidates

Grade	Boys	Girls	All Candidates
1	92.7	93.3	93.2
2	83.5	84.1	84.0
3	74.3	74.2	74.2
4	64.4	64.5	64.5
5	56.9	57.1	57.0
6	52.0	52.1	52.1
7	47.1	47.2	47.1
8	39.6	40.0	39.8
9	25.9	22.8	24.7
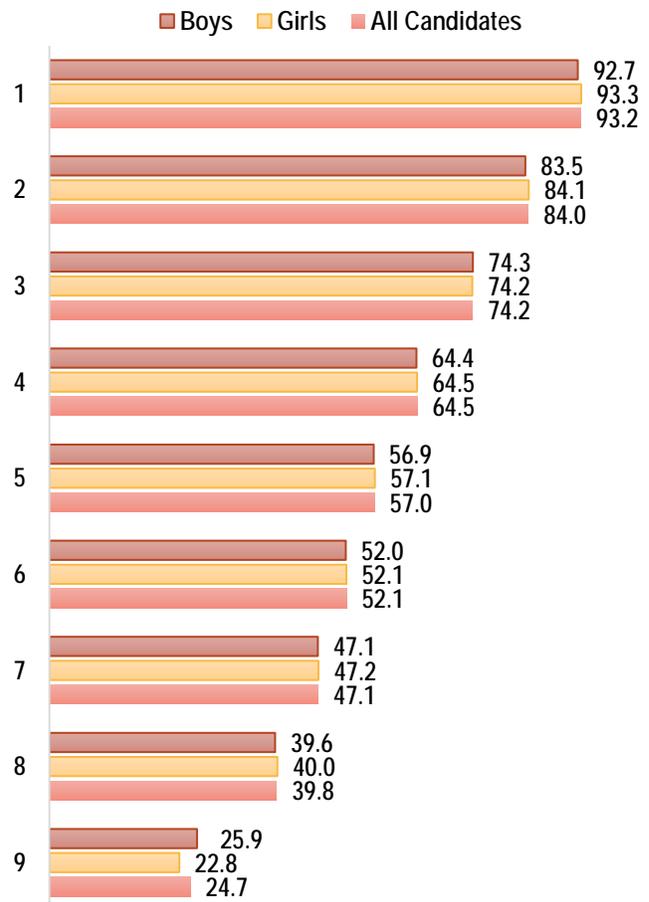
PART I (30 Marks)
Answer **all** *questions.*

SECTION A

Question 1
[10 × 2]

(i) Give two reasons to explain why India is considered to be a subcontinent.

(ii) The figure below represents a topographic section from the Himalayas to the Peninsular region. Identify *any two* of the features marked A, B, C and D.
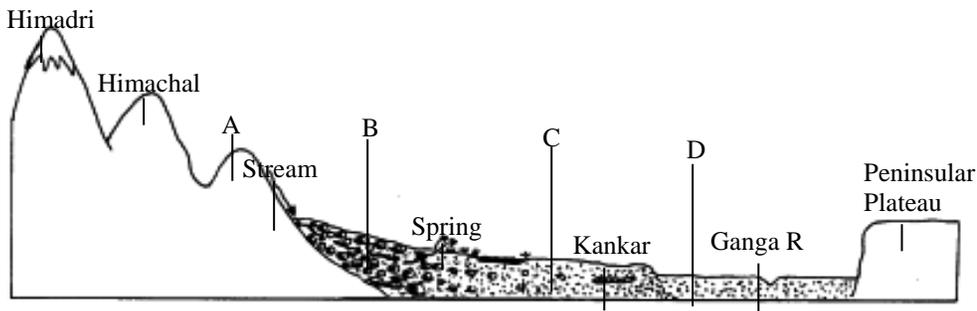
(iii) With reference to river Godavari, name the following:

(a) The State where it *originates*.

(b) The State where it forms its *delta*.

(iv) What is *urban forestry?* Mention *any two* of its objectives.

(v) State *two* reasons to explain why irrigation is necessary in India.

(vi) Briefly explain *any two* problems caused by Green Revolution with respect to Indian agriculture.

(vii) State *any two* important aspects of *environmental management*.

(viii) Mention *two* ways in which *hydroelectric power* is better than *nuclear power*.

(ix) Give *two* advantages of transportation by *roadways*.

(x) Mention *two* major challenges faced by the tourism industry in India today.

Comments of Examiners

(i) Many candidates wrote only the reasons- either, vast and diverse or vastness and diversities, without naming or explaining at least two landforms as required for in the question.

(ii) Majority of the candidates were unable to identify the   parts labelled in the question. Several candidates wrote the incorrect name of the Himalayan range. Many candidates identified D (Khadar) as the Northern Plains.

(iii) Majority of the candidates were unaware of both, the state where the Godavari originates and where it forms its *delta*. Many candidates mentioned Andhra Pradesh as its state of origin and Maharashtra as the state where it forms its delta.

(iv) Majority of candidates did not write the key phrase- *raising and management of trees……. and urban areas.* Several candidates mentioned only one objective.

(v) Several candidates, instead of explaining the reasons by laying stress on key terms such as *irregularity, erratic, sporadic, spatial distribution, temporal distribution variability,* wrote a very general answer.

(vi) A number of the candidates, instead of writing the problems caused by Green Revolution with respect to Indian Agriculture, wrote the demerits of the Green Revolution. Many candidates wrote about soil erosion, ignorance of farmers and money lenders. Several candidates mentioned the use of fertilizer/pesticides without linking it to soil exhaustion. Although, many candidates mentioned that the Green Revolution affected wheat and rice, yet they did not write that commercial crops were also affected.

(vii) While stating the important aspects of *environmental management*, many candidates did not write the analysis, research, and developmental aspects but wrote their answer from the point of view of a pollution free environment.

(viii) Most of the candidates were unable to mention *two* ways in which *hydroelectric power* is better than *nuclear power*. Several candidates wrote the advantages of hydel power but did not write the demerits of nuclear power. Some candidates only

wrote that *hydroelectric power* is eco-friendly or renewable.
(ix) Majority of the candidates wrote an incomplete answer, stating either roadways are cheap mode of transport or roadways are a faster mode of transport without writing key phrases and points e.g. door to door service, flexible, accessible, feeder, high gradients and sharp turns.
(x) Instead of writing the challenges faced by the tourism industry, many candidates wrote the negative impact of the industry on the environment such as tourism causes pollution of the environment.

MARKING SCHEME		
Question 1		
(i)	- Physically cut off from the rest of Asia/Himalayas separates India from rest of Asia - Experiences typical tropical monsoon climate/Diversities in Tropical climate/Physical features-mountains, plateau, plains - Cultural and social diversities with Asia, similarities with Neighbouring countries. - Economic and political interdependence with neighbouring countries. - Vastness and diversities/Geographical extent/large size and extent *(Any two)*	
(ii)	A – Shiwaliks (Outer Himalayas) B – Bhabar C – Bhangar D – Khaddar *(Any two)*	
(iii)	(a)	Maharashtra
	(b)	Andhra Pradesh
(iv)	Urban forestry refers to raising and management of trees on public and privately-owned lands in and around the urban centres. It includes green belts, roadside avenues, recreational parks, etc. Its objectives are: Reduction of environmental pollution, recreation and improving aesthetic values. - includes – roadside avenues, recreational parks, green belts, beautiful gardens.	
(v)	- To overcome climatic constrains of long dry season - To increase food production to feed the growing population - Reduces instability in yields - To combat the incidence of drought - To meet the biological water requirement of the crops - Uneven spatial distribution of rain - Uneven temporal distribution of rain - High rainfall variability - Uncertainty of rainfall/or irregular rainfall	

(vi)	• Inter crop imbalance- as Green Revolution affects rice, wheat, course cereals and commercial crops not affected Disparities between N and S, Wheat/ non-Wheat areas • Rich farmers became richer • Mechanization results in unemployment Other problems
(vii)	• To create a pollution free environment • To protect men and animals from pollution • To protect biodiversity • To establish coordination between government and non-government organizations in protecting the environment • To analyze the impact of developmental plans on environment • To help in formulation of national and regional environmental policies • To monitor the organizing plans for the quality of environment • To sponsor awareness programmes • To educate people at all levels • To develop long-term and short-term plans for the conservation of the environment • To examine the efforts made under environment management and its results and to fix responsibility for non-implementation • To encourage research in the various fields of environment • To suggest guidelines to the government for the improvement of the quality of environment. *(Any two)*
(viii)	Hydroelectric Power - Merits: • Renewable sources of energy/uses river water • Environmental friendly/eco-friendly/no waste residue/do not cause pollution /non-hazardous • Diversified use of same water • Cost effective in the long run • No waste residue Nuclear power – Demerits: • Non-renewable and exhaustible source • Problem of storage of waste • Danger of radiation leakage • Political hassle of the usage of nuclear power *(Any two of each)*

(ix)	• Faster and cheaper for short distance • Door-to-door service • Ideal for perishable goods • More flexible in terms of route and timings/can stop anywhere • Feeder to other mode • Ideal for inaccessible areas • Easy maintenance and construction • Negotiates steep gradient and sharp turns *(Any two*
(x)	• Political insurgence and lack of stability /terrorism/violence • Lack of well-integrated infrastructure • Lack of infrastructural facilities of global standards/sluggish growth at snail's pace • Poor safety of tourists (especially female tourists) • The problem of seasonality (climatic constrains) • India's lack of promotion/inability to sale effectively • Epidemics • Lack of sustainable models/lack of appreciation of holistic approach to tourism development/which links environment and tourism • Unplanned and unrestricted growth deprives its original charm *(Any two)*

SECTION B

Question 2

[10]

On the outline map of India provided:

(a)   Mark and name the *southernmost point* of the Indian mainland.

(b)   Mark and name the *highest peak* of the trans-Himalayas.

(c)   Mark and name the *Vindhyas*.

(d)   Mark and name the *Chota Nagpur Plateau*.

(e)   Print HP over an area experiencing *high pressure* during the *winter season*.

(f)   Trace the course and label river *Kaveri*.

(g)   With the help of an arrow show the direction and name the wind that brings rainfall over the *Gangetic Plains* during the *monsoon season*.

(h)   Shade and name the State with the *highest rural population*.

(i)   Mark and name the State which has the *highest sex ratio*.

(j)   Locate and label the *southernmost port* city in the *West Coast*.

Note: *All the map work, including legend (Index) should be done on the map sheet only.*

Comments of Examiners

(a) Majority of the candidates were able to give the correct name but were unable to mark its correct location on the map. Many candidates located the point Kanyakumari to the west of its actual location Several candidates missed out on Indian mainland and marked Kanyakumari as Indira Point. The dot made by some candidates to mark the location on the map did not touch the coastline.

(b) Several candidates, instead of marking Mount K2 marked Mount Everest. Many candidates marked Kanchenjunga, as they got confused between Himalayas and Trans-Himalayas.

(c) Many candidates marked the Vindhyas way off their actual location. Several candidates marked it over the course of the river Narmada.

(d) Majority of the candidates marked Madhya Pradesh or Andhra Pradesh or near the Mahanadi Delta or even the Ganga plains. Some candidates who got the correct location marked less than fifty percent of the area.

(e) Some candidates marked HP over central, south India or water bodies. A few candidates, instead of printing HP, shaded the area.

(f) Many candidates traced the course of the River Kaveri as a straight or a slanting line. Some candidates were unable to show the bend of the Kaveri around the Nilgiris.

(g) Majority of the candidates, instead of drawing the arrows to show the winds over the Ganga Plains, drew them either over the Arabian Sea or the Bay of Bengal. Many candidates drew the arrow over Bangladesh. A large number of candidates did not mention the Bay of Bengal branch. Some candidates also drew the jet stream.

(h) A large number of the candidates were unable to mark/shade the correct area of the state of Himachal Pradesh. Many candidates extended the area into Uttarakhand and Punjab. Some candidates shaded Punjab.

(i) Some candidates, although writing the correct name of the state of Kerala, shaded Tamil Nadu. Some candidates marked the state of Kerala with a dot.
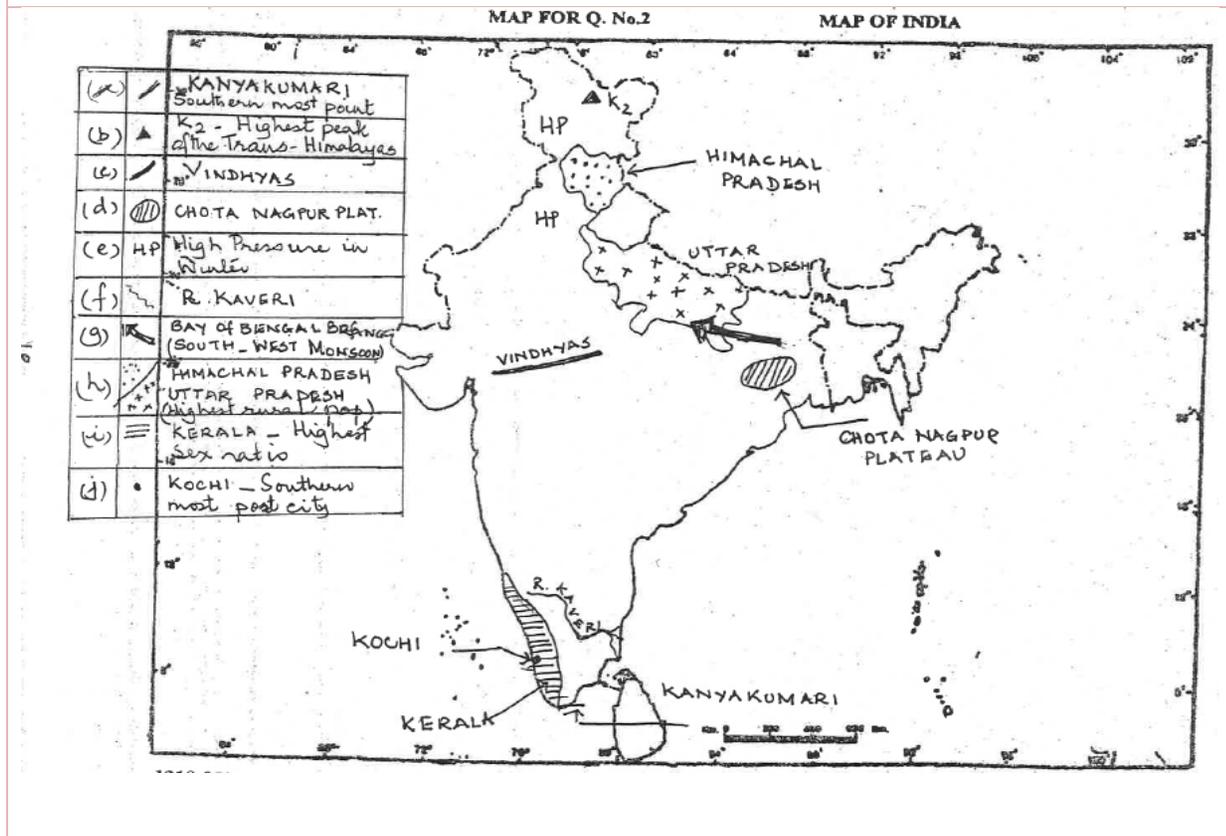
Suggestions for teachers

- Clearly show to the students the boundaries of Kerala and Tamil Nadu.
- Clarify the southernmost point of mainland India, Repiblic of India or Indian territory.
- Train students to use the arrows correctly.
- Insist upon that the names of places must be correctly spelt.
- Tell the students that the mountain range formed during the same period as the Himalayas but lying north of it, eg, Karakoram, Ladakh, Zaskar are ranges beyond the main range and are called Trans Himalayas.
- Teach the students, how, with the help of clues / indications from the coastline or bends along the border, they could locate certain features.
- Guide students that the Vindhyas do not touch the coastline but lie just north of the Narmada and the mouth of this river follows the indentation along the coastline.
- Instruct that the extent of shaded areas of plateaus, plains, states etc, should not be too large or too small.
- Give adequate practice to students to mark places / shade areas on maps.
- Teach students the correct course of the river – its source, its mouth and the important bends along it. Insist that the blue line drawn to show the course of a river must touch the coastline.
- Tell the students that the Bay of Bengal branch of the S-W Monsoon blows from the Bay of Bengal bending towards Rajasthan across the Gangetic Plains so that they are able to draw and label the arrow correctly.
- Tell the students that it is imperative for them to know the areas of the state boundaries so that the area shaded in the map is not larger than the actual area.

(j) Majority of the candidates were able to identify the port to be Kochi and marked it correctly too. Some candidates, however, marked Kochi either in Mangalore or in Mumbai.

MARKING SCHEME
Question 2

MAP FOR Q. No.2   MAP OF INDIA

(a)	/	KANYAKUMARI Southern most point
(b)	▲	K2 - Highest peak of the Trans-Himalayas
(c)	/	VINDHYAS
(d)	▦	CHOTA NAGPUR PLAT.
(e)	HP	High Pressure in Winter
(f)		R. KAVERI
(g)		BAY OF BENGAL BRANCH (SOUTH-WEST MONSOON)
(h)		HIMACHAL PRADESH UTTAR PRADESH (Highest rural (pop)
(i)	≡	KERALA - Highest Sex ratio
(j)	•	KOCHI - Southern most port city

PART II (40 Marks)

*Answer any **four** questions.*

Question 3

(a)	Give *three* differences between the *Western* and the *Eastern Himalayas*.		**[3]**
(b)	Explain the following:		**[2]**
	(i)	The Himalayan rivers are typical examples of *antecedent drainage*.	
	(ii)	Jaisalmer receives very less rainfall annually.	
(c)	Study the climatic data provided in the table below for a city A in India and answer the questions that follow:		**[2]**

City	T/R	J	F	M	A	M	J	J	A	S	O	N	D
A	T	-8	-3	2	7	15	18	17	12	10	5	0	-7
	R	10	8	8	5	5	5	13	13	8	5	0	5

	(i)	What is the cause of low rainfall in station A?	
	(ii)	Calculate the range of temperature of this station.	
(d)	(i)	State how rainfall and temperature influence the vegetation type in India.	**[2]**
	(ii)	Why are *tropical evergreen forests* not very important economically?	**[1]**

Comments of Examiners

(a) Majority of the candidates, instead of writing the differences between Eastern and Western Himalayas, wrote the differences between Eastern and Western Gha ts. Several candidates wrote only two differences. Some candidates wrote the points of Western Himalayas in the column of Eastern Himalayas and *vice versa.* In a few answer scripts the points of difference did not match.

(b)(i) Majority of candidates focussed on the rivers cutting deep gorges and did not write the most important point that rivers being *older/predate* the mountain range, that is the Himalayas. In several answer scripts, the *aspect of downcutting* and *mountain building* was unclear.

> ### *Suggestions for teachers*
> – Explain to the students, the differences in a tabular form, emphasising that points of difference should match and stated in complete sentences.
> – Clearly explain to the students that an antecedent river is older than/predates the mountain range.
> – Clarify the rate of upheaval of the mountains and the pace of down cutting by the river into the land while the river maintains its original course.
> – Explain, in detail, the path followed by the two branches of the SW Monsoon winds and their effects. Emphasise the necessity to write complete answers.

(ii) Some candidates mixed up the two branches of the SW Monsoons winds. Several candidates did not mention that the Arabian sea current blows parallel to the Aravalli. With respect to the Bay of Bengal current, a large number of candidates did not mention that the winds shed moisture continuously and almost dry up by the time they reach the Thar Desert which lies in the rain shadow region.

(c)(i) Majority of the candidates were unable to identify the specific cause of the low rainfall, that is Leh is cut-off from the rain–bearing winds as it is ringed by mountains. Many candidates did not mention that the station is located in a high-altitude region, hence, temperatures will be low resulting in low rainfall. Some candidates repeated the answer of (b) (ii).

(ii) Several candidates were unable to calculate the range of temperature. Some candidates did not write out the unit.

(d)(i) Most of the candidates were unable to explain, of how the temperature and the rainfall influence the vegetation type in India. Some candidates made the basic error of mentioning crops or cultured vegetation instead of natural vegetation.

(ii) Majority of the candidates were able to answer this question. However, some candidates were unable to apply the characteristic feature of tropical evergreen forests. A few candidates, instead of mixed vegetation or stands mentioned pure stands.

- Encourage students to examine climatic data / graphs of different stations in the country and co- relate the location with their climates
- Give adequate practice to the students to calculate the annual range of temperature from the temperature and rainfall graphs given in the text-books.
- Emphasise the importance of units.
- Provide the students with information related to temperature ranges for each vegetation type.
- Explain the differences between natural vegetation and cultured vegetation (agriculture).
- Give sufficient practice to the students to answer application-based questions.

MARKING SCHEME

Question 3

(a)	Differences between the *Western* and the *Eastern Himalayas*.

Western Himalayas	Eastern Himalayas
• Western Himalaya is in the west of 86°E/between the rivers Indus and Kali.	• Eastern Himalaya is in the east of 88°E /between the rivers Brahmaputra and Tista.
• Western Himalaya rises in a step-like manner/gradually rises from sub Himalayas to Karakoram.	• Eastern Himalaya rises abruptly from the plains.
• Western Himalaya is broader but lower in altitude.	• Eastern Himalaya is narrower, but the highest peaks occur here.
• Average rainfall is less than 100 cm in Western Himalaya.	• Average rainfall in more than 200 cm in Eastern Himalaya.
• Alpine vegetation/coniferous	• Dense evergreen forest.

(Any three)

|		
(b)	(i)	• These rivers have maintained their original course over a rising land mass. • The down cutting of the valleys kept pace with the upheaval of the Himalayas • Older/predates the Himalayas/existed before the Himalayas.
	(ii)	Located in the North Western part where: • Aravalis is aligned parallel to south west monsoon wind. • A rain shadow area is formed on the western part of Aravali for the Bay of Bengal branch • Sun baked sands prevent any condensation/desiccation of moisture/loses saturation *(Any two)*
(c)	(i)	• Low rainfall is due to very low temperature in the region. It is surrounded by mountains on all sides and is deprived of the influence of the sea. • Located in the rain-shadow area of the Himalayan ranges/By the time S.W Monsoons reaches, becomes dry • Low rainfall due to low temperature.
	(ii)	Range of temperature: maximum – minimum temperature. $$18 - (-8) = 26°C$$

(d)	(i)	Plant growth is influenced by CLIMATE *i.e.*, rainfall, temperature. Rainfall affects different varieties of Evergreen, Deciduous tree growth, Grasslands and scrub vegetation. 1. Tropical Evergreen Forests: average -24ºC and rainfall above 200 cm. 2. Tropical Deciduous or Monsoon Forest: 100-200 cm 3. Tropical Dry forests: 50-100 cm 4. Arid Forests: less than 50 cm
	(ii)	• Hard wood • Heavy wood • Difficult to transport • Dense undergrowth • Poor in roads • Occurs in mixed stand/not found in pure stand • Slow growth (*Any two*)

Question 4

(a) Why is the *dependency ratio* higher in rural areas than in urban areas? State two reasons. **[2]**

(b) Distinguish between *metropolis* and *megalopolis*. **[2]**

(c) With reference to the *linear rural settlement pattern*, answer the following: **[2]**

    (i) How does this pattern develop?

    (ii) Name *any two* areas where this pattern is found in India.

(d) Define *density of population*. What is India's density of population as per the 2011 census? **[2]**

(e) The graph below shows the percentage decadal growth rate of India for a period from 1971 to 2011. **[2]**
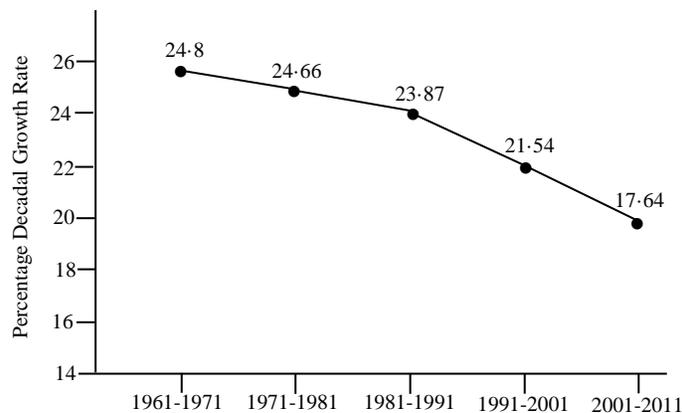
    (i) What is the unique characteristic of growth during this period?

    (ii) Explain the reason causing this uniqueness.

Comments of Examiners

(a) Majority of the candidates wrote only about the working population migrating to urban area for work without mentioning the fact that leaving behind the women, children and the old contributed to the higher dependency ratio in rural areas. Some candidates were confused between the causes of migration and its consequences.

(b) Most of the candidates, instead of writing *more than / above* 1 million and 5 million for metropolis and megalopolis respectively, simply wrote 1 million and 5 million.

(c) (i) Many candidates gave a diagrammatical answer but drew a rectangular settlement pattern. Some candidates wrote *near roads* instead of *along roads*.

    (ii) Majority of the candidates were able to answer this question.

(d) Most of the candidates confused index of concentration with density of population. Many candidates, either defined density of population as Total area of the country divided by the total population or Total population of the country divided by the total area multiplied by 100. Several candidates overlooked the concept of *Total area*. A few candidates who were able to mention the range close to 380-390 did not write the unit- *person per sq.km*.

(e) (i) Many candidates were able to identify the graph as showing growth rate but were unable to identify it as *decreasing* growth rate. Some candidates, instead of writing decreasing growth rate wrote decreasing birth rate.

    (ii) Majority of the candidates, instead of giving the reason for decreasing growth rate to be the awareness of the people of the benefits of family planning and population control, wrote reasons such as better medical facilities / improvement in literacy rate / deaths due to epidemics and diseases.

Suggestions for teachers

- Explain clearly to the students the subtle difference between the cause of migration and the cause of a higher dependency ratio.
- Emphasize the importance of writing the key words in the definitions.
- Explain the co-relation between the pattern of settlements and physical landforms through pictorial representations.
- Lay stress that an answer is incomplete and incorrect if the unit – or number/ sq km is not stated.
- Explain to the students that the density of population is expressed as number of persons per unit area and not as a percentage.
- Teach the students to read and analyze graphs.
- Explain the reasons for changes in population.
- Clearly explain to the students that birth rate depends on natural / births, while growth rate depends on natural and migratory growth.
- Empahasize that the scope of syllabus must be covered carefully and not to resort to selective study.

MARKING SCHEME

Question 4

(a)	• Birth rates are higher in rural areas compared to urban areas • Large number of adults migrate from rural areas to urban areas in search of jobs and better facilities of life • Adults who migrate to urban areas in search of jobs come back to their rural homes in old age *(Any two)*	
(b)	Metropolis is a city with a population of more than one million. Megalopolis is a city with a population of more than five million.	
(c)	(i)	Linear settlement in rural areas develops along roads**,** canals**/,** rivers, etc. or due to along coastline/, ridges, etc.
	(ii)	Northern mountains, coastal region/Manipur, Balaghat and Mandla district of MP Raigarh, Nagaland, Chotanagpur (tribal district) Jharkhand, Gujarat, Maharashtra, Karnataka, Orissa, Andhra Pradesh, Tamil Nadu, Kerela, West Bengal, North-eastern states
(d)	Density of Population is the number of persons per unit area/ratio of the total population to the total area of the country. / $\frac{Total\ Population}{Total\ Area}$ India's density of population is 382/(380-390) persons per square kilometre.	
(e)	(i)	This is the period of declining growth rate. Decadal growth started declining after 1971 from 24·8% to 17·64% in 2011.
	(ii)	This trend indicates positive attitude of the people towards population control efforts by the government. / It also highlights their own desire of small families and better standard of living.

Question 5

(a)   Mention *any two* drawbacks of *land-use pattern* in India. Suggest any one measure to improve it.   **[3]**

(b)   (i)   What is *fallow land?*   **[1]**

     (ii)   Suggest *two* farming practices which will help to reduce the extent of fallow land.   **[2]**

(c)   Mention *two* reasons why the *modern methods of irrigation* are preferred over *traditional methods of irrigation*, in India.   **[2]**

(d)   State *two* dangers of *overwatering*.   **[2]**

Comments of Examiners

(a) Majority of the candidates, instead of writing about *net sown area / area sown more than once / inefficient pasture land*, wrote about fragmentation of holdings. Several candidates did not write the relevant terms such as *consolidation of holdings, co-operative farming*.

(b) (i) Majority of the candidates confused *fallow land* with cultivable wasteland.

(ii) Some candidates repeated the answer of second part of question 5 (a).

(c) A number of candidates were able to answer this question, a few of them explained through examples. However, some candidates did not compare the modern and traditional methods of irrigation but wrote vague answers like modern methods are efficient.

(d) Many candidates did not mention the fact that overwatering impedes drainage. Several candidates did not write the technical terms such as *salinity and alkalinity*. Some candidates confused water logging with flooding and breeding of mosquitoes.

MARKING SCHEME
Question 5

(a)	Drawbacks of land-use pattern in India:
	
	• Net sown area is limited to 46.5% which needs to increase for a growing population/fallow land needs to be reduced/culturable waste should be lowered.
	
	• Area sown more than once is 35.8% of the net sown area. This is due to infertile soil, low moisture and lack of use of irrigation and fertilizers.
	
	• Forest land is 22.86% which should be 33% for proper ecological balance.
	
	• Pasture land is 3.4% or insufficient.
	
	• Small size of land holding due to fragmentation/Law of inheritance.
	
	Improvement needed:
	  • Increase in tree plantation
	  • Increase in irrigation and fertilizer
	  • Ceiling on land holding
	  • Consolidation of holdings.
	  • Cooperative farming
	  • Restriction on reckless felling of trees
	  • Land Reclamation scheme
	  • Intensity of farming

(b)	(i)	Land which was used for cultivation, but is temporarily out of cultivation
	(ii)	Proper use of fertilizers, irrigation facilities, crop rotations, crop combination.
(c)		• Proper utilization of water/No wastage of water. • Problem of waterlogging managed since in traditional methods of irrigation fields area sometimes situated in low areas which always get excess water and that leads to prolonged waterlogging ultimately resulting in poor yields. • Methods were inefficient, uneconomical, inconvenient/easy to operate • Seasonal • Cover large areas of agricultural land • Saves manual labour and time
(d)		Dangers of overwatering: • Water logging/Hard pan of salt which impedes proper drainage of soil • Soil salinization/salt effervescence • Soil alkalinisation • Soil chemical changes, continuous source of salts to soil. *(Any two)*

Question 6

(a) (i) What is *intensity of cropping?* **[2]**

(ii) Explain why there is a variation of cropping intensity in Punjab and Rajasthan.

(b) (i) Name the largest cotton producing State in India. **[1]**

(ii) What are the *geographical conditions* required for the growth of cotton? **[2]**

(c) What are the *three advantages* that Japan has over India with respect to *marine fishing?* **[3]**

(d) Name the largest producing State for each of the following minerals and also, give one use of each of these minerals: **[2]**

(i) Manganese

(ii) Mica

Comments of Examiners

(a) (i) Most candidates were unable to co-relate the concept of the number of crops raised with the time span of *one agricultural year*. Several candidates wrote either incomplete or incorrect formula relating total cropped area and net sown area.

(ii) Majority of the candidates did not realize that Punjab has high intensity while Rajasthan has low intensity. Several candidates were unable to co-relate conditions of the state with the concept of intensity of cropping. Many candidates were unable to link the arid/semi-arid conditions in Rajasthan with rainfall deficiency. Some candidates wrote that Punjab has heavy rain while Rajasthan is dry.

(b)(i) Majority of the candidates were able to answer this question. Some candidates, however, incorrectly mentioned the name of the city instead of the name of the largest cotton producing State in India.

(ii) Many candidates, instead of writing the *ranges* of temperature and rain fall wrote *average* temperatures and rainfall. Several candidates did not mention the units of measurement.

(c) Majority of the candidates were unable to compare *the marine fishing* between Japan and India. Some candidates could not specify the impact of ocean currents on plankton. A few candidates mentioned the meeting of the Kuro Shio and Oya Shio but did not mention the effect on plankton growth.

(d) Some candidates were unable to write the name of the states and the uses of both the minerals.

MARKING SCHEME

Question 6

(a)	(i)	Intensity of cropping: The number of crops raised in a field during the agricultural year (Total cropped area / net sown area) × 100
	(ii)	• Punjab has more area under crops sown more than once, due to fertile soil/, irrigation facilities/better farming techniques. • Rajasthan has low intensity due to semi-arid condition in Rajasthan and presence of sandy soil/absence of irrigation/lack of farming techniques
(b)	(i)	Gujarat/Maharashtra
	(ii)	RF = 50 to 100 cm Temperature 20ºC to 30ºC, 200 frost free days Soil – moisture retentive – Black soil/clayey/regular/ alluvial soils Ample sunshine during harvesting/200 frost free days
(c)		• Japan has a large continental shelf which is ideal for growth of fish while the shelf area is not very wide in India. • The meeting of warm Kuroshio current from the south and the cold Oya Shio current from the north creates an ideal condition for the growth of planktons which are the food for the fish. India on the other hand is a tropical country with warm water and hence no ideal condition is available for growth of planktons. • There are big corporations with modernized ships and equipment for fishing in Japan which is not there in India/Better commercialization. • The demand for fish is very high in Japan as agricultural production is low due to less land available for cultivation. Demand in India is less as a majority of people are vegetarians. • Irregular coastline and maritime conditions • Good navigators can go deep into the sea to catch fish • Better refrigeration/preservation techniques • Transportation
(d)	(i)	Odisha Use – steel making/ bleaching powder/ paints/ batteries/ insecticides/china clay
	(ii)	Andhra Pradesh Use – electrical goods, electronic industry. (Medicinal items in Ayurveda)

Question 7

(a) State *any two* advantages of railways in India. **[2]**

(b) With reference to the *Jawaharlal Nehru Port*, state the following: **[3]**

    (i) Its *hinterland.*

    (ii) Two items of *export*.

    (iii) Two items of *import*.

(c) (i) Name the city which has the *oldest artificial harbour* on the east coast of India. **[1]**

    (ii) State *two* geographical problems faced by this harbour. **[2]**

(d) State *any two* ways in which cinema can be considered as powerful means of mass communication. **[2]**

Comments of Examiners

(a) Majority of the candidates wrote an incomplete answer missing out on key words. A few candidates, instead of writing that railways are useful for long distances wrote that they are useful for short distances.

(b) (i) Many candidates named only one city like Mumbai. Some candidates named incorrect hinterlands with reference to the *Jawaharlal Nehru Port* for example, the eastern states such as Odisha, Bihar, Assam and West Bengal.

    (ii) Majority of the candidates, instead of mentioning cotton textiles as the items of export, mentioned cotton.

    (iii) Most of the candidates were unable to answer this question as they named petroleum and cotton or petroleum and crude oil as items of import. Majority of the candidates could not make a distinction between export and import.

(c) (i) Many candidates wrote Kolkata / Vishakhapatnam instead of Chennai.

    (ii) Many candidates confused Chennai's problem with that of Kolkata and wrote that silting reduces depth of the harbour.

(d) Majority of the candidates wrote only one point which they repeated in different words. Many candidates were unable to indicate the significance of cinema as a source of entertainment or that it had a valuable social influence.

Suggestions for teachers

- Focus on key terms such as bulky goods, quick and speedy, less accidents, large carrying capacity.
- Clearly explain the three means of transport with their respective advantages and disadvantages.
- Lay stress that one city cannot be a hinterland.
- Give a list of items of export and import to the students to learn.
- Explain that mineral oil, crude oil and petroleum mean the same.
- Clarify students that India imports superior quality raw cotton to manufacture cotton textiles which are then exported.
- Give a list to the students, of ports along the coast and ask them to answer indirect questions based on their salient features.
- Tell students that they need to know at least two problems for each port.
- Clarify that shallow depths are not necessarily due to silting.
- Explain the role of cinema as a powerful means of communication.
- Ensure that the students do a thorough reading of the text.

MARKING SCHEME

Question 7

(a)	Advantages of Indian Railways:	
	- Facilitates long distance travel/transport of bulky goods which are not easily transported through roadways - They are quick and speedy as well as more regular and certain - They hasten the industrialization process of a country by easy transportation of coal and raw materials at a cheaper rate - They help in quick movement of goods during emergencies such as famines and droughts - They are a safe means of transportation as the occurrence of accidents and breakdown is less as compared with other modes of transport - They encourage mobility of labour/ provide scope for employment - Their carrying capacity is large as more wagons can be connected - The cost is calculated, and the tariffs are based on the paying capacity of the traffic (*Any two*)	
(b)	(i)	Hinterland – whole of Maharashtra, Madhya Pradesh, Gujarat, Rajasthan, Delhi, Karnataka, Andhra Pradesh.
	(ii)	Items of Export – cotton textiles, leather, tobacco, manganese, machinery, chemical goods (*Any two*)
	(iii)	Items of Import – Crude oil, superior quality raw cotton, latest machines, instruments, drugs (*Any two*)
(c)	(i)	Chennai
	(ii)	- Hit by cyclones in October and November and shipping is difficult during the season. - Shallow waters hinder the entry of large ships. /lesser depth of water near the coast
(d)	- Entertains millions of people/Entertainments - A powerful audio-visual aid for conveying message to the mass/powerful means **of** mass communication. - Social, political, religious, economic, etc. issues can be dealt, and message conveyed. - National Integration/educating people - Awareness/commercial ads	

Question 8

(a) Mention *any three* factors that determine the location of an industry. **[3]**

(b) (i) What are *industrial clusters?* **[1]**

(ii) Identify *one* industrial cluster from Northern India. State *two* reasons for its growth. **[2]**

(c) Explain the following: **[2]**

(i) Weight losing raw material.

(ii) Integrated steel plant.

(d) State *any two* negative impacts of tourism on the environment. **[2]**

Comments of Examiners

(a) Most candidates wrote this part correctly. However, some candidates wrote one-word answers only.

(b)(i) This part was well answered by most of the candidates. However, several candidates mentioned a large number of industries but in some of the answer scripts the key phrase *high concentration of industries* was missing.

(ii) Majority of the candidates were unable to identify the region. Many candidates gave incomplete answers as they named only one city/centre. Several candidates wrote vague reasons for growth instead of specific reasons like source of raw material.

(c) (i) Many candidates, instead of explaining weight losing raw material, explained perishable raw material.

(ii) Majority of the candidates were unable to explain the integrated steel plant.

(d) Several candidates, instead of writing the negative impacts of tourism on the environment wrote the reasons for slow development of the tourism or hospitality sector such as lack of safety, lack of infrastructure, climatic constraints. Many candidates focussed only on pollution, ignoring other effects of tourism on environment.

MARKING SCHEME

Question 8

(a)		• Availability of Raw Material • Availability of Power • Cheap Labour • Market • Efficient Transport • Favourable Government Policy • Favourable Climate • Availability of Land and Water • Availability of capital • Banking facilities • Insurance • Political Instability *(Any three with a brief explanation)*
(b)	(i)	The pockets or regions having a high concentration of industries.
	(ii)	Cluster in Northern India – Gurugram – Delhi – Meerut region/Faridabad-Ambala – Gurgaon/Meerut-Agra-Mathura Reasons for its growth: • HEP from Bhakra Nangal project • Thermal power from Faridabad/ Panipat/Harduaganj • Rapid urbanisation of the NCR created a huge market and demand for consumer goods • Cheap labour from the migrating population /nearby areas • Good accessibility of Road, railways, airways • Large number of agro-based/ chemical industries *(Any two)*
(c)	(i)	Weight losing raw material: Raw materials that lose weight after being processed into a final product. /Large part of raw material is not utilized during processing.
	(ii)	Integrated steel plant: An iron and steel plant where mixing of raw materials, reducing, smelting, rolling, shaping, etc. are done under one single unit. /Mixing of raw materials/all processes of manufacturing are in one unit/campus/roof
(d)		Tourism if unplanned, causes: • Deterioration of the environment/acid rain has caused damage to Taj Mahal • Dumping of waste and garbage / deprives them of their original charm • Additional load on the resource of host area – Shimla, Mussoorie, Darjeeling face scarcity /lack of drinking water • Taj Mahal, Meenakshi Temple, Lingraj Temple, Udaipur Palace – have lost their charms due to unplanned constructions *(Any two)*

Question 9

(a) What is meant by *development?* What is the *geographer's perspective* to development? **[2]**

(b) Apart from the Central Level Planning, what are the other levels in the *multi-level planning?* **[2]**

(c) With reference to *Haldia Port*, answer the following questions: **[3]**

   (i) Location of the port

   (ii) Hinterland

   (iii) Reason for its development

(d) With reference to mining in Chattisgarh, name the following: **[3]**

   (i) The largest coal field.

   (ii) The largest iron-ore mine.

   (iii) A bauxite mining centre.

Comments of Examiners

(a) Majority of the candidates were unable to answer the geographer's perspective. The answers written by most candidates did not convey that a geographer's perspective of development *is a synthesis of both natural and human resources*. Several candidates repeated the meaning of development which they had written in the first part of the question.

(b) The majority of candidates were able to write only two or three levels of planning instead of the four asked for.

(c) (i) Most of the candidates attempted this part of the question well barring a few who could not:
   • state the names of rivers
   • write correct name of the river (wrote Haldia instead of Haldi)
   • write the key word / term c*onfluence*.
   • write exactly how many kilometres downstream *Haldia Port* is located from Kolkata.

   (ii) Many candidates, instead of writing the names of the states, wrote the names of cities. Several candidates wrote the incorrect names of the states.

   (iii) Many candidates wrote the reason for development of *Haldia port* that large ships can enter Kolkata port, but not Haldia port.

Suggestions for teachers

– Ensure that students must learn the keywords/terms/definitions with conceptual clarity.

– Clarify to the students the *geographer's perspective* to development in detail.

– Ask students to learn all levels of multi-level planning along with their characteristic features.

– Clarify the meaning of terms such as *confluence* and *downstream.*

– Advise students to learn the names of at least four states for hinterland with reference to Haldia port. Also clarify them a single city cannot be taken as a hinterland.

– Advise students not to do selective study and to keep referring the atlas and practice marking places/rivers on the maps.

– Insist on correct spellings of keywords/terms/names.

(d) Most of the candidates wrote the correct answers for the sub-parts (i), (ii) and (iii) of this question but the names spelt were incorrect.

– Advise students to read the question carefully and answer according to its requirement.

MARKING SCHEME
Question 9

(a)		Development means overall improvement in economic, social, political and environmental conditions of the Society.
		Geographer's perspective:
		They have a more comprehensive conceptualization of development by considering economic progress, social advancement, political development and over all environmental preservation. They seek the cause-and-effect relationship.
		• It is comprehensive and a synthesis of development of natural and human resources.
(b)		The other levels in multi-level planning are:
		(i) State Level Planning
		(ii) District Level Planning
		(iii) Block Level Planning
		(iv) Panchayat Level Planning
(c)	(i)	Location of the port – at the confluence of the Hugli and Haldi rivers about 105 km downstream from Kolkata
	(ii)	Hinterland – West Bengal, Bihar, Jharkhand, UP, Uttarakhand, Sikkim, Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Meghalaya (any 4 North-eastern states)
	(iii)	Reason for its development – To reduce the congestion at Kolkata port. It also receives large vessels which otherwise would have gone to Kolkata.
(d)	(i)	The largest coal field. - Korba
	(ii)	The largest iron-ore mine - Bailadila
	(iii)	A bauxite mining centre – Surguja, Raigarh, Bilaspur Amarkantak Plateau, Maikal Range, Durg district of Chhattisgarh *(Any one)*

GENERAL COMMENTS

Topics found difficult by candidates

- Identifying land forms from cross sections.
- Problems of agriculture.
- Challenges of the tourism industry.
- Influence of temperature and rainfall on the vegetation type in India.
- Identifying characteristic features from line graphs.
- Draw backs of land use.
- Problems created due to over watering.
- Definition of industrial cluster, weight losing raw material ,integrated steel plant, development and a Geographer's perspective to development.

Concepts in which candidates got confused

- Problems of Indian agriculture and problems of the Green Revolution.
- Differences between the Eastern and Western Himalayas and Eastern and Western Ghats.
- Comparison between Japan and India regarding fishing.
- Negative impact on tourism and challenges faced by the tourism industry.
- Reasons for higher dependency ratio in rural areas with consequences of migration.
- Questions which asked for centre, region and state.

Suggestions for candidates

- Do a thorough study of the text book regularly.
- Avoid selective study.
- Learn key words/technical terms/definitions with conceptual clarity.
- As far as possible correlate the study of physical and economic geography with maps and atlases.
- Study tables and maps thoroughly.
- Follow the scope of the syllabus religiously.
- Learn definitions verbatim.
- Mention the physical quantities like pressure, volume, temperature, rainfall, height etc. with proper units.
- Make mind maps, flow charts and tables for better retention.
- Give explanation as per the requirement of the question asked, not restrict to one-word answers.
- Solve previous years' question papers.