Analysis of Pupil Performance



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FOREWORD

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) and the Research Development and Consultancy Division (RDCD) of the Council 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.

November 2017

Gerry Arathoon Chief Executive & Secretary

PREFACE

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 <u>www.cisce.org</u>.

The document includes 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 2017 have a new 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 2017 Examinations, 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 them 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 2017 covers the following subjects: English (English Language, Literature in English), Hindi, History, Civics and Geography (History & Civics, Geography), Mathematics, Science (Physics, Chemistry, Biology), Commercial Studies, Economics, Computer Applications, Economics Applications, Commercial Applications.

Subjects covered in the ISC Analysis of Pupil Performance document for the Year 2017 include English (English Language and Literature in English), Hindi, Elective English, Physics (Theory and Practical), Chemistry (Theory and Practical), Biology (Theory and Practical), 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. Manika Sharma, Dr. M.K. Gandhi, Ms. Mansi Guleria and Mrs. Roshni George, who have done a commendable job in preparing this document. The statistical data pertaining to the ICSE and the ISC Year 2017 Examinations has been provided by the IT section of the Council for which I would like to thank Col. R. Sreejeth (Deputy Secretary - IT), Mr. M.R. Felix, Education Officer (IT) – ICSE and Mr. Samir Kumar, Education Officer (IT) – ISC.

Shilpi Gupta Deputy Head - RDCD

November 2017

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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 2017 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 2017 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.



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.

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.



PERFORMANCE (STATE-WISE)



The States of Andhra Pradesh and Rajasthan secured highest mean marks.

GENDER-WISE COMPARISON



Comparison on the basis of Gender

Gender	Ν	Mean	SE	t-value
Girls	2,538	66.1	0.29	11.01*
Boys	1,051	60.1	0.42	11.91*

*Significant at 0.05 level

Girls performed significantly better than boys.







Mean Marks obtained by Boys and Girls-Region wise



Comparison on the basis of Gender within Region									
Region	Gender	Ν	Mean	SE	t-value				
North (NI)	Girls	202	68.0	1.08	0.53				
	Boys	93	67.1	1.34	0.55				
Fast (F)	Girls	2,270	65.7	0.30	12 65*				
East (E)	Boys	919	59.0	0.43	12.05				
South (S)	Girls	15	80.7	2.35	0.10				
South (S)	Boys	8	79.8	4.35	0.19				
Wost (W)	Girls	51	75.6	1.99	3 17*				
west (w)	Boys	31	64.0	2.68	5.47				

*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 differences were observed.



MARK RANGES : COMPARISON GENDER-WISE

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

Marks Range	Gender	Ν	Mean	SE	t-value
$\mathbf{T}_{00} \mathbf{D}_{000} \left(91 100 \right)$	Girls	459	86.8	0.21	0.51*
10p Kange (81-100)	Boys	84	85.5	0.46	2.31*
Dottom Domas (0.20)	Girls	1	20.0	0.00	
Bottom Kange (0-20)	Boys	0	0	0.00	-
*Significant at 0.05 level					





Boys Girls All Candidates



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

Grades	Gender	Ν	Mean	SE	t-value
Crede 1	Girls	126	92.9	8.21	0.04
Grade 1	Boys	11	94.1	25.80	-0.04
Crede	Girls	7	27.9	9.23	0.20
Grade 9	Boys	17	30.1	6.92	-0.20

In Grade 1 and Grade 9 no significant difference was observed between the average performance of girls and boys.

Boys Girls All Candidates



QUALITATIVE ANALYSIS

PART I (30 Marks)

Answer all questions.

SECTION A

Question 1

(i) Name *one* country each which forms a frontier with India in the:

[10 x 2]

- (a) North
- (b) West
- (ii) Name *any two* standard geological eras, along with their duration.
- (iii) Mention any two differences between the Western Ghats and the Eastern Ghats.
- (iv) State *two* objectives of social forestry.
- (v) Define the following terms:
 - (a) Ribbon settlement
 - (b) Metropolis
- (vi) What is meant by *market gardening*? State *any one* importance of market gardening.
- (vii) Mention *any two* factors which influence natural vegetation of a place.
- (viii) What is *eco-tourism*? How is it promoted in India?
- (ix) Mention the locational factors which favour the growth of cement industry in India.
- (x) Name *any two* states which serve as hinterland for the Haldia port.

- (i) Many candidates provided answers like Australia, U.K., Bangladesh, Iran, etc. for countries to the (a) north & (b) west. Almost all candidates seemed to be aware of the neighbouring countries but not their direction from India.
- (ii) Some candidates confused standard geological eras with Indian geological eras. A number of candidates were confused with the duration also.
- (iii) Most of the candidates were not able to answer this part correctly. Some candidates compared the Eastern & Western Himalayas, while others compared the Eastern & Western coastal plains.
- (iv) Majority of the candidates were unable to write "protection & management" of forests. A large number of candidates did not seem to be aware of the objectives and gave general answers, e.g. planting trees, stop deforestation. Many candidates lacked understanding of rural / social / environment development.
- (v) (a) Most candidates were not able to answer this question correctly. Several candidates confused 'ribbon settlement' with linear pattern or urban sprawl and conurbation while some candidates related it to a 'star pattern' settlement.
 - (b)The most common error made by candidates was in defining a metropolis as a city with *above* one million population – not just one million. A number of candidates wrote one lakh instead of one million, others called them "metropolitan cities" with no mention of the population.
- (vi) A number of candidates defined 'market gardening' as horticulture without mentioning 'for sale in nearby urban markets' or 'profit/commercial or economic gain'. Most of the candidates answered only the first part correctly.
- (vii) Many candidates answered this part well. However, many split 'climate' into two separate points, i.e., temperature and rainfall.

Suggestions for teachers

- Teach India's neighbouring countries with the help of an atlas.
- Draw a table or a diagrammatic sketch to show the neighbours and the Indian states near borders.
- Explain the difference between the standard geological eras for the western world and the Indian geological eras created by Indian geologists for India.
- Explain components of social forestry with the help of key words and phrases.
- Follow the scope of the syllabus.
- Teach settlement pattern with sketches and sketch maps.
- Provide additional text material to students.
- Provide keywords to the students.
- Clearly explain the terms tourism, green tourism, eco-tourism, soft tourism, sustainable tourism and also explain how tourism can be promoted without disturbing the fragile eco-system.
- Teach locational factors for industries with the help of a chart. Factors must be generalised and related to specific centres.
- Guide students with the help of a map and then list names of states.

- (viii)Most of the candidates were unable to draw a difference between 'tourism' and 'eco-tourism'. Several candidates connected 'eco' with economy instead of ecology. Some candidates were unable to answer the second part of the question. A number of candidates did not mention the balance between ecology and tourism while promoting eco-tourism.
- (ix) Most locational factors were mentioned correctly by candidates, but they failed to mention that the availability of limestone was the main factor. Several candidates merely mentioned 'important factors', without naming them.
- (x) Many candidates answered this part correctly. However, a number of candidates named cities and towns instead of states.

0		MARKING S	CHEME
Que	estic	on 1	
(i)	(a)	North: China / Nepal / Bhutan	(any one)
	(b)	West: Pakistan /Afghanistan	
(ii)	Pre- Pale Mes Cen	Cambrian (over 570 million years old) cozoic (245 – 570 million years old) cozoic (66 – 245 million years old) cozoic (66 million years old)	
(iii)	Diff	erences between the Western Ghats and the	Eastern Ghats:
		Western Ghats	Eastern Ghats
	It not Ka	runs parallel to the Western Coast in a rth-south direction from River Tapi to nyakumari.	It runs in a north-east to south-west direction parallel to the eastern coast from Odisha to Nilgiri hills.
	abo	average elevation is 900 – 1100 metres	above sea level.
	It i	s a continuous wall.	It has been divided into several parts by large rivers.
	It ł	has structural unity	Structural unity is lacking in this range.
	It i flo	is the source of many large rivers which w in the Peninsular India.	No big rivers originate from the Eastern Ghats.
	It i mo cau	s almost perpendicular to the South-West onsoons coming from the Arabian Sea and uses heavy rainfall in the west coastal plain.	It is almost parallel to the monsoons coming from the Bay of Bengal and does not cause much rainfall.
	Its	average width is 50-80 km	Wider: 100-200 km
			(any two)

(iv)	Objectives of social forestry:	
	• To reduce pressure on the traditional forest areas.	
	• Developing plantations of fire-wood, fodder and grasses.	
	• Helping in environmental, social and rural development/employment.	
	Management and protection of forests.	
	Afforestation on barren land.	(any two)
(v)	(a) Ribbon settlement: When suburbs grow along major roads, rivers or	railway lines.
	(b) Metropolis: a large urban city with more than one million population	n.
(vi)	Market gardening is the commercial production of fruits, vegetables, flowers on a large scale for local market.	s and other plants
	• It helps in more income for farmers	
	• Efficient land use of small farmers	
	• It helps in developing skilled employment for mainly women folk.	
	• Many different varieties of crops are grown.	
	• Direct sale by farmers to consumers.	(any one)
(vii)	Factors which influence natural vegetation of a place:	
	• Climate	
	• Soil	
	• Drainage	
	• Relief	(any two)
(viii)	Eco-tourism: Involves promoting tourism while preserving environment places of natural beauty and taking care of the environment. Protection of t	. / Travelling to he environment.
		(any one)
	Eco-tourism is promoted in India by the development of:	
	National Parks	
	Wild Life Sanctuaries	
	• Development of tourist places or areas	
	Restoration of national heritage projects	
	• Maximize environmental and social benefits of tourism not forg development.	etting economic
	• Awareness of how man and environment can survive beneficially.	
		(any one)
(ix)	Availability of limestone and other raw materials	
	Cheap transport facility	
	• Iviarket	(any two)

(x)	•	West Bengal
-----	---	-------------

- Bihar
- Jharkhand
- Uttarakhand
- Uttar Pradesh
- Madhya Pradesh
- Chhattisgarh
- N.E. States

SECTION B

Question 2

On the outline map of India provided:

- (a) Mark and name the central longitude of India.
- (b) Mark and name the highest peak of Himalayas in India.
- (c) Mark and name the longest river of Peninsular India.
- (d) Shade and label the Meghalaya Plateau.
- (e) Mark and label Chilika lake.
- (f) Draw an arrow to show the direction of easterly jet streams over India.
- (g) Mark with a dot the capital city of Karnataka.
- (h) Shade and name the state with the largest production of groundnut.
- (i) Mark with a dot and name the centre for Garden Reach Workshop.
- (j) Mark with a dot and name the centre for Maruti automobile industry.

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

(any two)

[10]

- (a) A large number of candidates could not mark correctly. The longitude needs to run through the Godavari delta and touch Sri Lanka. The line had to be marked or drawn correctly as well as numbered.
- (b) Most of the candidates marked Mt K2 instead of Kanchenjunga as the highest peak in the Himalayas in India. Some candidates marked it incorrectly in Sikkim or way north of position while naming it correctly.
- (c) Godavari was marked correctly by many candidates. Several candidates were confused and marked the River Krishna. A few candidates merely marked a part of the river source.
- (d) Most of the candidates marked the Chhota Nagpur Plateau in place of the Meghalaya plateau. In some cases, the area of the plateau was extended covering ³/₄ of the north-eastern states or covering the Brahmaputra river. In a few cases, the plateau was extended into Bangladesh.
- (e) Most candidates identified the correct position but the colouring was incorrect it either went into Odisha or extended far into the Bay of Bengal.
- (f) Most candidates were not able to mark the Easterly Jet stream correctly.
- (g) A number of candidates named the city correctly, but the location was incorrect. Some of the candidates even marked it on the coast.
- (h) Most of the candidates did mark it correctly. However, some candidates selected the wrong state.
- (i) The dot for marking Kolkata was marked incorrectly by many candidates. At times, the dot shifted into Bangladesh or touched the coast line.
- (j) Many candidates did not attempt this part. Some candidates marked it incorrectly.

Suggestions for teachers

- Instruct students that the longitude should not be numbered as $82.5^{\circ}E$ – it is a faulty method. The central meridian of India should be numbered as $82^{\circ}30E$ or $82\frac{1}{2}$ K.
- Show students the points through which the longitude runs.
- Prepare guide maps for students. Tell students that the maps cannot be learnt by "looking" at maps – drawing and practising is a must.
- Maintain accuracy while pointing out features. Students need to be instructed to shade at least ³/₄ of the area to be shown.
- Make clear to students that while pointing out Chilka – the blue colour used should not be merged into the Bay of Bengal nor should it enter the land.
- Winds should be marked with the help of latitude – Teachers can refer to the internet to find out exact creation.
- Precise locations of cities must be shown with the help of coordinates drawn from the border or any other reference point.
- Draw guide maps for students showing borders of State.
- Location of Kolkata can be taught with reference to the river Hooghly & the coast line.

MARKING SCHEME

Question 2

Candidates were required to give a correctly labelled map showing the exact location of the regions/places asked for.

PART II (40 Marks)

Answer any four questions.

Question 3

- (a) Name *any two* physical divisions of India and state *two* characteristic features of each. [4]
- (b) Explain how the following factors affect India's climate:
 - (i) Southern Oscillation
 - (ii) Northern mountain ranges.
- (c) Study the climatic data provided in the table below for a city A in India and answer the [2] questions that follow:

City	T/R	J	F	М	А	М	J	J	А	S	0	N	D
Δ	Т	20	23	26	32	35	39	34	28	25	28	24	21
Λ	R	14	23	27	42	121	231	300	306	289	160	34	5

T = Mean monthly temperature in degree Celsius ($^{\circ}$ C).

R = Average monthly rainfall in millimetres (mm).

- (i) Mention *two* main features of the climate experienced by station A.
- (ii) Calculate the annual rainfall for station A.
- (d) Name the major region for the following:
 - (i) Tropical evergreen forests
 - (ii) Arid forests
 - (iii) Mountain forests
 - (iv) Tropical monsoonal forests

[2]

[2]

- (a) Some candidates were confused between the characteristics and the importance of the physical divisions. Candidates could not differentiate between characteristic features and significance.
- (b) (i) A number of candidates were unable to answer this part- they were able to explain the alternation of pressure of the Pacific Ocean and the Indian Ocean but missed out on the effect on India's climate - i.e. monsoons are strong/monsoons are weak. Many candidates were not conversant with the term 'southern oscillation'. Others were confused with EI Nino and Southern oscillation.
 - (ii) Most of the candidates answered correctly. However, many candidates wrote the significance or the importance of the Himalayas, which was incorrect.
- (c) Most of the candidates were unable to calculate the annual rainfall – some calculated average rainfall instead of simply adding the rainfall of the 12 months. Some missed out on the correct units – i.e. millimetres.

Suggestions for teachers

- The chief characteristic features of each physical region and their importance should be done separately for clear understanding.
- Explain how pressure difference over oceans bring about many changes in the weather.
- Separate points on climatic significance must be spelt out.
- Teach and explain calculation of relevant climatic data, such as range or average temperature, total & average rainfall. Analysis of a few climate graphs needs to be undertaken
- Explain the difference between region, state, area and centre of production or distribution of different phenomena.
- (d) A number of candidates were confused between regions and states. Some candidates named cities instead of regions.

MARKING SCHEME

- (a) Physical divisions of India:
 - 1. Himalayan Mt. Complex.
 - 2400 km extent from Indus to Brahmaputra
 - Average width of 160 400 km.
 - Consists of three parallel ranges.
 - Average altitude of 6000 metres from the sea level.
 - 2. Indus-Ganga Brahmaputra Plain:
 - 2400 km from river Satluj to Ganga delta extent.
 - Width of 150 to 300 km.
 - Formed by deposition of alluvium by river Indus, river Ganga and River Brahmaputra.
 - Maximum depth is nearly 2000 metres.

	3. Pe	ninsular plateau:
	•	An irregular triangle with base between Delhi Ridge and Rajmahal hills and apex towards Kanyakumari.
	•	Oldest landmass of India
		Average height of 600 to 900 metres
		It is surrounded by Aravallis Vindbyas Raimabal in the north Western Ghats in the
		West and eastern Ghats in the east
	•	1600 km long in the north-south direction
		1400 km wide in Fast-West direction
		It is divided into three parts by the Narmada-Tapi trough
	4. Co	bastal Plain:
	•	They are divided into two parts - Western and Eastern coast of peninsular plateau.
	•	West-coast is of average width 64 km, Eastern coast is 80 to 100 km in width.
	•	Western coast is between Western Ghats and Arabian sea while Eastern coast is between Eastern Ghats and Bay of Bengal.
	•	There are lagoons on the indented Western Coast and deltas on the smooth eastern
		coast.
	5. Th	e Islands:
	•	There are two groups of islands, Andaman-Nicobar and the Lakshadweep islands.
	•	While Lakshadweep is of coral origin, Andaman-Nicobar is of volcanic origin.
	•	Lakshadweep islands are just a couple of square kilometres in area while Andaman
		Nicobar are of 350 km area.
	•	Lakshadweep islands lie in the Arabian Sea while the Andaman and Nicobar islands
		lie in the Bay of Bengal.
		(any two physical divisions)
		(any two features of the two divisions)
(b)	(i)	Southern Oscillation: When air pressure over the Pacific Ocean is high and it is low
		over Indian ocean, the South-Western monsoons in India tend to be stronger / if it is
		low pressure over Pacific Ocean and high over Indian ocean, it is most likely to weaken
		the South Western monsoons over India.
		(any one)
	(ii)	Northern mountain ranges:
		• They protect India from the bitterly cold and dry winds of Central Asia during
		winters.
		• They check the rain bearing south west monsoon winds and force them to shed
		rainfall in India. (any one)
(c)	(i)	Features:
		• Low annual range of temperature
		• January is the coldest month and June is the hottest month.
		• Light rainfall occurs in the hot weather season due to kalbaisakhi.
		• Rain bearing winds give heavy rain during June – September months.
		Tropical cyclones
		(any two)

	(ii)	Sum of all months = 1552 mm.
(d)	(i)	 Western Slopes of Western Ghats N.E. states of India, foothills of Purvanchal/ Eastern High lands (any one)
	(ii)	 Rajasthan S.W. Punjab S.W. Haryana Some parts of Gujarat OR NW part of India. (any one)
	(iii)	 Hill ranges of N.E. India. Himalayan region / Himalayan parts of West Bengal, Bihar and Uttarakhand. Peninsular hills (any one)
	(iv)	 Western Ghats N.E. parts of Peninsular India Foothills of Himalayas Middle and lower Ganga river valley (any one)

(a)	Exp	lain any three factors that influence the spatial distribution of population in India.	[3]
(b)	Defi	ne the following terms:	[2]
	(i)	Stepwise migration	
	(ii)	Urban agglomeration	
(c)	(i)	What is meant by pull migration and push migration?	[3]
	(ii)	What are the <i>two</i> major differences <i>between rural</i> settlements and <i>urban settlements</i> ?	

(d) Study the given data and answer the following questions:

S.No.	Name of the State / Union Territory	Total Population	
		2001	2011
1	N.C.T. of Delhi	1,38,50,507	1,67,53,235
2	Uttar Pradesh	16,61,97,921	19,95,81,477
3	Bihar	8,29,98,509	10,38,04,637
4	West Bengal	8,01,76,197	9,13,47,736

[2]

(i) Identify the state with the highest growth rate of population.

(ii) Calculate the absolute growth of population for the state mentioned by you in (d)(i) above.

- (a) Most candidates wrote reasons for migration under factors that influence the spatial distribution of population in India. Some candidates provided an explanation without naming the factors.
- (b) (i) This part was answered well by most of the candidates. Some candidates explained with the help of an example, instead of providing a definition.
 - (ii) Many candidates were not aware of the meaning of 'agglomeration' and were unable to provide a complete definition.
- (c) (i) Most candidates answered this part well. Many answered /explained the meaning of push & pull factors in a generalised manner. Some candidates could not mention that 'facilities present in cities act as magnets while rural areas lack these facilities'.

Suggestions for teachers

- Ask students to avoid writing one word answers.
- Teach the text thoroughly before giving extra notes – definitions, differences etc.
- Teach using a variety of examples.
- Stress upon the use of key words and phrases.
- Explain terms, concepts listed out in scope and then teach calculations & computations.
- (ii) Many candidates were confused between rural & urban population and compact & dispersed settlements. Key words/phrases were missing in many answers e.g. minimum number of persons – 400/sq km.
- (d) Most of the candidates were unable to calculate the absolute growth rate.

MARKING SCHEME

Question 4

- (a) Factors that influence the spatial distribution of population in India:
 - Terrain plain areas encourage population, mountain regions discourage population concentration.
 - Climate extremes of climate discourage population, moderate climate encourages population concentration.
 - Soil fertile soil supports higher population while infertile soil leads to low population concentration.
 - Water bodies availability of water determines higher population concentration mainly in river valleys.
 - Mineral resources availability of mineral resources acts as an attraction for people to increase in number.
 - Industries they offer massive employment opportunities and result in higher population concentration.
 - Transport developed means of transport influence industrialisation and greater proportion of population in an area.
 - Urbanisation all cities are areas of high population concentration with the number of facilities available. *(any three)*

(b) (i) Stepwise migration:

Sometimes, people move from a village to a small town and later to a big city. Such movements are known as stepwise migration.

	(ii)	Urban agglomeration:	
		A continuous urban spread normally consisting physically contiguous towns together / with c	g of a town and its outgrowth / two or more contiguous well, recognised outgrowths.
(c)	(i)	Pull migration and Push migration:	
		Pull migration: when urban centres attract per modern facilities or livelihood.	ople from other areas due to availability of
		Push migration: when people migrate from an	n area due to lack of means of livelihood.
	(ii)	Major differences between rural settlements a	nd urban settlements:
		Rural settlements	Urban settlements
		People are mainly engaged in agriculture and other primary activities.	People are mainly engaged in secondary tertiary activities like industry, trade.
		They are of small size of $2 - 4$ houses or a few hundred homes.	They are bigger in size.
		Density of population is less than 400 persons per sq.km.	Density of population if 400 or more persons per square kilometre.
		They have population of less than 5000 persons	They have 5000 persons or more.
		Modern facilities are absent in rural areas.	They are often equipped with modern facilities.
			(any two)
(d)	(i)	Uttar Pradesh / Bihar	
	(ii)	19,95,81,477 - 16,61,97,921 = 33,383,556	

(a)	Mer	ntion any two reasons why sufficient land is not available for cultivation in India.	[2]
(b)	(i)	Give a reason for small size of cultivable land holdings in India.	[3]
	(ii)	Suggest two methods for increasing the size of land holdings.	
(c)	(i)	What is meant by <i>tank irrigation</i> ?	[3]
	(ii)	State one advantage each of the following means of irrigation:	
		(1) Tube wells	
		(2) Tanks	
(d)	Exp	lain the following:	[2]
	(i)	Watershed management	
	(ii)	Rain water harvesting	

- (a) Many candidates provided only one reason for why sufficient land is not available for cultivation in India.
 Some candidates did not know the difference between 'barren' and 'fallow'.
- (b) (i) Many candidates did not know the term "faulty inheritance laws".
 - (ii) A large number of candidates did not attempt this part. Many candidates were not familiar with the two methods i.e. 'consolidation of land holdings' and 'co-operative farming'.
- (c) Quite a few candidates were unable to describe how a tank is constructed. Many candidates confused the merits of tanks with other sources. In many cases, similar advantages of tanks and tube wells were written by candidates.
- (d) (i) A number of candidates were confused between the definitions of watershed management and rainwater harvesting. Many candidates missed out on the concept of conservation of water.

Suggestions for teachers

- Stress upon key words/phrases.
- Teaching through examples is always better.
- Whilst teaching sources of irrigation, the following format can be observed: Definition of the sources of irrigation, conditions for development, merits/demerits, leading states, advantages & disadvantage.
- Ask students to learn the complete definition, conditions, advantages and disadvantages.
- Instil in students the need to conserve valuable resources especially water.
- (ii) Most of the candidates failed to state the main objective of rainwater harvesting i.e., 'recharge of ground water'.

	MARKING SCHEME		
Que	estio	n 5	
(a)	Rea:	sons for land not available for cultivation: Barren / infertile land Non-agricultural use – settlements, transport routes Occupied by water resources, rivers, canals, tanks Unfavourable physiography – mountains, deserts. (any two)	
(b)	(i)	Reason for small size of cultivable land holdings in India:• Law of inheritance• Densely populated area.• Poverty(any one)	
	(ii)	 Methods for increasing the size of land holdings: Consolidation of land holdings Cooperative farming. 	
(c)	(i)	Tank irrigation: A reservoir for storing water / a masonry wall built across a stream for storing water.	
	(ii)	Advantage of tube wells:It can irrigate 10 hectares of land.	

		 Water can be easily lifted from greater depths An independent source of irrigation Several chemicals mixed with tube well water add to the soil fertility. 	<i>.</i>
			(any one)
		Advantages of tanks:	
		• An independent source of irrigation	
		• They are cheap	
		• Tanks have longer live span	
		• Fishing in tanks adds to farmers' income and resources.	(any one)
(d)	(i)	Watershed management: It is a process to conserve and improve water resources, increase agricultural production and stop ecological degradation/holistic development of agricultu allied activities.	l ıral and
	(ii)	Rain water harvesting: It is a technique of increasing the recharge of ground water by capturing and water locally in a sub-surface water reservoir.	storing rain

(a)	Briefly discuss <i>any two</i> problems of Indian agriculture and suggest measures to overcome the same.	[2]
(b)	State the geographical conditions favourable for the growth of:	[3]
	(i) Rice	
	(ii) Tea	
(c)	Discuss any two factors which influence growth of fishing industry in Kerala.	[2]
(d)	Name the major state in India and its one centre for the production of the following:	

- (i) Mica
- (ii) Petroleum

- (a) Most candidates were unable to correlate the problems of Indian agriculture and their solutions. Some of the measures stated were very vague. Many candidates stated poverty as a problem.
- (b) (i) Most of the geographical requirements i.e., temperature and rainfall values were incorrect. In many cases, the range was not mentioned. Many candidates wrote tropical monsoon climate as a requirement for rice. Units such as "°C" or "cm" were left out by many candidates.
 - (ii) A number of candidates mentioned geographical conditions for tea as, 'suitable in hilly areas' only.
- (c) This part was well answered by most of the candidates. However, in some cases, reasons given were incomplete and sometimes irrelevant. Key words like "indented" were omitted.
- (d) (i) Candidates were not clear about the centres and their states. Many candidates named the correct centre

Suggestions for teachers

- Make students understand various problems of Indian agriculture and their solutions – teaching through columns always helps.
- Instruct students to express values by using the correct units.
- Stress upon use of key words.
- Stress upon locating factors e.g. hill slopes for tea, flat land for rice, etc.
- Teach distribution of minerals through tables, charts & maps – Two important centres for each state.

but incorrect state and vice-versa. Many candidates omitted answering this question.

(ii) In some cases, candidates named Mumbai as the State as well as the centre.

MARKING SCHEME

Question 6

- (a) Problems of Indian agriculture:
 - Small and fragmented land holdings
 - Low yielding variety seeds
 - Low productivity of soil
 - Unreliable, erratic, seasonal rainfall
 - Huge wastage of human labour with low per capita yield
 - Soil erosion
 - Agricultural marketing by middlemen
 - Inadequate storage facilities
 - Scarcity of capital

Measures to overcome the problems:

- Consolidation of farm or cooperative farming
- Use of HYV seeds/NS Corporation/State farmers/Co. operatives
- Use of manures, fertilisers and biocides

		Irrigation	
		• Use of machinery and scientific methods of farming	
		• Effective methods of checking soil erosion by tree plantation, etc.	
		Rural cooperative marketing society	
		• Central warehousing corporation and state warehouse corporation.	
		• FCI /Grid of rural godowns/rural storage centres	
		Rural Cooperative Banks	
		• Commercial Banks/credit agencies (any two problems, two measures)	
(b)	(i)	Geographical conditions favourable for the growth of Rice:	
		• Average 24°C temperature / 22°C - 32°C temperature	
		• Average 150 cm rainfall / 150 cm – 350 cm rainfall	
		• Deep fertile clayey / loamy soil	
	(ii)	Geographical conditions favourable for the growth of Tea:	
		• $25^{\circ}C - 30^{\circ}C$ temperature	
		• 200 cm – 250 cm well distributed rainfall.	
		• Well drained deep friable loam	
		• Hill slopes for easy drain of water	
		Plenty of cheap human labour.	(any three)
(c)	The	factors which influence growth of fishing industry in India:	
	•	590 km long continental shelf	
	•	Indented coast line/lagoons	
	•	Large number of skilled fishermen	
	•	Use of mechanised boats L_{prop} local market with 60% consumption	
	•	Large local market with 80% consumption.	
	•	Modern processing and storage means.	(any two)
(d)	(1)	Mica: Andhra Pradesh - Nellore district	
		Rajasthan - Bhilwara, Jaipur, Ajmer	
		Bihar - Gaya	
		Jharkhand - Kodarma	
	(ii)	Petroleum: Gujarat – Ankeshwar / Kalol / Mehsana / Lunej / Cambay / Ku Maharashtra- Mumbai High, Bassein Assam- Digboi, Bongaigaon, Moran, Rudrasagar, Sibsagar, Hugrajuli	utch region. Naharkatiya,

(a)	(i)	How are roads classified in India?	[3]
	(ii)	Mention the different types of roads classified in India.	
(b)	(i)	In which two fields is remote sensing data important?	[2]
	(ii)	Name two satellite systems of India.	
(c)	Mer of Iı	tion <i>any three</i> geographical conditions that favour rail transport in the Northern Plains india.	[3]
(d)	Wha	at are the <i>two</i> main items of export from the following sea ports:	[2]
	(\cdot)	Manual al David	

- (i) Mumbai Port
- (ii) Vishakhapatnam Port

Comments of Examiners

- (a) (i) Most candidates could not understand the difference between types of roads and their classification.
 - (ii) The categories of roads were not explained clearly. A few candidates gave examples of national highways as their classification. Some candidates split points and mentioned N-S and E-W corridor as separate points.
- (b) (i) A number of candidates were not clear about the fields in which remote sensing data is important. Many candidates wrote one field only.
 - (ii) Candidates answered with varying degrees of accuracy. A large number of candidates wrote about the organisation instead of the satellite systems. Many candidates mentioned satellites of the USA instead of India.

Suggestions for teachers

- Mark the basis and criterion for classification given in the text.
- Differentiate between different types of roads.
- Teach topics through examples.
- Explain the cause/effect relationship between natural or economic factors and the types of transportation used.
- Emphasise the difference between 'cotton' and 'cotton textiles'.
- Explain 'import' in terms of need & requirement. Examples need to be given.
- (c) Most candidates wrote this part correctly. Some candidates could not link terrain conditions with the development of railway lines. Many candidates did not furnish three geographical conditions.
- (d) (i) Instead of writing 'cotton textiles', many candidates mentioned cotton as an item of export. A number of candidates mentioned petroleum an item of import not export.
 - (ii) Many candidates were confused between export items and import items and mentioned 'iron' as an item of export instead of 'iron ore'.

MARKING SCHEME						
Qu (a)	(a) (i) Roads are classified in India on the basis of their <u>importance</u> , maintenance and					
		administration.				
	(ii)	 Different types of roads classified in India: National highways State highways District roadways Village roads 				
		Border roads (any four)				
(b)	(i)	 Telecommunication Meteorological observation Defence 				
	()	- Space technology (any two)				
	(11)	- INSAT - IRS				
(c)	Geog • 1 • 1 • 1 • 1	graphical conditions that favour rail transport in the Northern Plains of India: Plain area Developed agricultural area Developed industrialisation and urbanization Dense population (any threa)				
	• 1	(uny unee)				
(d)	(i)	Main items of export from Mumbai Port: Cotton textiles, leather, tobacco, manganese, machinery, chemical goods, oil seeds				
	(ii)	Main items of export from Vishakhapatnam Port: Iron ore, manganese ore, spices, wood, food.				

(a)	Explain <i>any three</i> factors that have led to the growth of industrialisation in India.		[3]
(b)	(i)	Why is cement industry known as a basic industry?	[3]
	(ii)	Mention two major centres of cement industry in India.	
(c)	Discuss <i>any two</i> factors which have influenced Ahmedabad to develop as the largest centre of cotton textile industry in Gujarat.		[2]
(d)	Name the following:		[2]
	(i)	Aluminium plant at Renukoot.	
	(ii)	Iron and Steel plant at Paradweep.	
	(iii)	HAL centre in south India.	

- (iv) First IPCL centre for Petrochemicals.

- (a) Very few candidates attempted this question. Some candidates mentioned climate as a factor. Some mistook 'factors for the growth of industrialization' with 'distribution of population'.
- (b) (i) Many candidates were unfamiliar with the term

 basic/key/core. Some candidate were not able to link or give a proper reason for the importance of the cement industry.
 - (ii) Instead of centres, many candidates gave names of states irrelevant to the industry. Others were confused with the centres of the cement industry or could name only one centre.
- (c) In this part, most of the candidates wrote vague answers. They were not able to state the source areas.
- (d) Majority of the candidates were not able to answer this part correctly.

Suggestions for teachers

- Factors responsible for the growth of industries and need for rapid industrialization should be clarified.
- Explain the importance and significance of all industries
- Clearly explain classification of industries according to various factors, with their definitions.
- Teach distribution of industries in different states in different centres in a tabular form.
- Teach through maps.
- Insist that specific names for source regions is mandatory.
- Follow scope of the syllabus
- Encourage students to do detailed study.
- Teach in detail abbreviation forms and the location of each iron and steel producing centre Eg. TISCO, POSCO, VISL etc.

MARKING SCHEME

- (a) Factors that have led to the growth of industrialisation in India:
 - Sufficient raw materials
 - Sufficient power resources
 - Cheap and efficient transport facilities
 - Cheap and plentiful skilled labour
 - Large domestic and international market
 - Climate
 - Land and water
 - Capital
 - Banking facilities/credit
 - Insurance
 - Government policy
 - Political stability
 - Industrial inertia

- (any three)
- (b) (i) Cement industry is known as a basic industry, due to its importance in building and construction work.
 (ii) Major centres of cement industry in India:

		• Katni	
		• Kymore	
		• Satna	
		• Maihar	
		• Jamul	
		• Banmore	
		• Gopalnagar	
		• Durg	
		• Mandhar	
		• Cement nagar	
		• Krishna	
		• Vijayawada	
		• Karimngar	
		• Lakheri	
		Sawai - Madhopur	
		• Udaipur	(any two centres)
(c)	Facto	ors which have influenced Ahmedabad to develop as the largest cer	ntre of cotton textile
	indus	stry in Gujarat:	
	•	It lies near the main cotton belt of India.	
	•	Humid climate	
	•	Cheap hydro-electricity is readily available	
	•	Cheap and skilled labour is readily available	
	•	Well served by a network of railways and roadways.	
	•	Cheap land prices	
	•	Cost of living is low	
	•	Most of the mills produce cheap cloth with ready market	
	•	Port facilities of Kandla.	(any two)
(d)	(i)	Aluminium plant at Renukoot: HINDALCO	
	(ii)	Iron and Steel plant at Paradweep: POSCO	
	(iii)	HAL centre in south India: Bengaluru	
	(iv)	Centre for Petrochemicals: Vadodara	

(a)	(i)	What is a <i>planning region</i> ?	[5]
	(ii)	Mention two characteristics of a planning region.	
	(iii)	Distinguish between multi-level planning and single level planning.	
(b)	Men <i>capit</i>	tion <i>any three</i> factors which have led to the emergence of Bengaluru as the <i>electronic tal</i> of India.	[3]
(c)	Nam	e the mineral for which Chhattisgarh is the only producing state in India.	[1]
(d)	Nam	e the city that is located 105 km upstream from Haldia.	[1]
		29	

- (a) (i) Very few candidates could define 'planning region' correctly. Key words were missing in many answers.
 - (ii) Most of the candidates mentioned characteristics of planning regions correctly.
 - (iii) Many candidates were unable to distinguish between multi-level and single level planning. Key words/phrases such as 'a variety of regions' and 'centralized' were missing in many answers. Some of the candidates were confused with 'multi-level' planning.
- (b) Many candidates wrote about the electronic goods manufactured in Bengaluru as a factor which is not correct. Several candidates could not describe the transport linkages of Bengaluru with the surrounding important ports and towns. There were several repetitive answers.
- (c) Few candidates could answer 'Tin' as the mineral for which Chhattisgarh is the only producer. Many named coal, iron ore, dolomite, etc.
- (d) A few candidates were confused and gave wrong answers for this part.

Suggestions for teachers

- Break up long winded definitions into simple parts to help students learn easily.
- Help by ticking a few simple characteristics or points of significance which students can memorize easily.
- Definitions need to be highlighted and explained, so that students can memorize and compare/differentiate in a lucid manner.
- Explain the difference between geographical or natural factors and non - geographical factors.
- Clarify terms such as, upstream and downstream.

MARKING SCHEME

- (a) (i) Planning region:
 - Planning region is a self-created living organism, having a life time, which not only supports the life in the region, but also radiates unifying forces that enable the region to be a unified regional space so as to facilitate the practice of regional planning.
 - Planning region is a living organism in which the whole is related to parts in the same way as parts are related to the whole.
 - Planning region is an unit of area which is distinguishable from another area by the display of some unifying characteristics of its own- natural or man made
 - Distinguishable unit area due to its own characteristics, yet do not exist in isolation from the spatial whole
 - Planning region is an areal unit which is deemed fit for the purpose or regional planning and is a distinctive area in itself while being a part of the spatial whole. *(any one)*

	(ii) Characteristics of a planning region:			
		• Its size should be neither too big nor too small.		
		• Its boundaries should be flexible		
		• Its shape should be contiguous and compact		
		• There should be natural cohesion.		
		• It should have economic harmony.		
		• There should be social harmony.		
		• Functional unity		
		• Similarity of its problems		
		Regional consciousness		
		• Administrative convenience. (any two)		
	(iii)	• Multilevel planning is planning for a variety of regions which together form a system and subordinate systems/ divided into territorial units.		
		• Single level planning is when planning is done at the national level/ planning process is centralised		
(b)	(i)	Incentives by the State and the Central government		
		• Strategic location of the city in the middle of the Indian Peninsula		
		Close network of roads and railways/ connectivity		
		• Large number of Indian and multi-national companies have invested large sums of		
		money to nourish industries in the city.		
		• Unique advantage of being the capital city of Karnataka. (any three)		
(c)	The	The mineral for which Chhattisgarh is the only producing state in India: Tin		
(d)	The	The city that is located 105 km upstream from Haldia: Kolkata		

GENERAL COMMENTS

Topics found difficult by candidates	 Question 2 (f): Marking the direction of the easterly jet stream. Question 1(ii): Standard geological eras & their duration. Question 1(iv): Objectives of social forestry Question 1(vi): Market gardening. Question 2 (c): Calculation and analysis in climate graphs/data. Question 4 (d): Calculation and analysis related to population data. Question 6 (d): Confusion with states – centres & region for distribution of minerals, etc. Question 7 (a): Classification of roads. Question 9 (a): Definition of regions and multi-level planning.
Concepts in which candidates got confused	 Single level planning and multilevel planning Eastern & Western Ghats with Eastern & Western coastal plains Ecology and Eco tourism effects Southern Oscillation and El Nino Rain water harvesting Water shed management Rural - Urban settlements and rural-urban population. 'Cotton' & 'Cotton Textiles' as export items from Mumbai port & 'Iron' & 'Iron Ore' as export items from Vishakhapatnam. Classification of roads.
Suggestions for candidates	 Regular study is a must. Go through text thoroughly line by line. Learning key words is essential. As far as possible teaching and studying physical and economic geography must be correlated with maps and atlases. Study tables and maps thoroughly. The scope needs to be followed carefully as some terms may not be there in the book followed. Do not neglect Map work. Learn definitions – verbatim Mentioning units (for temperature, rainfall, heights) is a must. Learn from points, tables, charts. Explanation and discussion should be complete & should not be restricted to one word. Read carefully previous year's question paper Avoid selective study.