



TRAINING MANUAL

—
**FOR PARTICIPATION
IN INTERNATIONAL
GEOGRAPHY OLYMPIAD**

By Ishaan Mangla



CONTENTS

Foreword	5
Significance of Geography in Current Times	7
Make IGEO Your Goal	9
What Is the International Geography Olympiad?	10
Student Program Schedule	18
Topics You Need to Study	23
Physical and Human Geography Guidelines for The Tests and Helpful Tips	24
Cartography Guidelines and Helpful Tips	27
Suggested Books for Study Material	32
Planning and Preparation	36
• Written Response Test	36
• Fieldwork Exercises 1	41
• Multimedia Test	46
• Fieldwork Exercises 2	47

FOREWORD

Geography is an integrating human geoscience. It discovers, explores and incorporates physical and cultural landscapes on the Earth surface. Geography is the most relevant study of our times as there is a dire need to address global societal issues as never before. Environment and climate change, contagious outbreaks, and economic collapse preoccupy a large part of narratives about human survival. As a result, we experience that our lives are increasingly unstable and precarious where our future seems uncertain. Social science education is as vital to human development as the natural sciences. Theories of space, scale, location, place etc. allow geographers to critically analyze change in both human and physical environments and offer urgent resolutions.

In the year 2017, India has achieved the first major milestone by participating in the International Geography Olympiad, a major platform for aspiring young geographers, who wish to pursue studies and intellectual development in the field of geography. Mr. Ishaan Mangla, the first participant of India on this platform has demonstrated tremendous passion, potential and perseverance to develop the path which makes way possible for future participation of new aspirants.

Mr. Ishaan Mangla has paved the way forward for future torch bearers by documenting his experiences and learning in this very comprehensive training manual. I find this booklet to be a wholesome resource to plan, prepare and train the reader to effectively participate on this prestigious platform.

I compliment Mr. Ishaan Mangla for this great achievement and at the same time his commendable effort to ensure that the legacy is carried forward to have the Indian flag flying high in this field.

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SIGNIFICANCE OF GEOGRAPHY IN CURRENT TIMES

We live in a world of amazing beauty, infinite complexity and rigorous challenge. Geography is the subject which opens the door to this dynamic world and prepares each one of us for the role of global citizen in the 21st century. Through studying geography, people of all ages begin to appreciate how places and landscapes are formed, how people and environments interact, what consequences arise from our everyday decisions, and what a diverse range of cultures and societies exist and interconnect. Geography is a subject which builds on young people's own experiences, helping them to formulate questions, develop their intellectual skills and find answers to issues affecting their lives. It introduces them to distinctive investigative tools such as maps, fieldwork and the use of powerful digital communication technologies. It opens their eyes to the beauty and wonder around them and acts as a source of inspiration and creativity. More than this, it ensures that they appreciate the complexity of attitudes and values which shape the way we use and misuse the environment. Through geography, people learn to value and care for the planet and all its inhabitants.



MAKE IGEO YOUR GOAL

The International Geography Olympiad provides a unique competitive platform to identify young geniuses and create a talent pool for the future generations. It brings out the best in you and will help cultivate a kind of analytical reasoning thinking ability in students which is useful in any examination. In addition to this, it hones up your problem solving skills, thinking capacity, and understanding, level of knowledge and overall development of any student.

Striving for excellence is an important part of any student's life. It involves trying to put quality into everything you do, and this attitude tends to separate the achievers, who make rapid strides in their educational career from others. Excellence is about stepping outside the comfort zone, training with a spirit of endeavor, and accepting the inevitability of trials and tribulations. Progress is built, in effect, upon the foundations of necessary failure. This is the essential paradox of expert performance. When these conditions are in place, learning takes off, knowledge escalates, and performance soars. You are on the path to excellence.

People who believed that they could achieve a certain goal generally do so in 80% of cases whereas people who do not believe they can achieve their goal only achieved it 20% of the time. Optimists are found to put in more effort, more persistence and acted more creatively to find ways to overcome problems

The greatest challenge I have undertaken is participating in the IGEO without any formal training. I did this by working very long hours. I planned my year by reading a great deal not only about geography as a subject but also about the Olympiad, using websites to research about the event & speaking to students who had taken the exam previously from 1-2 other countries. I urge you all to make IGEO your goal and not settle for anything less as- "There is no greater fulfillment as the pursuit of dreams" - Lailah Gifty Akita

Best of luck,
Ishaan Mangla

THE INTERNATIONAL GEOGRAPHY OLYMPIAD (IGEO) IS AN ANNUAL COMPETITION FOR THE BEST 16 TO 19 YEAR OLD GEOGRAPHY STUDENTS FROM ALL OVER THE WORLD.

WHAT IS THE INTERNATIONAL GEOGRAPHY OLYMPIAD?

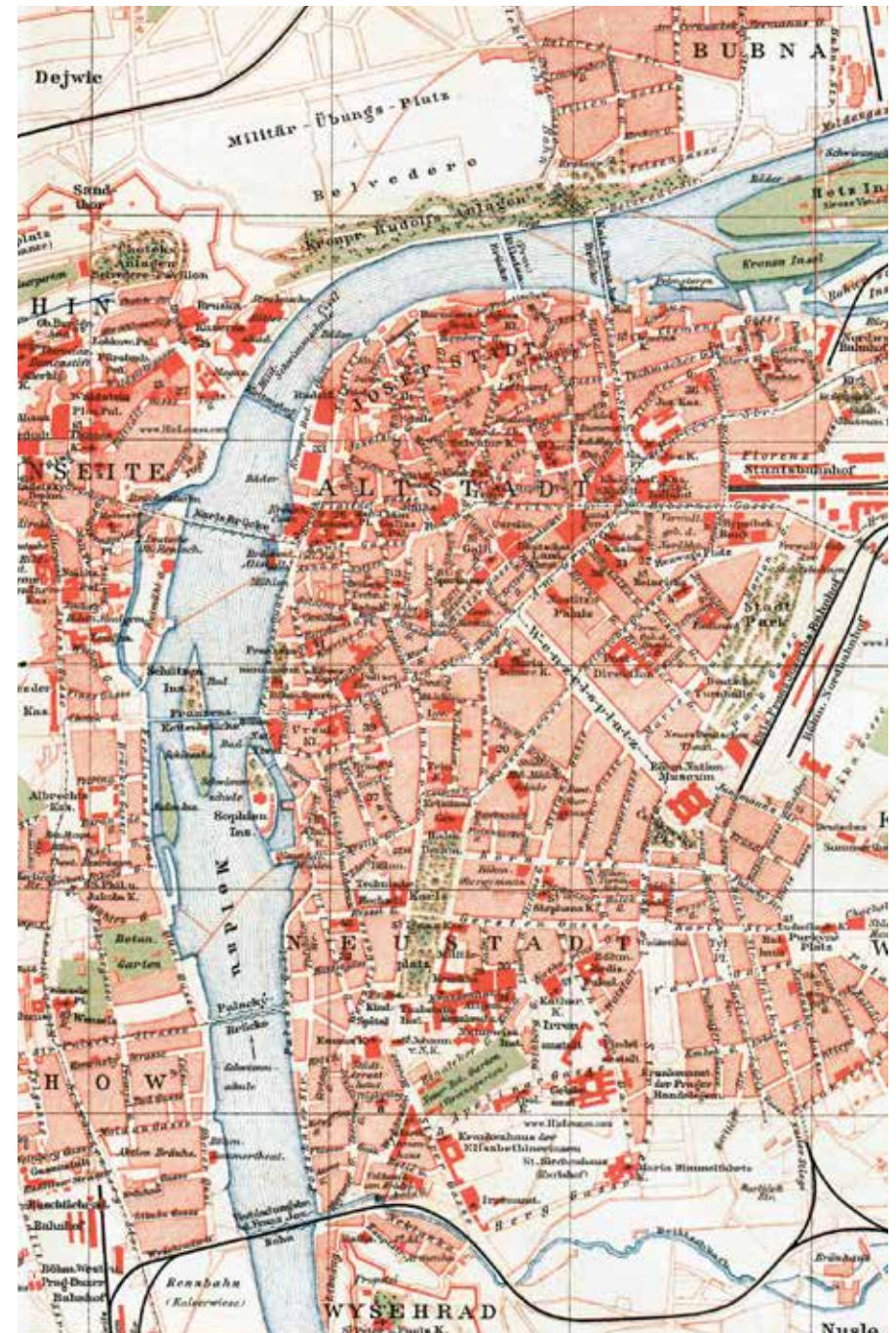
The International Geography Olympiad (iGeo) is an annual competition for the best 16 to 19 year old geography students from all over the world. Students chosen to represent their countries are the very best, chosen from thousands of students who participate enthusiastically in their own National Geography Olympiads. The iGeo consists of three parts: a written test, a multimedia test and substantial fieldwork requiring observation, leading to cartographic representation and geographical analysis. The programme also includes poster presentations by teams, cultural exchanges, and time for students to get to know their fellow students and explore the host city.

WHAT IS THE OBJECTIVE OF THE OLYMPIAD?

The Olympiad is held under the auspices of the International Geographical Union (IGU) and organized by the IGU Olympiad Task Force. The aims of the Olympiad are to: stimulate active interest in geographical and environmental studies among young people; contribute positively to debate about the importance of geography as a senior secondary school subject by drawing attention to the quality of geographical knowledge, skills and interests among young people; facilitate social contacts between young people from different countries and in doing so, contribute to the understanding between nations. The Olympiad consists of a competition, social activities and excursions. The Olympiad competition is in three parts: a written test, a multimedia test and a substantial fieldwork exercise. The Olympiad is a competition between individual students who are between 16 and 19 years old and selected through a national geography competition. The official language of the Olympiad is English.

THE HISTORY

During the 1994 IGU Congress in Prague, geographers from Poland and the Netherlands launched the idea of an International Geography Competition (iGeo) or Olympiad for students between 15 and 19 years of age. The first iGeo was held in 1996 in The Hague, The Netherlands, with five participating countries, the second in 1998 in Lisbon, Portugal, and the third in 2000 in Seoul, South Korea, with 13 teams participating. The 2002 IGU congress in South Africa hosted the fourth iGeo in Durban, with 12 teams participating. Sixteen countries took part in the fifth iGeo in 2004 in Gdansk, Poland. The sixth was in Brisbane, Australia, in 2006 with 23 teams participating. In 2008 in Carthage, Tunisia, 24 teams participated in the seventh iGeo. The 2010 iGeo was in Taipei with 27 teams. At the ninth Olympiad in 2012 in Cologne, Germany, there were 32 teams. Up until 2012, the Olympiads were held every two years. In the intervening years some regional Olympiads were held. These included the Central European Regional Geography Olympiads, and the Asia Pacific Regional Geography Olympiad held in 2007, 2009 and 2011. The IGU decided to have Regional Conferences every year between the 2012 Congress in Cologne and the 2016 Congress in Beijing. In 2013, 32 teams completed in the 10 International Geography Olympiad at Kyoto, Japan. The eleventh Olympiad was held in 2014 in Kraków, Poland with 36 teams. The twelfth 2015 Olympiad was offered in Tver, near Moscow in Russia. The thirteenth 2016 Olympiad was held in Beijing, China with 45 teams and the 2017 Olympiad was held in Belgrade, Serbia with 41 teams. In 2018, the iGeo will be in Quebec, Canada.



THE PARTICIPANTS

Each participating country, as defined by IGU Statute II A, sends a team of up to four students. They must be students of secondary schools (general or technical), or ex-students who finished school in the year of the Olympiad and have not yet commenced regular education at university level on 30 June of the year that the Olympiad takes place. Their ages must be between 16 and 19 years old (inclusive) on 30 June of the year that the Olympiad takes place. Students must be able to answer test questions in the official language of the Olympiad (English). Extra facilities such as the use of a language dictionary, translations of selected geographic terms from the tests, and extra time for long written tests, are given to students except to native English speakers and to those educated in English. Students must be selected through a national geography competition. Students selected through this national competition must be enrolled in the school system of the country they represent. They do not necessarily have to be citizens of that country. Students who participate more than once gain selection each time through their national competition. Students must answer the test questions independently, unless a test explicitly states that group work is allowed. Violation of this provision shall result in disqualification of the student from the Olympiad. A student may participate in an Olympiad no more than twice. In addition to the students, two adult team leaders are invited. They must be involved in geography teaching or geography in education in their country. Each of them must be able to speak and write the official language of the Olympiad (English). One leader has membership of the International Board. S/he shall maintain absolute security about the contents of any test until after that particular test has taken place. S/he is eligible to participate on one of the jury panels, vote on the Statutes, review marking guidelines, translate geographic terms, etc. The other leader is the person responsible for the students. S/he may also assist in supervision of the tests and other activities related to the Olympiad. Both leaders have equal rights at the event evaluation meeting of team leaders, which takes place at the end of the Olympiad. The organizers of the next two Olympiads may each send an observer. Observers may be present at meetings of the International Board, but may not vote.

THE TASK FORCE AND THE INTERNATIONAL BOARD

The long-term work involved in organizing the Olympiad is coordinated by the Task Force. Members of the Task Force are the chair and the organizers of the immediate past, the present and the next two Olympiads. The Task Force may co-opt up to four additional International Board members to serve on the Task Force. The chair of the Task Force is appointed by the International Geographical Union General Assembly on the advice of the IGU Executive Committee. This advice takes into consideration the recommendation of the incumbent Task Force chair, following a vote by the International Board. The chair of the Task Force is appointed for a 4 year term. An incumbent chair may be re-appointed no more than once. Note that two people may assume the role of chair as co-chairs, with their rights and responsibilities defined as if they were a single chair. The Task Force: takes the lead in organizing an efficient and high-quality Olympiad; promotes the Olympiad worldwide; stimulates national geography competitions; defines the areas, themes and geographical skills to be included in the Olympiad; maintains an up-to-date Olympiad website; works in consultation with the International Geographical Union and its Commission on Geographical Education; seeks funds to organize the International Geography Olympiad. The International Board consists of one adult leader of each country participating in the present or last Olympiad. The chair of the Task Force chairs the meetings of the International Board. Decisions of the International Board are passed by a majority vote. The chair has a casting vote. Members of the Task Force have the right to attend meetings of the International Board but, apart from the chair's casting vote, only have a vote if they are a country's representative. The decisions of the International Board are final. The International Board has the following responsibilities: help the Task Force and local organizer to conduct the Olympiad according to the Statutes; ascertain that all the competitors meet the requirements of the Olympiad in all respects. The Board shall disqualify those competitors who do not meet the requirements. The costs incurred by a disqualified competitor shall be covered by his/her country; prepare the Olympiad's assignments and tasks, this function to be carried out by subsets of the International Board and other seconded educators acting as committees working with the Task Force; maintain and preserve confidentiality concerning the assignments and tasks and offer no assistance to any participant; mark the students' test assignments, this task to be carried out by subsets of the International Board and other seconded educators acting as juries. The relevant marking jury, in consultation with the Olympiad Task Force, makes the final determination on students' marks for individual questions; ensure correct and just classification of the prize winner's summaries the results of the Olympiad; select the country to organize the next Olympiad.



THE OLYMPIAD TESTS

The tests of the Olympiad are as follows: The marks assigned for the Olympiad are: written test (40% of total marks), multimedia test (20%) and fieldwork exercise (40%). The three test elements are preferably organized on different days, which may be any day of the week. Past examples of questions are included on the Olympiad website. Students complete test assignments individually. However, preliminary data collection in the fieldwork exercise, may be carried out in national teams, with all test questions completed individually. The tests are based on the guidelines drawn up by the Olympiad Task Force. Olympiad assignments test both knowledge and skills in geography. The Olympiad assignments are prepared by committees under the supervision of the Olympiad Task Force. Students must produce their answers in the official language of the Olympiad (English). Students who do not commence a test for whatever reason will be awarded no marks for that test. Students who commence but do not complete a test due to circumstances beyond their control, will have their mark for that test determined by the Olympiad Task Force, after consultation with that test's marking jury and the International Board. All students receive a certificate. Approximately 50% of the participating students receive a medal. Medals are awarded in the approximate ratio of gold 1: silver 2: bronze 3. The results are announced and the awards and diplomas presented to the winners at an official ceremony during the Olympiad.



THE FINANCIAL PRINCIPLES

The country which sends the students to the Olympiad pays the return travel, insurance and, if applicable, visa costs of the students and of all accompanying persons to the place at which the Olympiad is held. A fee is held to the local organizer for each student and adult as a contribution to other costs. The local organizer covers all other expenses incurred in holding the Olympiad.



FINAL REGULATIONS

Changes to these Statutes can only be made by the International Board and require a qualified majority (2/3 of the votes). No changes may be made to these Statutes unless each delegation participating in the present or last Olympiad is sent the proposed revision by email at least two months in advance. The International Board may conduct such votes in person or by post, fax or email. Participation in an International Geography Olympiad signifies acceptance of the present Statutes by the Ministry of Education or other institution responsible for sending the delegation. The original and definitive version of these Statutes is written in English.

STUDENT PROGRAM SCHEDULE 1-8 AUGUST

1 August, Tuesday

(Early Arrival Day)

2 August, Wednesday

(Arrival Day)

14:00 - 16:00	Lunch
16:00 - 17:00	Free Time
17:15	Bus Transfer to the opening ceremony venue
18:00 - 19:30	Opening Ceremony at the National Theatre
19:30	Bus Transfer from the Opening Ceremony
19:45	Dinner
20:00 - 23:30	Free Time

3 August, Thursday

07:00 - 08:00	Breakfast
08:15	Transfer of students to 'SINGIDUNUM' University
09:00 - 13:00	Written Response Test
13:15	Bus Transfer to accommodation locations
13:45 - 14:30	Lunch
15:45 - 16:45	Sightseeing of Belgrade in an open bus: group 1
17:00 - 18:15	Sightseeing of Belgrade in an open bus: group 2
18:30 - 19:30	Dinner
20:00 - 21:00	Field Work Briefing

4 August, Friday

07:00 - 08:00	Breakfast
08:15	Bus transfer to FWE location
09:00 - 13:00	Fieldwork Exercise Part 1
14:00	Return of students from fieldwork locations
14:30 - 15:30	Lunch
15:30 - 18:00	Free time
18:30 - 19:30	Dinner
20:00 - 22:00	National Folklore Concert Night

5 August, Saturday

07:00 - 08:00	Breakfast
08:15	Transfer of students to 'SINGIDUNUM' University
09:00 - 12:00	Fieldwork Exercise Part 2
12:15	Bus Transfer to accommodation locations
13:00 - 14:00	Lunch
14:30 - 18:00	Free time
18:30 - 19:30	Dinner
20:00 - 22:00	Poster Presentation

6 August, Sunday

07:00 - 08:30	Breakfast
08:45	Transfer of students to 'SINGIDUNUM' University
09:30 - 10:30	Multimedia Test
11:00	Bus Transfer to accommodation locations
12:30 - 13:30	Lunch
14:00 - 18:00	Excursion: Avala Tower, Monument to the unknown Hero
19:00 - 20:00	Dinner
20:30 - 23:00	Culture Evening (National Team Presentations)

7 August, Monday

07:30 - 08:30	Breakfast
09:00 - 17:30	Excursion: National Park Fruska Gora; Carska Bara; Idvor; Novi Sad- Petrovaradin Fortress
18:00 - 19:30	Free time
19:00 - 21:00	Dinner
21:00 - 22:30	Closing and Awarding Ceremony
22:30 - 24:00	Concert for students and volunteers

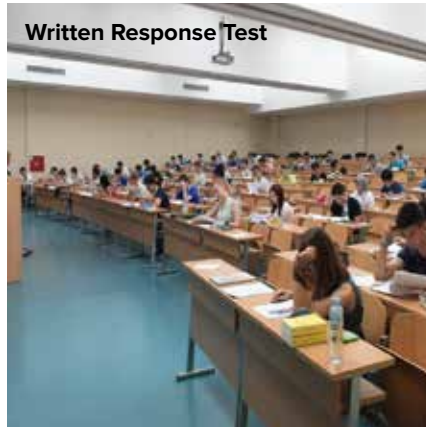
8 August, Tuesday

07:00 - 08:00	Breakfast
09:00	Post iGeo Fieldtrip
12:00 - 24:00	Departures (Transportation provided for all participants)

Opening Ceremony



Written Response Test



Poster Presentation



Poster Presentation



Sightseeing Trip



Field Work Exercise 1



Multimedia Test



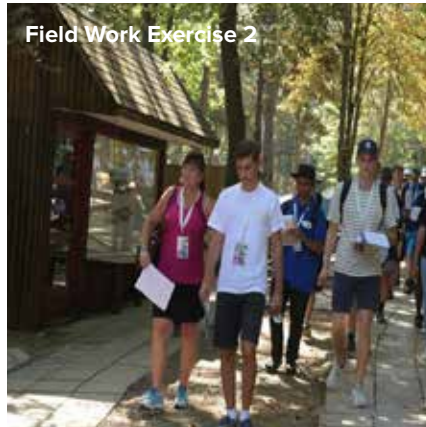
Excursions



National Folklore Night



Field Work Exercise 2



Closing Ceremony



Closing Ceremony





TOPICS YOU NEED TO STUDY

—

These guidelines will help you to properly prepare for Olympiads.

The topics from which the questions in the Written Response Test and Multi Media Test will be:

1. Climate & climate change
2. Hazards & hazard management
3. Resources & resource management
4. Environmental geography & sustainable development
5. Landforms, landscapes & land use
6. Agricultural geography & food problems
7. Population & population change
8. Economic geography & globalization
9. Development geography & spatial inequality
10. Urban geography, urban renewal & urban planning
11. Tourism & tourism management
12. Cultural geography & regional identities

You will be required to have

13. Map skills
14. Inquiry skills
15. Graphically skills (read, analyses and interpret images, photos, statistics, graphs)

Examples of previous tests are available on the iGeo website under the relevant past iGeo.

PHYSICAL AND HUMAN GEOGRAPHY GUIDELINES FOR THE TESTS AND HELPFUL TIPS

TEST STRUCTURE:

A. The Written Response Test

1. Consists of 6 topics (about 20 - 25 min. per topic):
About issues that are geographically and socially relevant that require topical and applied Geographical knowledge and geographical skills and deal with physical and human geography, preferably integrated
2. Each topic has several resource materials such as maps, photos, graphs, and statistics
3. Each topic consists of several questions:
They are based on the resource materials; they range in length from short answer to Paragraph Length; they may involve completion of a matrix or a table; they may involve the Manipulation of data (e.g. from tabular to graphic form)
4. 40 items (about 1 - 2 min. per item, depending on complexity of source material)
About issues that are geographically and socially relevant that require topical and applied geographical knowledge and geographical skills and deal with physical and human geography.
5. Each item consists of a map and/or digital photo, film or graph and a short question
6. The question is a multiple-choice question with 4 options
7. The test will cover all 12 topics from the list
8. There is a balance between physical and human geography in the test.

B. Multi Media Test

For the multi media test they are looking for questions that require basic geographical thinking skills, where the contestants analyses information in maps, diagrams or photographs. Thus, the multi media test is not intended to test the ability of the contestants to reproduce geographical facts but to test their skills in geographical analysis. Another reason to stress skills instead of knowledge, is the fact that the geography curricula in the participating countries vary considerably.

C. Fieldwork Exercise

The Fieldwork Exercise consists of:

1. Observation and mapping
2. Analysis of spatial issue in fieldwork area including additional data gathering
3. Problem-solving exercise leading to a proposal including a spatial plan or map

STEP 1 - A mapping exercise of (a part of) the fieldwork area

Required Skills:

- Observe
- Name the observed phenomena
- Locate the phenomena on the map
- Use appropriate graphic symbols
- Describe the phenomena in the map key, use scale and orientation. Students could for instance be provided with a base map and asked to add information to it using appropriate cartographic skills.

STEP 2- In the fieldwork area there is a (real or hypothetical) spatial problem that will be presented to the participants. The case relates to physical and/or environmental planning. The case/problem will be introduced and documented to the participants as well as the procedures and conditions for working on the problem-solving exercise. This can be done in a number of ways: a presentation, a workshop, and short excursions to the fieldwork area (or a similar area), gathering additional data in the field, etc.

STEP 3 - On the basis of the mapping exercise and the analysis of all the information about the case, the participants have to design a spatial plan (map) that tackles the problem presented, and give an explanation of the choices made. The explanation needs to show that the participant has understood the nature of the problem and made connections between the properties/qualities of the fieldwork area and the suggested spatial plan. In the explanation the use of graphic material (diagrams, photos, graphs, and statistics) is preferred over lengthy texts. The map (spatial plan) is mandatory; the choice of the nature of the additional information is up to the participants.

It will be marked as below:

1. The result of the mapping exercise: a map of (a part of) the fieldwork area
2. The result of the problem-solving exercise: this includes a short analysis of the nature of the problem, objectives of the proposal, visualization of the proposed solution in the form of a map or plan, an explanation and underpinning of suggested plan/measures/activities.

Required skills:

- Mapping skills (read, analyze, interpret and produce maps)
- Inquiry and problem solving skills
- Graphically skills (read, analyze, interpret and produce images, photos, statistics, graphs)



CARTOGRAPHY GUIDELINES AND HELPFUL TIPS

These notes provide guidance on cartographic skills that will be useful in the International Geography Olympiad (iGeo) that runs under the auspices of the International Geographical Union. The notes are general, and should not be regarded as your sole source of information on cartographic skills. The guidelines draw on two sources, *Cartography: An Introduction (CAI)* and the *Diercke International Atlas (DIA)* and page references to these are given below. However, students may instead check the cartographic topics outlined below in books already available to their leaders, for instance, in textbooks and in the introductory material of atlases.

If individuals, team leaders or national teams want access to the quoted sources, ordering information is provided in the References section at the end of the Guidelines. CAI is thematic, in pocket-book format, in English. It is cheap, can be ordered online, and has a cheap airmail rate for delivery anywhere in the world. DIA is an international Atlas in English, with more than 30 pages of educational material about maps. The publisher provided iGeo with multiple copies of DIA in 2013, and these copies were distributed internationally.

MAP TYPES AND MAP GRIDS

You need to be aware of the major types of maps (CAI 15) and be able to distinguish between major types of maps such as topographical, thematic, analogue maps based on aerial photography or satellite imagery and cartograms (CAI 33). Maps are two-dimensional representations of the Earth's curved surface. Issues of map projection (CAI 24-25, DIA 7) are not generally dealt with in iGeo tests, but you should be aware of the graphical principles of map grids and the nature of grid references.

MAP ELEMENTS

Maps show the spatial distribution of features using points, lines and polygons (or areas) as shown on CAI 26 and on DIA 17. Points lines and polygons are shown symbolically often with familiar symbols like points for bus stops, lines showing rivers and the demarcation of areas of native forest.

	Points	Lines	Areas	Best to show
Shape		<i>possible, but too weird to show</i>	<i>cartogram</i>	<i>qualitative differences</i>
Size			<i>cartogram</i>	<i>quantitative differences</i>
Color Hue				<i>qualitative differences</i>
Color Value				<i>quantitative differences</i>
Color Intensity				<i>qualitative differences</i>
Texture				<i>qualitative & quantitative differences</i>

This graphic explains how points, lines and areas (or polygons) are shown on a map by using variations in symbol shape, size of a symbol, different colours of symbols, assigning discrete values of colours to symbols, using variations in intensity of a colour in a colour 'ramp' (bottom of CAI 46) or using texture of a symbol to show different features.

MAP SYMBOLS

All symbols used on the map should be explained (CAI 40-43 and DIA 16-17) in your map key. The following figure follows Jacques Bertin's (1967) *Semiologie Graphique*.

COLOUR ON MAPS

There are some 'conventions' around the use of colour on maps, as shown on the typical maps of CAI 16-17, 26 and 37 show. For example, water is generally shown as blue, and vegetated areas are often green. 'Built up' urban areas are often pink, brown or grey. The block diagrams on DIA 13 and 15 show the colours associated with variations in elevation on physical geography maps.

In mapping for the iGeo it is useful to have a few coloured pencils in case you need to use colour shading to symbolise areas on the maps you make. Point data, where there are many (unnamed) locations shown, are generally black. Lines of transport are often red, grey or black, and the important consideration is the size of the symbol; where transport lines are too 'heavy', they can dominate the map unintentionally. Colour is an important part of maps in the iGeo; come to the tests with a few coloured pencils.

TEXT ON MAPS

In the maps you will make at the iGeo, you will be expected to show the location of important features in the spaces you are mapping. Write legibly in black, with simple fonts and good judgement of font size; this is important in your mapping (CAI 48). You will be asked sometimes to 'annotate' your map. This means writing brief descriptive texts on parts of your map that show the distribution of features or activities you are mapping. For example, you could write "Most secondary infections of foot and mouth disease were sourced to this location", "These are the primary routes of access to the market" or "Locations of multiple fumaroles". Not all text needs to be written on the map itself; you may use text boxes in space adjacent to your map graphic and point to where the annotation applies

MAP FEATURES AND DESIGN

The ability to select the features to be mapped is important, alongside the ability to generalise so that too much detail does not confuse the point of cartographic communication (CAI 22-23). The design needs to place the title, the map key and scale statement(s) appropriately (CAI 35) in relation to the map figure. Make the map graphic the focal point of the map, balance your map design by planning to leave no significant areas of 'white space' within the map border (CAI 53).

MAP KEY

Map keys are sometimes called legends (CAI 56 – 57). The key should include all symbols shown on your map, grouping together symbols of particular classes of the distribution you are mapping. See the figure on the bottom of CAI 56. You may be asked to provide a 'descriptive key'; this extends the purpose of the key to require not just the naming of the symbol shown but also a sentence that relates to the spatial distribution of the named feature.

MAP SCALE

Map scale is an important concept to understand, from maps of small areas at a scale of 1:1,000 to about 1:10,000, to topographic maps sheets often at scales of 1:50,000, through to national mapping series at 1:6,000,000 for example (DIA 6,7). Ratio statements are explained on CAI 21, along with the type of scale used most frequently in student maps, the bar scale. Sketch maps often express scale through a statement like "Scale: 1:5,000 approximately".

MAP CONVENTIONS

When making maps in the iGEO, you should follow map conventions (CAI 52) where possible. As a guide, you should include most of the following items in addition to the map graphic.

A clear and descriptive title (see maps of the Tatra Mountains on DIA 12 and 13, for example).

A key that shows and explains all the symbols used on the map (see the map of Stasbourg on DIA 9, for example)

An orientation symbol, such as a North arrow; particularly important if North is not to the top of the page. See DIA, panel 2, on page 6.

An acknowledgement of data sources. The date of data collection is often important.

The sources of map information are given on CAI 62-63 and DIA 225.

A scale statement such as a scale bar as shown on CAI 21 and DIA 8.

A border or frame if this is appropriate.

An explanatory statement about the map, if appropriate. See the four notes associated with the maps of the development of Strasbourg (DIA 10)

MAP TEMPLATES

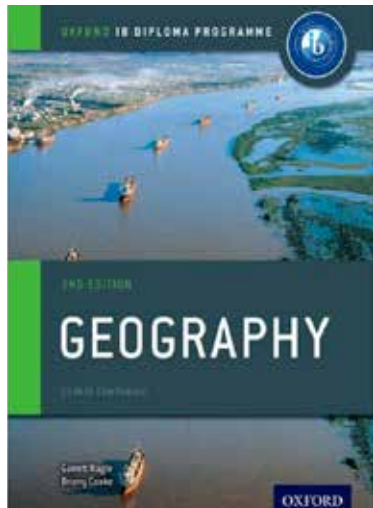
In the iGeo, map templates are sometimes used to provide you with an indication of the area that you are asked to map. Generally, they show only key features.

MAP SUPPORT

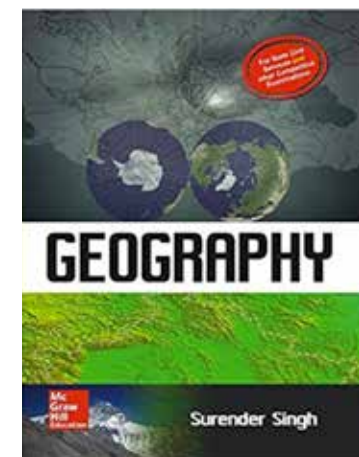
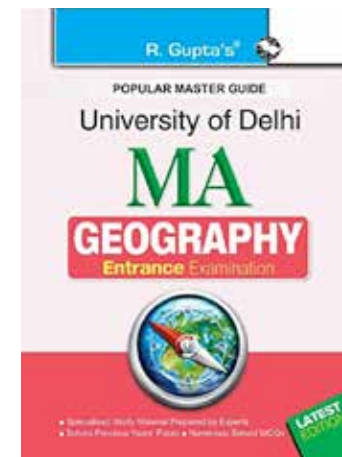
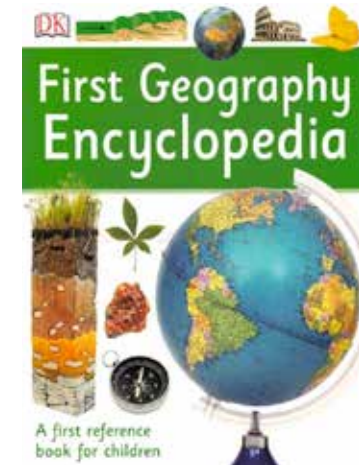
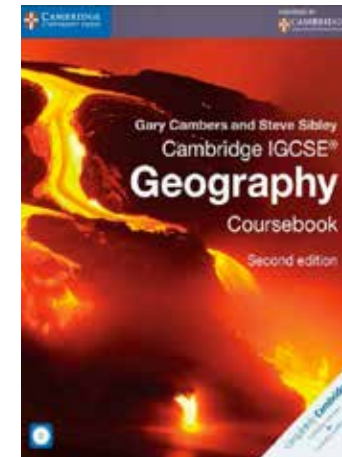
Maps are often supported by a number of different types of geographical diagrams. You are expected to be familiar with block diagrams, cross sections, pie charts, bar graphs and histograms, (time) line graphs and population pyramids. Examples of some of these forms of graphic are illustrated on DIA 25.

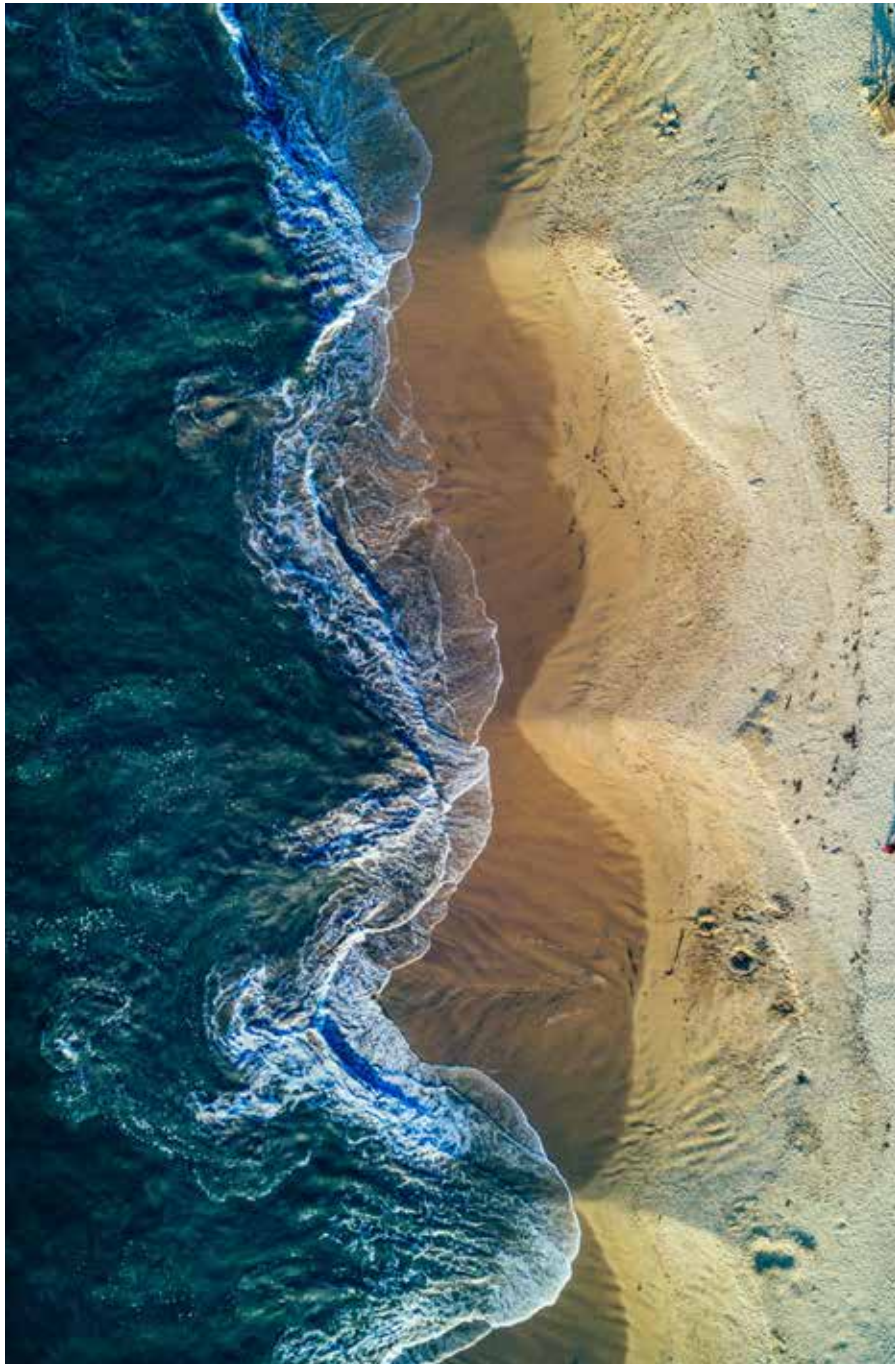


SUGGESTED BOOKS FOR STUDY MATERIAL



1. 2nd Edition
Geography, Course Companion,
Oxford IB Diploma Programme
2. Gary Chambers and Steve Sibley,
Cambridge IGCSE, Geography
Coursebook, Second Edition,
Cambridge University Press
3. DK's First Geography Encyclopedia,
A first reference book for children
4. R. Gupta's Popular Master Guide
University of Delhi,
MA Geography
Entrance Examination
5. McGraw Hill Education,
Geography by Surender Singh





Section C: Transportation and its Environmental Impact

- I. Study Resource Booklet Figure C1: The dominant road networks, shipping lanes and airline routes around the world.
Describe the spatial pattern on global of:
- II. Study Resource Booklet Figure C1: The dominant road networks, shipping lanes and airline routes around the world.
Suggest 4 reason for the pattern of transport routes.
- III. Study Resource Booklet Figure C2: The Rail networks in any particular country and the 2 Tables below.
With the help of the Information provided suggest 4 reasons for the proportion of freight (cargo) transport modes.

Typical Question

You will be listed 8 corridor and will have to fill in the Mtons of their roads and Rails

Corridor	Road (Mtons)	Rail (Mtons)
Corridor 1	46.8	6.4
Corridor 2	34.2	1.7
Corridor 3	9.0	<0.1
Corridor 4	8.8	<0.1
Corridor 5	5.7	0.3
Corridor 6	79.4	27.1
Corridor 7	124.1	5.8
Corridor 8	255.0	39.0
Total	563.1	80.3

- IV. Table: You will have to work the annual cost of road and rail freight (cargo) transport in any one country.

	Road (Rand , billion)	Rail (Rand, billion)
Vehicle capital cost		
Infrastructure capital cost		
Vehicle operating cost		
Infrastructure operating cost		

- V. Discuss the environmental impact of building railways.

Section D: Tides

- I. Identify 4 factors causing and/or Influencing tides.
- II. Draw an annotated diagram(s) to explain how 2 very high tides occur twice during a day (24 hours) when there is full moon.
- III. Study Resource Booklet Figures D1-D3: Photos and Satellite imagery of any particular Country.
Read the textbox below.
With the help of the information provided, suggest 4 reasons why massive landscape- changing projects were started at any particular country
Textbox Sample : Mont Saint-Michel is a famous tourist destination in France, and is world heritage listed. It is an island located about 1 km off the country's north –western coast, at the mouth of the Couesnon River, Which has been canalized. The area has a high tidal range, at approximately 14 m between high and low water marks. Mont Saint-Michel was previously connected into a raised, permanently dry, causeway in 1879. Coastal flats on the adjacent mainland have been reclaimed (made into polders) creating pastureland in addition to occasional flood- induced salt marsh meadows used for grazing. In 2006 a €164 million project was announced to build a hydraulic dam using the waters of the Cohesion River. Another €209 million project included the removal of the causeway and visitor car park, replacing it with a new bridge.
- IV. Study Resource Booklet Figure D4: Artistic impression of a future tidal lagoon power plant where an artificial lagoon is create within seawalls. Suggest oneone opportunity, and one threat (SWOT analysis) for any new tidal power plants that could be constructed across the world, besides energy production.
STRENGTH - WEAKNESS - OPPORTUNITY - THREAT

Section E: Soil Degradation

- I. Describe 3 functions of soil.
- II. Identify 4 natural causes of soil degradation.
- III. Identify 4 indicators that signify soil degradation resulting from human actions.
- IV. Study Resource Booklet Figures E1 and E2: photos of example of soil degradation Name and Explain the Soil degradation Processes.
- V. Study Resource Booklet Figures E1 and E2: The photos of the examples of soil degradation outline measures that could reduce the severity of both types of soil degradation.

Section F: Food Security

- I. Study Resource Booklet figure F1: The trajectory of undernourishment in developing regions: actual and projected progress towards the world food summit (WFS) and Millennium Development Goal (MDG) targets. Describe the progress made in achieving the World Food summit (WFS) and the Millennium Development Goal (MDG) Targets.
- II. Study Resource booklet Figure F1: The trajectory of undernourishment in developing Regions: actual projected Progress towards the World Food Summit (WFS) and Millennium Development Goal (MDG) Targets.
- III. Suggest the main reason why there was a difference in meeting the 2 targets.
- IV. Study Resource Booklet figure F2: Nine influences on food security. Selected 2 of the categories in the following list (environmental, political, Social/Cultural and Economics) and with the help of the information provided explain how factors in each category contribute to the causes of food insecurity.
- V. Outline 2 Strategies to eliminate hunger.
- VI. Discuss why food waste is high in developed countries.

FIELDWORK EXERCISES 1

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I. GENERAL INSTRUCTION AND GUIDANCE AND HELPFUL TIPS

IGEO-2017 Fieldwork Day Guidance

Before you start the fieldwork Exercise, you will have to read the following notes carefully and follow the instructions. Fieldwork Exercise 1 consists of three parts –A,B and C. Parts A and b should be completed on the route, moving from the stop 1(S1) to the Stop2 (S2) and Stop 3(S3). Part c will be completed at Stop 4 (S4). The route and all stopes are located in the Kosutnjak park of Belgrade (see map)

During Fieldwork Exercise 1 you were also need to make some general observations, which are important for tomorrow's Fieldwork Exercise 2. For notes you use the General Notes Sheet when you visit the Stops. Keep this sheet with you at all times and hand it in to the jury only at the last stop (finishing Point) of your route. Tomorrow you will get it back before Fieldwork Exercise 2.

All tasks are individual, and you are expected not to consult each other. However, you will move within the area in groups of 26-27 students, each guided by 2 volunteers. Do not attempt to change groups. Remain with your group, follow your volunteers and keep the same speed as them. Obey instruction of volunteers and jury members all the time. If you have any sort of emergency, tell volunteers.

Start points:

- Groups I-III Start from S1. Total time for route S1-S2 is 1 hour, S2-S3 also 1 After S3 group's I-III will head to S4, where they spend 15 minutes.
- Group IV-VI start from S4 where they spend 15 minutes, and then head to S1-S2-S3
- All the groups will start with an interval of 15-20 minutes.

Finish Points:

- S4 for group I-III,
- S3 For groups IV-VI.

At each of the stops S1, S2 and S4 you will receive response sheets with handouts, and have 5 minutes before start completing the task to write down your personal number on the front sheet and read the task.

There are two meeting points M between S1, S3 and S4, where all the groups arrive, wait for their turn, and from where they will be guided by volunteers to their starting, or finishing points. At all stops you can get drinking water. Toilets are near meeting points.

Note that mobile phones, tablets or other means of communication are strictly prohibited during field work. All violations of this rule will result in a penalty.

Take care at all times in the field; stay from dangerous slopes.

II. TASK 1A STRUCTURE (DURATION 60 MINUTES. TOTAL 7 MARKS)

Walk From the start point S1 near the Golf restaurant to the Stop S2 at the Amphitheater on eastern part of pioneer City.

On your way, identify all of the following features, located with the Zone, circled on Map 1A by a RED LINE:

- Open air sports facilities,
- Children playgrounds,
- Buildings.

On Map 1A, Identify and label with numbers the features which are already mapped. You will also see features which are not indicated on the map. Draw and label those features on the map, ensuring you label each with a number. Use only a pen (blue, black, or other color, if needed)!

Write down the numbers of all these feature in the table on the response sheet and provide the following data for them:

- For all open air features, including sports facilities, report the purpose of use and estimate the maximum number of users (players, watchers, visitors) at noon (12:00) on a weekend summer sunny day1.
- For building , report the condition (quality; see example below)

Building condition (quality) assessment -4 classes' maximum:

- A --totally ruined, need to be rebuilt;
- B --very poor, need to be completely repaired;
- C --average, serious restoration needed;
- D --good, no or minor repairs needed.

At the Stop S2 you will have 10 minutes to complete Map 1A

And Response sheet before handing them in to the jury.

Do not forget to write your student numbers on the cover sheet, map and the response sheet!

III. TASK 1B STRUCTURE (DURATION 60 MINUTES. TOTAL 7 MARKS)

Walk from Stop S2 at the Amphitheater on Eastern part of pioneer City to Stop S3.

On your way, identify the geomorphologic features, located at the nine places marked by WHITE CIRCLES (Exercise Points) on Map 1B. Label each white circle with a number, corresponding to one of the geomorphologic features from the list, found on the same sheet. Use the small pictures to the left of the maps reference for feature names. Bear in mind that the pictures are not in random order.

Some feature may be seen on your route twice and there are some picture of features that you will not see in Kosutnjak Park.

On the route, you can use pencil to make notes. Use pen to label the white circles with numbers before you hand in the map to the jury.

At the stop S3 you will have 10 minutes to answer the question, written on the response sheet 1B. Then hand in your map 1B and Response sheet 1B to the jury.

Do not forget to write your student number on the cover sheet, map and response sheet.

Task 1B Response Sheet

1B.1 Analyze the geological profile of any one place Identify which rock types from the list below from layers annotated with capital letters on the profile. Write yours answers in the table 1.

Rock types

- Andesitic and dacitic tuff
- Loess
- Claystones
- Bedded and thick bedded limestones
- Clays, sands and gravels (Panonian)
- Dacito-andesite and latite
- Sands and clays
- Diabase and spilite

Letter on fig. 1	Rock type
A.	
B.	
C.	
D.	

1B2. Select from the list (below) the kinds of relief surface that correspond to the numbers on the profile, and enter their numbers in table 2. Arrange them in descending order of age (from oldest to the most recent one).

Relief surfaces List: the surfaces of fluvial denudation, loess plain, river terrace, volcanic plateau, river floodplain, karst surface, plain of marine accumulation, the bottom of the tectonic plate.

Table 2

Number(from Fig.1)	Relief surfaces

1B.3. In which area marked by a red square on the map (Figure 2), you can most probably find geomorphologic features, similar to those typical for the of any one place? Provided yours answer with the geographic coordinates of the approximate center of this box, to the closest whole degree (no Minutes or seconds). What is the common name of this type of relief (terrain)?

(1m)
 Coordinates: _____
 Type of relief, or terrain (Common Name): _____

IV. TASK 1B STRUCTURE (DURATION 60 MINUTES. TOTAL 7 MARKS)

You are now at the stop S4. You will use your position as an observation point over Belgrade. Remember this panoramic view for this exercise (FEW-2). Complete the following Tasks.

Suggest which Months of any country will Support Certain Sports Mentioned

(1 m)

Average/ months	Months											
	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec
Precipitation, mm	48	45	45	53	69	84	68	45	49	38	54	65
T`C	1.1	3.0	7.3	12.7	17.3	20.3	22.3	22.5	18.2	13.1	7.3	2.3

Months: _____

C2. You are standing near the upper point of a mountain ski run. Using Map 1C calculate the inclination of this slope (degree, or percent)

Place for calculations. Please show all of your work

MULTIMEDIA TEST

For the Multi Media Test they are looking for questions that require basic geographical thinking skills, where the contestants analyse information in maps, diagrams or Photographs. Thus, the Multi Media Test is not intended to test the ability of the Contestants to reproduce geographical facts but to test their skills in geographical Analysis. Another reason to stress skills instead of knowledge, is the fact that the Geography curricula in the participating countries vary considerably.

FIELDWORK EXERCISE 2

SUSTAINABLE DEVELOPMENT OF YOUTH TOURISM

I. GENERAL INSTRUCTION AND GUIDANCE AND HELPFUL TIPS

All task must be completed individually, using the answer templates provided.

The Resource Booklet contains important supporting materials: tables with statistical data, maps, etc.

Time management

You have 10 minutes to read the tasks and Resource booklet. No writing during this time.

Students with English as the language of instruction then have 2 hours to complete the test.

All other students have 2 hours and 20 minutes.

Write your answer in pen.

You may use colored pencils/pens for map work.

You may refer to material in the Resource Booklet in your answer, and you may use material included in earlier answer to the FEW-1 you have provided.

Total Marks for FEW-2:20

II. DEMOGRAPHY

I.1 using the demographic data and map (see Table 1 and Map 5 in the Resource Booklet), Calculate the total number of potential visitors to the a particular place from the municipalities, highlighted on the map 5, who are aged 15-25 years old in2017. Write your answer in the table below. (1 m)

Place for calculations

	Municipality	Potential numbers of visitors 15—25 years old in 2017
1.		
2.		
3.		
4.		

I.2 Assuming that only one out of 1000 (One thousand) People aged 15-25 years old from each of the countries sharing borders with a Country, which country can potentially provide the largest number of young tourists? (1M)

Country: _____

III. TRANSPORTATION AND ACCESSIBILITY

II.1 Examine the current (present day) Public transport scheme of a city (Map 6 of the Resource Booklet. Which municipality highlighted on Map 5 Has the Easiest (fastest) connection with this City? Which Municipality has the most complicated (Slowest) connection with the city?

Fastest Connection		Slowest Connection	
Municipality	Justification(public transport lines configuration and length	Municipality	Justification(public transport lines configuration and length

II.2. There is a plan to build a tunnel for cars in a particular city. Provide positive justification (benefits) for building this future development of tourism in that city. (2 m)

Propose the shortest way to connect one location here mention to another. Be realistic: only kinds of transport, which are already used for passengers in the other cities of the world can be proposed. Name this kind of public transport and estimate the length of its route from the tunnel exit to S4. (1m)

_____ (mode of transportation)

Length of line _____m

III. Human Impact (anthropogenic pressure)

III.1 On the map template 1,

- Divide the territory of a particular place in to no more than 5 zones based on the degree of human impact (anthropogenic pressure). For this summarize your observations, made during FEW-1, and use data from the Resource Booklet and maps.
- In the legend (key), write brief annotations for the characteristics of each zone. For this, you need to provide a tittle that refers to the main activities within this zone, and /or to its geographical location.
- Briefly describe the zones and the criteria behind their allocation.

III.2 which of the zones you have identified is characterized by the highest degree of human impact (anthropogenic pressure) on Its territory?

- Provide a quantitative indicator to measure human impact (anthropogenic pressure), and estimate its average value for this zone. (1 m)

Zone with the highest degree of anthropogenic pressure: _____(no from legend)

Indicator (variable): _____

Units of measurement: _____

Average value for this zone: _____

Legend

Zone number and brief annotation allocation	Description and principles (Criteria) behind your
I.	
II.	

IV. POTENTIAL AND LIMITATIONS FOR SUSTAINABLE DEVELOPMENT OF YOUTH TOURISM OF A PARTICULAR COUNTRY.

IV.1.Using the Resource Booklet materials and field observation from yesterday, think about kinds of youth tourism that could be practiced here. Provided answer to the following questions in boxes with brief explanation of reasons for each of them. (4m)

A. Which one of the already existing activities would you recommend to support and develop as a preferences?

Answer

B. Which one of the already existing activities would you recommend to limit?

Answer

one completely new activity (never or very rarely practiced here before) would you recommend for development? Briefly describe it, informing title of activities, length of route, appropriate season of the year, and other important characteristics.

IV.2. Imagine that you are designing a plan for sustainable development of youth tourism in a particular country. Link ideas for your plan to different scales (Levels). For each scale, indicate the main advantages/potentials, and main limitations/constraints.

Scale (Level)	Advantages	Limitations/ Constraints
Micro/Local		
Mezzo / national		
Macro / Regional		

**GOOD THINGS
HAPPEN TO THOSE
WHO GO FOR IT!**

—

Thank You

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