



Department of Examinations – Sri Lanka

G.C.E. (A/L) Examination – 2021(2022)

22 – Geography

Marking Scheme



Amendments to be included

This document has been prepared for the use of Marking Examiners. Some changes would be made according to the views presented at the Chief Examiners' meeting.

G. C. E (Advanced Level) Examination – 2021 (2022)**22 - Geography****Marking Scheme****Distribution of Marks**

Paper I : **Part I** = $40 \times 1 = 40$

Part II = **30**

Part III = **30**

Paper II : = **100**

= $\frac{100 + 100}{2}$

2

Final Marks = **100**

Common Techniques of Marking Answer Scripts.

It is compulsory to adhere to the following standard method in marking answer scripts and entering marks into the mark sheets.

1. Use a red color ball point pen for marking. (Only Chief/Additional Chief Examiner may use a mauve color pen.)
2. Note down Examiner's Code Number and initials on the front page of each answer script.
3. Write off any numerals written wrong with a clear single line and authenticate the alterations with Examiner's initials.
4. Write down marks of each subsection in a \triangle and write the final marks of each question as a rational number in a \square with the question number. Use the column assigned for Examiners to write down marks.

Example:

Question No. 03

(i)

✓

\triangle
 $\frac{4}{5}$

(ii)

✓

\triangle
 $\frac{3}{5}$

(iii)

✓

\triangle
 $\frac{3}{5}$

03 (i) $\frac{4}{5}$ (ii) + $\frac{3}{5}$ (iii) $\frac{3}{5}$ = \square
 $\frac{10}{15}$

MCQ answer scripts: (Template)

1. Marking templates for G.C.E.(A/L) and GIT examination will be provided by the Department of Examinations itself. Marking examiners bear the responsibility of using correctly prepared and certified templates.
2. Then, check the answer scripts carefully. If there are more than one or no answers Marked to a certain question write off the options with a line. Sometimes candidates may have erased an option marked previously and selected another option. In such occasions, if the erasure is not clear write off those options too.
3. Place the template on the answer script correctly. Mark the right answers with a 'v' and the wrong answers with a 'X' against the options column. Write down the number of correct answers inside the cage given under each column. Then, add those numbers and write the number of correct answers in the relevant cage.

Structured essay type and essay type answer scripts:

1. Cross off any pages left blank by candidates. Underline wrong or unsuitable answers. Show areas where marks can be offered with check marks.
2. Use the right margin of the overland paper to write down the marks.
3. Write down the marks given for each question against the question number in the relevant cage on the front page in two digits. Selection of questions should be in accordance with the instructions given in the question paper. Mark all answers and transfer the marks to the front page, and write off answers with lower marks if extra questions have been answered against instructions.
4. Add the total carefully and write in the relevant cage on the front page. Turn pages of answer script and add all the marks given for all answers again. Check whether that total tallies with the total marks written on the front page.

Preparation of Mark Sheets.

Except for the subjects with a single question paper, final marks of two papers will not be calculated within the evaluation board this time. Therefore, add separate mark sheets for each of the question paper. Write paper 01 marks in the paper 01 column of the mark sheet and write them in words too. Write paper II Marks in the paper II Column and write the relevant details. 02 and 03 should be entered numerically in the mark sheets.

සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது / All Rights Reserved

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரீட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka
ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம் இலங்கைப் பரīட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2021(2022)
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2021(2022)
General Certificate of Education (Adv. Level) Examination, 2021(2022)

භූගෝල විද්‍යාව I
புவியியல் I
Geography I

22 E I

පැය තුනයි
மூன்று மணித்தியாலம்
Three hours

අමතර කියවීමේ කාලය - මිනිත්තු 10 යි
மேலதிக வாசிப்பு நேரம் - 10 நிமிடங்கள்
Additional Reading Time - 10 minutes

Use additional reading time to go through the question paper, select the questions you will answer and decide which of them you will prioritise.

Index No. :

Instructions:

- * This question paper consists of **three** parts. **Part I** consists of **40** multiple choice questions and answers should be provided **in the paper itself**.
- * In **Part I** each correct answer receives **one** mark.
- * In **Part II** **both** questions should be answered.
- * **Part III** consists of **four** questions and answers should be provided **only for two** selected questions.
- * Answer script of **Parts I, II and III** should be attached together and handed over.

For Examiner's use only.

	Question No.	Marks
Part I	1 - 40	
Part II	1	
	2	
Part III	3	
	4	
	5	
	6	
Total		

	Signature	Code Number
1 st Examiner		
2 nd Examiner		
Additional Chief Examiner		
EMF		
Chief Examiner		

Part I

- Select the option that contains the correct answer for each question and write its **number on the dotted line**.

1. Which of the following options is an example for a pair of thematic maps?

- (1) Choropleth maps and Topographic maps
- (2) Weather maps and Google maps
- (3) Topographic maps and tourist maps
- (4) Dot maps and isopleth maps
- (5) Topographic maps and density maps

(.....)

2. Which is a 1:50 000 combined topographic map sheet of Sri Lanka?

- (1) Padiyathalawa and Ampara
- (2) Matara and Tangalle
- (3) Horowpothana and Trincomalee
- (4) Buttala and Panama
- (5) Pothuvil and Komari

(.....)

AL/2021(2022)/22/E-1

- 2 -

3. Which of following options shows a cultural feature and a physical feature respectively in a 1:50 000 topographic map of Sri Lanka?
 (1) Escarpment and sand dune (2) Paddy land and settlement
 (3) Irrigation canal and river (4) Relief and slope
 (5) Roads and administrative boundaries. (.....)
4. What is the most suitable graphical method to depict age composition of the COVID-19 infections in Sri Lanka on a given day?
 (1) Compound line graph (2) Dispersion diagram
 (3) Simple line graph (4) Pie graph
 (5) Multiple line graph (.....)
5. The inter-quartile range of a data distribution lies between,
 (1) the upper quartile and the lower quartile
 (2) the median and the lower quartile
 (3) the median and the upper quartile
 (4) the maximum value and the minimum value
 (5) the mean and the minimum value (.....)
6. An example for spatial data used in a Geographic Information System is,
 (1) Number of people. (2) Type of vegetation.
 (3) Level of education. (4) Location of wells.
 (5) Quality of water. (.....)
7. Which of the following options shows three examples for continuous data?
 (1) Height, time and temperature
 (2) Weight, distance and number of students
 (3) Time, precipitation and number of tanks
 (4) Temperature, evaporation and number of tourists
 (5) Height, number of tanks and number of children in a family (.....)
8. What is the correct option that shows three sources of secondary data?
 (1) Aerial photographs, interviews and maps
 (2) Satellite images, questionnaires and observations
 (3) Interviews, topographic maps and surveys
 (4) Interviews, the internet and measurements
 (5) Aerial photographs, the internet and maps (.....)
9. Which answer shows an example for an input device of Geographic Information System?
 (1) Monitor (2) Computer
 (3) Printer (4) Scanner
 (5) Plotter (.....)
10. What is the option that contains two drainage features shown in a 1:50 000 Topographic map?
 (1) Braided river and symmetrical slopes.
 (2) Meander and tributary.
 (3) Radial drainage and spur.
 (4) Water fall and steep slope.
 (5) Marsh and valley. (.....)
11. The equipment used to measure the atmospheric humidity is,
 (1) Anemometer. (2) Thermometer.
 (3) Hygrometer. (4) Rain gauge.
 (5) Barometer. (.....)
12. What is the parent rock of gneiss?
 (1) Shale (2) Granite (3) Sand stone (4) Limestone (5) Schist (.....)

1000 0000 three

13. Which of the following pair of rocks is chemically formed?
 (1) Mud and Clay (2) Peat and Coal
 (3) Gypsum and Hematite (4) Limonite and Boulder clay
 (5) Sand and Pebbles (.....)
14. What is meant by 'Albedo'?
 (1) Solar radiation reflected back to space by the earth.
 (2) Rate of decline in temperature with increasing altitude.
 (3) Amount of solar radiation absorbed by the earth's surface.
 (4) Smoke cover formed following an eruption of a volcano.
 (5) Amount of solar radiation absorbed by the cloud cover. (.....)
15. The occurrence of Sunspots is due to,
 (1) the increase of solar radiation.
 (2) the collision with asteroids.
 (3) the impact of the solar system.
 (4) explosions in the sun's magnetic field.
 (5) starting of the dying process of the sun. (.....)
16. What is the river catchment in Sri Lanka which receives the highest average annual rainfall?
 (1) Kalu Ganga (2) Walawe Ganga
 (3) Gin Ganga (4) Maha Oya
 (5) Mahaweli Ganga (.....)
17. What is the option that contains three landforms created by erosion in mountain glacier regions?
 (1) Cirques, Hanging valleys and Kemes.
 (2) U-shaped valleys, Pyramid shaped peaks and Tarn
 (3) Arete, Ribbon lakes and Eskers
 (4) Hanging valleys, Tarn and Kettle hole
 (5) Drumlins, Cirques and U-shaped valleys (.....)
18. 'Lapse rate' means the rate of,
 (1) decline in temperature with increasing altitude
 (2) increase in temperature with increasing altitude
 (3) decrease in temperature with change in latitude
 (4) cooling of air to reach the condensation level
 (5) decrease in temperature in declining air masses (.....)
19. What is an example for a third order landform?
 (1) Ocean basin (2) V-shaped valley
 (3) Mountain system (4) Ocean ridge
 (5) Continental shield (.....)
20. Which of the following options shows two landforms created by compressional force?
 (1) Symmetrical fold and Step fault (2) Asymmetrical fold and Normal fault
 (3) Anticlinorium and Isoclinal fold (4) Recumbent fold and Rift valley
 (5) Overthrust fold and Step fault (.....)
21. What is the option that shows a pair of landforms found in a Karst region?
 (1) Stalactite and Pothole (2) Doline and Ox-bow lake
 (3) Uvala and Arete (4) Lapies and Cirque
 (5) Polje and Uvala (.....)
22. An area where Tropical Monsoon climate (Am) can be seen is,
 (1) West Indies Islands. (2) Brazil in South America.
 (3) Eastern Madagascar. (4) Sierra Leone in Africa.
 (5) Southeast Australia. (.....)

23. Which option correctly shows a Tropical Grassland?
 (1) Pampas in Argentina (2) Steppes in Russia
 (3) Savanna in Africa (4) Prairies in North America
 (5) Veldt in South Africa (.....)
24. Which one of the following specific subject area entrusted to Sri Lanka by South Asia Cooperative Environmental Programme (SACEP) in the preparation of the Action Plan?
 (1) Tourist Industry (2) Environmental Impact Assessment
 (3) Coastal areas (4) Community forestry
 (5) Desertification (.....)
25. The answer that correctly shows one of the characteristics of the youth stage of a river is,
 (1) Velocity of water flow is high. (2) Slope gradually decreases.
 (3) Lateral erosion begins. (4) River gradient is very low.
 (5) Carries large amount of water. (.....)
26. Which country is the largest exporter of rice in the world at present?
 (1) Vietnam (2) India (3) Bangladesh (4) Thailand (5) China (.....)
27. What is the correct option that shows the sectoral contribution to the Gross Domestic Product of Sri Lanka in descending order?
 (1) Agriculture, Industries and Services
 (2) Services, Industries and Agriculture
 (3) Services, Agriculture and Industries
 (4) Industries, Agriculture and Services
 (5) Agriculture, Services and Industries (.....)
28. At present, the world population is approximately,
 (1) 5.9 billion. (2) 6.5 billion.
 (3) 7.9 billion. (4) 8.5 billion.
 (5) 9.2 billion. (.....)
29. A person who leaves the country because of ill-treatment due to nationality, religion, ethnicity, politics or environmental disasters is called,
 (1) Migrant. (2) Immigrant.
 (3) Commuter. (4) Emigrant.
 (5) Refugee. (.....)
30. An example for a pull factor affecting migration is,
 (1) Desire to escape war.
 (2) Poverty in rural areas of a country.
 (3) Land shortage in rural areas.
 (4) Job opportunities in a nearby city.
 (5) Overcrowding in major cities. (.....)
31. Two major demographic trends in Sri Lanka that can be identified since independence are,
 (1) Decreasing Crude Death Rate and increasing Crude Birth Rate.
 (2) Increasing Infant Mortality Rate and increasing Maternal Mortality Rate.
 (3) Increasing Total Fertility Rate and decreasing Crude Birth Rate.
 (4) Increasing Crude Death Rate and increasing Maternal Mortality Rate.
 (5) Decreasing Infant Mortality Rate and decreasing Total Fertility Rate. (.....)
32. Which of the following options correctly shows the four major components of a traditional Dry Zone tank village in Sri Lanka?
 (1) Paddy land, settlement, chena and forest
 (2) Hamlet, village centre, area centre and township
 (3) Paddy land, market place, irrigation canal and temple
 (4) Irrigation canal, paddy land, rural settlements and forest
 (5) Paddy land, roads, market place and chena (.....)

33. The focus of the Green Revolution was on
 (1) expanding the area under cultivation.
 (2) increasing the use of organic fertilizer.
 (3) solving the food problem in developing countries.
 (4) consolidating the small holdings into larger estates.
 (5) improving the crop yields in cotton farming. (.....)
34. What is the option that shows two major handicraft industries in Sri Lanka located respectively in Pilimathalawa and Ambalangoda areas?
 (1) wood carving and coir products
 (2) brassware and masks
 (3) wood carving and clay products
 (4) batik products and Masks
 (5) lacquer ware and coir products (.....)
35. The subject of Geography primarily focuses on the
 (1) physical landscape of the earth's surface.
 (2) differences in human activities in the world.
 (3) development, structure and functioning of human society.
 (4) inter-relationships between human society and environment.
 (5) production, consumption and transfer of wealth in the human society. (.....)
36. What is meant by extensive agriculture?
 (1) Increase the production per unit of input.
 (2) Increase the land area under cultivation.
 (3) Popularizing traditional varieties of crops.
 (4) Increased use of organic fertilizers.
 (5) Application of indigenous knowledge for cultivation. (.....)
37. Which of the following answers is most appropriate to organic farming?
 (1) It largely depends on agro-chemicals, fertilizers and pesticides.
 (2) Multinational corporations provide support to organic farming.
 (3) It is an essential factor of green revolution.
 (4) It is a method of applying gene technology to farming.
 (5) It ensures the protection of the quality of soil and people's health. (.....)
38. Which of the following options shows three places where cement industry in Sri Lanka is located?
 (1) Puttalam, Galle, Trincomalee (2) Trincomalee, Ekala, Kantale
 (3) Galle, Paranthan, Eppawala (4) Kankasanturai, Galle, Paranthan
 (5) Pelwatte, Embilipitiya, Puttalam (.....)
39. Which of the following options shows three major tourist zones named by the Tourist Board of Sri Lanka?
 (1) City of Colombo, Southern coast, Ancient cities
 (2) Eastern coast, Sabaragamuwa, North-West
 (3) Southern coast, Hikkaduwa, Kalpitiya
 (4) Northern region, Kumana, Pasikuda
 (5) Trincomalee, Madu region, Pigeon Island (.....)
40. Three specialized economic centers established by the Government of Sri Lanka to facilitate farmers to sell their agricultural production are,
 (1) Welisara, Seethawaka and Godakawela.
 (2) Ekala, Ratmalana and Hambantota.
 (3) Meegoda, Thambuttegama and Keppetipola.
 (4) Dambulla, Koggala and Biyagama.
 (5) Marandaghamula, Nuwara Eliya and Palkelele. (.....)

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
Department of Examinations – Sri Lanka
අ.පො.ස.(උ.පෙළ) විභාගය/G.C.E. (A/L)- 2021 (2022)

විෂය අංකය
Subject No.

22

විෂය
Subject

Geography

**ලකුණු දීමේ පටිපාටිය/Marking Scheme
I පත්‍රය/Paper I , Part I**

ප්‍රශ්න අංකය Question No.	පිළිතුරු අංකය Answer No.	ප්‍රශ්න අංකය Question No.	පිළිතුරු අංකය Answer No.	ප්‍රශ්න අංකය Question No.	පිළිතුරු අංකය Answer No.	ප්‍රශ්න අංකය Question No.	පිළිතුරු අංකය Answer No.
01.	4	11.	3	21.	5	31.	5
02.	5	12.	2	22.	4	32.	1
03.	3	13.	3	23.	3	33.	3
04.	4	14.	1	24.	2	34.	2
05.	1	15.	4	25.	1	35.	4
06.	4	16.	1	26.	2	36.	2
07.	1	17.	2	27.	2	37.	5
08.	5	18.	1	28.	3	38.	1
09.	4	19.	2	29.	5	39.	1
10.	2	20.	3	30.	4	40.	3

විශේෂ උපදෙස්/Special Instructions:

එක් පිළිතුරකට ලකුණු 01 බැගින්/ 01 Mark for each question

මුළු ලකුණු/Total Marks 01 × 40= 40

සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது / All Rights Reserved

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரீட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம் இலங்கைப் பரීட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2021(2022)
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரீட்சை, 2021 (2022)
General Certificate of Education (Adv. Level) Examination, 2021 (2022)

භූගෝල විද්‍යාව I
புவியியல் I
Geography I

22 E I

Instructions:

- * In part II both questions should be answered.
- * Part III consists of four questions and answers should be provided only for two selected questions.
- * A part of 1:50 000 topographic map, a map of the world, graph papers and drawing paper will be provided.

Part II

1. You are provided with a part of the 1:50 000 topographic map of Bibile, published by the Survey Department of Sri Lanka. Answer the following questions based on the map.

N.B.

- * You should clearly state the relevant **question number** and number of its **subsection** in the answer script.
- * Answers should not be written on the topographic map.
- * Do **not** attach the provided topographic map to your answer script.

- (i) Name the physical feature marked by the line (A) - (B). (01 mark)
 - (ii) Name the administrative boundary in quadrilateral (C) and the settlement pattern in quadrilateral (D). (02 marks)
 - (iii) Name the **four** landforms shown by the lines (E) - (F), (G) - (H), (J) - (K), and (L) - (M). (02 marks)
 - (iv) State **four** service providing institutions located within quadrilateral (N). (02 marks)
 - (v) Redraw the features in quadrilateral (P) at 1:25 000 scale (ask for a drawing paper). (03 marks)
 - (vi) Explain **two** physical factors that determine the distribution of paddy cultivation in the map area. (04 marks)
 - (vii) Explain in brief, **four** factors limiting the human activities in the northwestern quarter of the map. (06 marks)
2. Mark and name the following in the world map provided using conventional symbols and colours.
 - (i) Drakensberg mountains
 - (ii) Tierra del Fuego island
 - (iii) Gobi desert
 - (iv) Lake Michigan
 - (v) Strait of Gibraltar
 - (vi) Hudson Bay
 - (vii) Downs grassland
 - (viii) Iceland
 - (ix) Longest river in the World
 - (x) The city where the head office of UNESCO is located (10 marks)

Part III

3. Answer the following questions based on the data given in **Table 1**.

Table 1: Paddy yields in Yala season in selected districts of Sri Lanka - 2020

District	Average paddy Yield (kg/ ha)
Colombo	3 281
Gampaha	3 445
Matara	3 573
Kegalle	3 731
Kandy	4 099
Batticaloa	4 582
Badulla	4 973
Matale	5 030
Vavuniya	5 520
Hambantota	5 986

Source- Department of Census and Statistics, Sri Lanka, 2020

- (i) Based on the data given in **Table 1** calculate (a) the mean (b) the deviation of given districts and (c) the mean deviation (04 marks)
 - (ii) Draw a deviation graph using the data you have calculated in 3(i) above (ask for a graph paper for this exercise). (05 marks)
 - (iii) Based on the graph you have drawn in 3(ii) above, describe in brief **three** salient features of the average paddy yields per hectare in the district. (06 marks)
4. (i) Describe in brief, how the National Grid System of the 1:50 000 topographic map of Sri Lanka has been decided. (03 marks)
- (ii) Explain what is meant by spatial data and non-spatial data in a Geographic Information System. (04 marks)
- (iii) Compare **two** differences between the aerial photographs and satellite images as remote sensing techniques. (04 marks)
- (iv) Explain how useful is a map for a tourist arriving in Sri Lanka with **four** examples. (04 marks)
5. (i) State **two** uses of interviews as a method of data collection. (02 marks)
- (ii) Name **three** techniques in practical Geography used in the presentation of information. (03 marks)
- (iii) Selecting **two** of the techniques you have mentioned in 5(ii) above, describe **two** uses of each. (04 marks)
- (iv) Discuss in brief, the importance of practical Geographical techniques in disaster management with **three** examples. (06 marks)

6. Using the data given in **Table 2** answer the following questions.

Table 2: Estimated mid year population of Sri Lanka, by age group and sex - 2019
(in thousands)

Age Group	Male	Female	Total Population
0 - 9	1 889	1 856	3 745
10 - 19	1 374	1 754	3 128
20 - 29	1 591	1 714	3 305
30 - 39	1 588	1 676	3 264
40 - 49	1 370	1 462	2 832
50 - 59	1 158	1 286	2 444
60 - 69	758	899	1 657
>70	424	610	1 034

Source: Registrar General Department, Sri Lanka, 2020

- (i) Draw a pyramid graph to represent the age and sex structure of the population of Sri Lanka in 2019 as given in **Table 2**. (08 marks)
- (ii) Discuss **four** salient features of population by age and sex in Sri Lanka that can be observed from the graph you have drawn in 6(i) above. (04 marks)
- (iii) Explain **three** advantages of the pyramid graph as a cartographic technique. (03 marks)

* * *

සියලු ම හිමිකම් ඇවිරිණි / முழுப் பதிப்புரிமையுடையது / All Rights Reserved

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
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Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka
ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
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Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka Department of Examinations, Sri Lanka

අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2021(2022)
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தர)ப் பரීட்சை, 2021(2022)
General Certificate of Education (Adv. Level) Examination, 2021(2022)

භූගෝල විද්‍යාව II
புவியியல் II
Geography II

22 E II

පැය තුනයි
மூன்று மணித்தியாலம்
Three hours

අමතර කියවීමේ කාලය - මිනිත්තු 10 යි
மேலதிக வாசிப்பு நேரம் - 10 நிமிடங்கள்
Additional Reading Time - 10 minutes

Use additional reading time to go through the question paper, select the questions you will answer and decide which of them you will prioritise.

Instructions:

* Selecting at least **two** questions from each part, answer **five** questions only.

Part I - Physical Geography

1. (i) What is meant by a system? (02 marks)
(ii) Briefly describe **three** characteristics of the biosphere. (06 marks)
(iii) Explain in brief the significance of the biosphere with **three** factors. (06 marks)
(iv) Examine **three** human activities that adversely affect the biosphere. (06 marks)
2. (i) Name **two** ways of erosion associated with ocean waves. (02 marks)
(ii) Briefly describe **three** erosional landforms created by ocean waves in coastal areas with suitable diagrams. (06 marks)
(iii) Depict the following **two** depositional landforms in the coastal areas with diagrams and explain their physical features.
(a) Tombolo
(b) Sand Spit (06 marks)
(iv) Explain briefly **three** measures which have been taken by the Coast Conservation Department of Sri Lanka to protect the coastal environment. (06 marks)
3. (i) What is meant by over use of water resources? (02 marks)
(ii) Briefly discuss **three** fields where water resources are over uses. (06 marks)
(iii) Explain briefly **three** measures that can be taken to prevent over use of water resources. (06 marks)
(iv) Discuss **three** measures that could be adopted to prevent the pollution of water resources in Sri Lanka. (06 marks)
4. (i) What is meant by 'Greenhouse Effect'? (02 marks)
(ii) Explain **three** anthropogenic factors responsible for global climate change? (06 marks)
(iii) Discuss with **three** examples, effects of the global climate change. (06 marks)
(iv) Examine in brief, **three** measures that have been taken by the Government of Sri Lanka to mitigate the impact of climate change. (06 marks)

Part II - Human Geography

5. Data on urbanization in the world for the period from 1950 to 2030 are given in **Table 1** (Percentage of urban population).

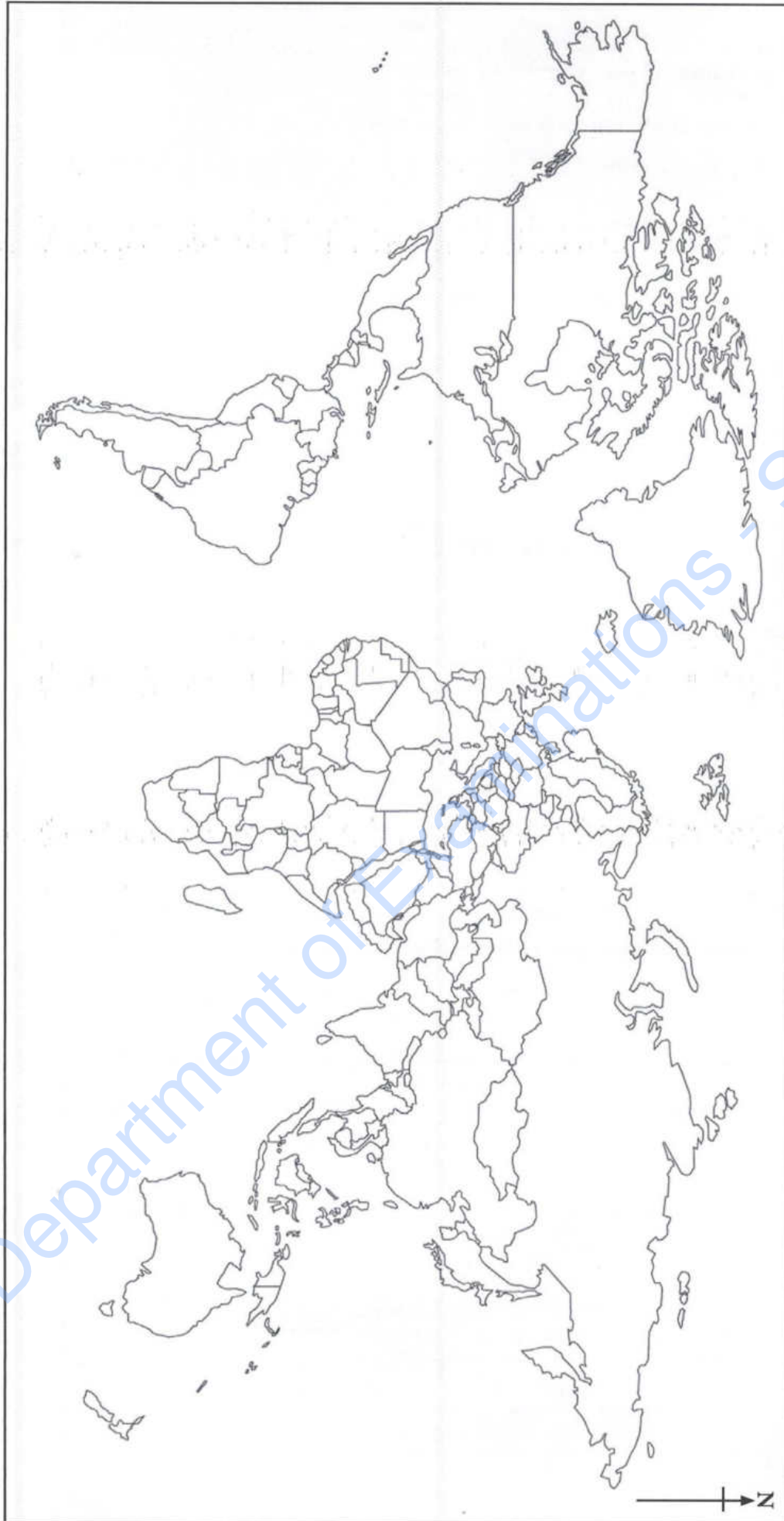
Table 1: Urbanization in the World by Major Regions (1950 - 2030)

Region	Year				
	1950	1970	1990	2010	2030*
Africa	14.3	22.6	31.5	38.9	48.4
Asia	17.5	23.7	32.3	44.8	56.7
Europe	51.7	63.1	69.9	72.9	77.5
Latin America and the Caribbean	41.3	57.3	70.7	78.6	83.6
North America	63.9	73.8	75.4	80.8	84.7
Oceania	62.5	70.2	70.3	68.1	68.9
More Developed countries	54.8	66.8	72.4	77.2	81.4
Less Developed countries	17.7	25.3	34.9	46.1	56.7
World	29.6	36.6	43.0	51.7	60.4

* Projected

Source : United Nations, World Urbanization Prospects (2018 Revision).

- (i) What is meant by the level of urbanization of a country? (02 marks)
- (ii) Describe in brief any **four** characteristics of the urbanization revealed by the data given in **Table 1**. (06 marks)
- (iii) Explain in brief **three** factors that affect the level of urbanization in a country. (06 marks)
- (iv) Examine **three** favourable impacts of urbanization. (06 marks)
6. (i) What is meant by population ageing? (02 marks)
- (ii) Discuss **two** major factors responsible for population ageing. (04 marks)
- (iii) Examine with examples, **three** impacts of population ageing, on the economy of a country. (06 marks)
- (iv) Discuss in brief **four** measures that could be taken to solve the problems posed by population ageing. (08 marks)
7. (i) What is meant by manufacturing industries? (02 marks)
- (ii) Describe briefly with **three** factors how transport affects the location of manufacturing industries. (06 marks)
- (iii) Explain in brief **three** salient features of traditional handicraft industry in Sri Lanka. (06 marks)
- (iv) Examine **three** contributions of manufacturing industries to the economic development of Sri Lanka. (06 marks)
8. (i) State **four** sectors in Globalization. (02 marks)
- (ii) Explain **two** drivers of globalization with **three** features of each driver. (06 marks)
- (iii) Describe **three** advantages and **three** disadvantages of globalization for the developing Countries. (06 marks)
- (iv) Discuss **three** ways how the current COVID - 19 pandemic has affected the globalization process. (06 marks)



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විච්ඡා. இல.
Question No. }

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භූගෝල විද්‍යාව
புவியியல்
Geography

I I I

II කොටස
பகுதி II
PART II

22

STF

I

ශ්‍රී ලංකා විභාග දෙපාර්තමේන්තුව
இலங்கைப் பரீட்சைத் திணைக்களம்
Department of Examinations, Sri Lanka
අධ්‍යයන පොදු සහතික පත්‍ර (උසස් පෙළ) විභාගය, 2021(2022)
கல்விப் பொதுத் தராதரப் பத்திர (உயர் தரப் பரීட்சை, 2021 (2022)
General Certificate of Education (Adv. Level) Examination, 2021 (2022)

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கட்செண்
Index No

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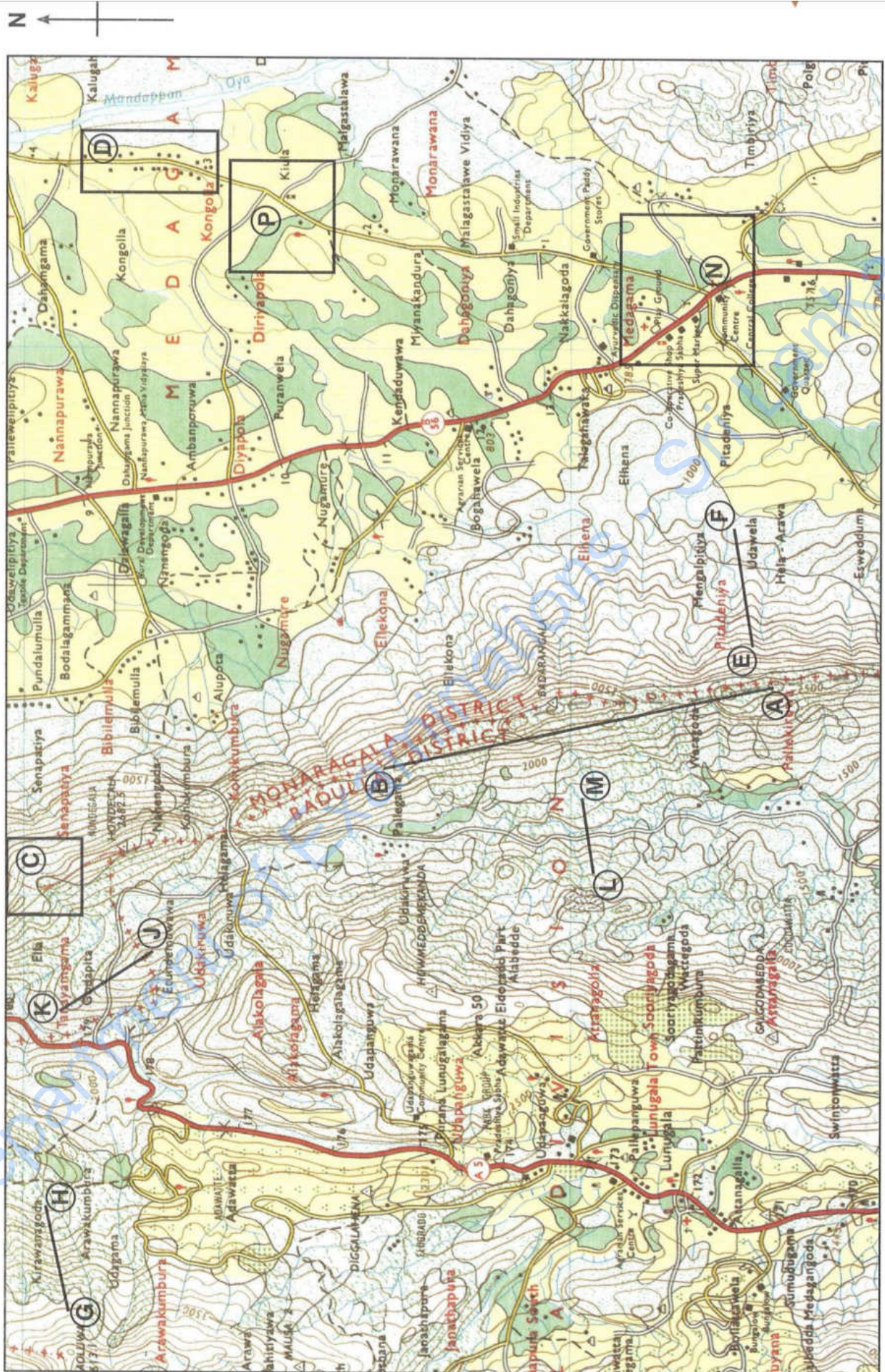
අධ්‍යයන පොදු සහතික පත්‍ර (පස්සේ පෙළ) විභාගය, 2021(2022)
 கல்விப் பொதுத் தராதரப் பத்திர (உயர் தரப் பரீட்சை, 2021(2022)
 General Certificate of Education (Adv. Level) Examination, 2021(2022)

22

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භූගෝල විද්‍යාව I
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 Geography I

993



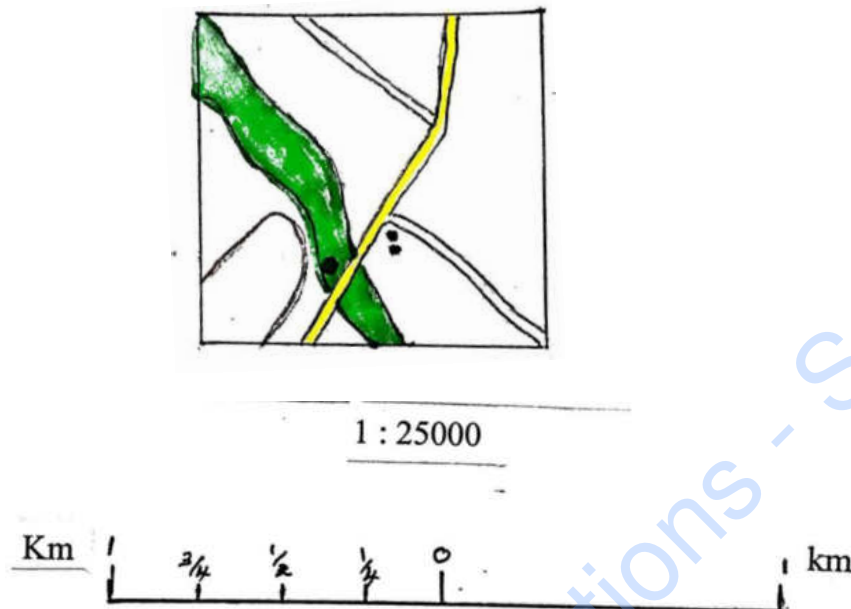
SCALE 1 : 50,000

Paper I - Part II

1. (i) Name the physical feature marked by the line (A) - (B)
Water Divide / Mountain range
(01 mark)
- (ii) Name the administration boundary in quadrilateral (C) and the settlement pattern in quadrilateral (D)
(C) - Divisional Secretariat Division Boundary
(D) - Linear Settlement pattern
(02 marks)
- (iii) Name the four landforms shown by the lines (E)-(F) (G)-(H) (J)-(K) and (L)-(M)
(E) - (F) Concave slope
(G) - (H) Gentle slope / Uniform slope
(J) - (K) Spur
(L) (M) Valley/River Valley
(4 x 1/2 = 02 marks)
- (iv) State **four** service providing institution located within the quadrilateral (N)
Central college/School
Community Centre
Supermarket
Pradeshiya Sabha
Cooperative Shop
Post Office
Hospital
(4 x 1/2 = 02 marks)

(v) Redraw the features in quadrilateral (N) at 1: 25000 scale

(03 Marks)



- Frame should be 4x4 cm
- Scale should be either scale bar or proportional scale
- Redraw all the features

Frame	-	01
Scale	-	01
Accurate features	-	01
(Total marks	-	03)

(vi) Explain **two** physical factors that determine the distribution of paddy cultivation in the map area.

i) Wide Plain

The presence of a lowland area with an elevation of approximately 800 feet has directly allowed the expansion of paddy cultivation. The plain extended from the Central mountain range to the East is used for this purpose.

ii) Tributaries/ Streams

The tributary/Stream that starts from the mountain in the middle of the map area flows in a Northeastern direction and join another tributary/stream, Mandappan oya. It appears that paddy cultivation is being carried out in the wide valley area by using the water supplied by these tributaries/streams. This drainage pattern has helped the expansion of paddy cultivation in the area.

(2x2=04 marks)

- (vii) Explain in brief, **four** factors limiting the human activities in the Northwestern quarter of the map area.

- High altitude.
- Steep slopes
- Deep valleys
- Large areas under forest
- Large areas of grassland
- Large reservation areas
- Poor transport facilities
- Have to travel long distance for basic requirements

(06 marks)

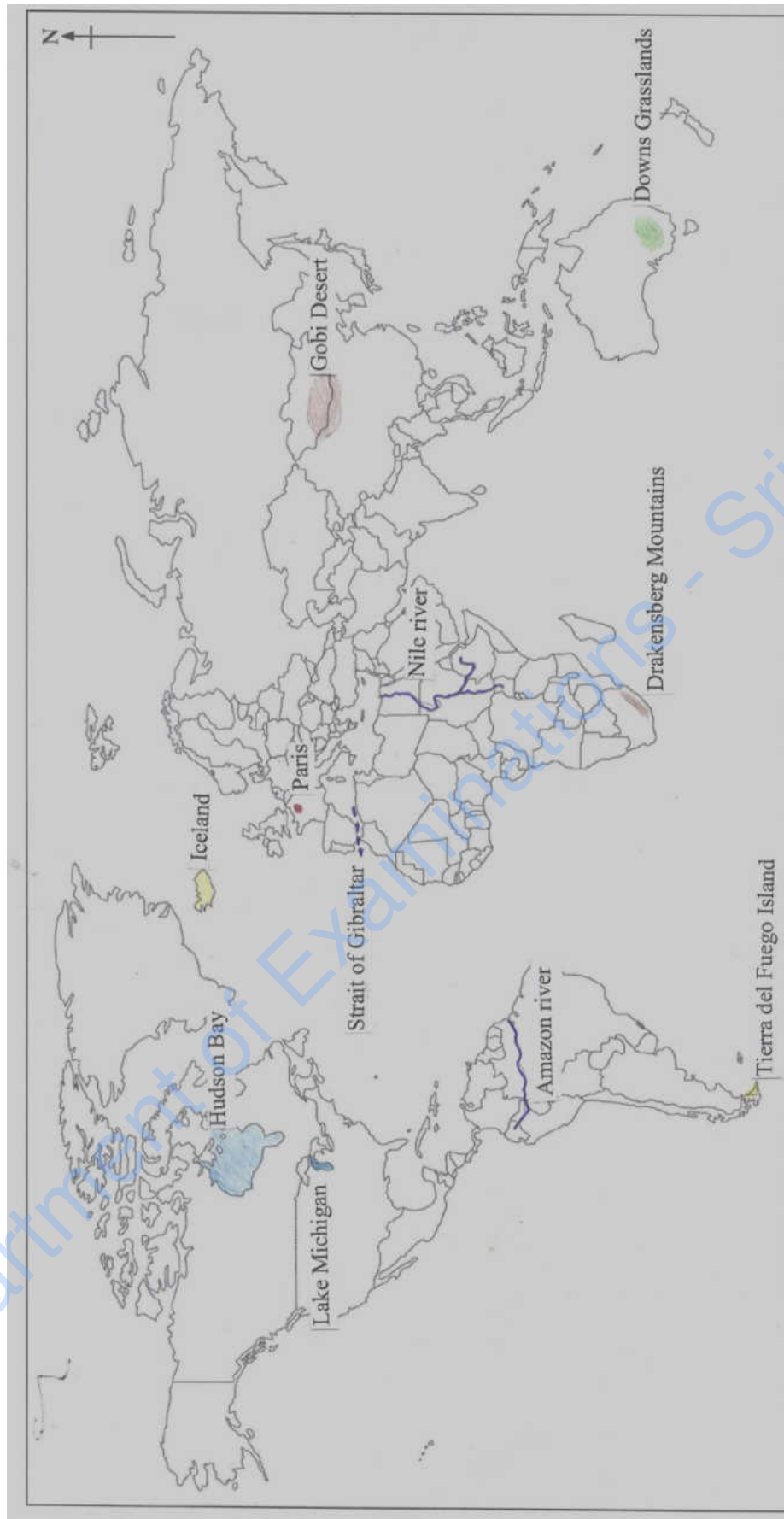
2. Mark and name the following in the world map provided using conventional symbols and color.

1. Drakensberg Mountains
2. Tierra del fuego Island
3. Gobi Desert
4. Lake Michigan
5. Strait of Gibraltar
6. Hudson Bay
7. Downs Grasslands
8. Iceland
9. Longest River in the world - Nile river/Amazon river
10. The city where the head office of UNESCO (United Nation Educational, Scientific and Cultural Organization) is located - Paris in France

(10x1 = 10 marks)

Consider following color and symbols for map marking

- | | |
|--|--------------------------------------|
| • Strait | - Broken blue line across the strait |
| • Bay, Lagoon, Tank or reservoir, River/stream/tributary | - Blue colour |
| • City or Town | - Red dot |
| • Grassland or Park | - Green color |
| • Mountain range | - Brown color |
| • Deserts | - Brown or Yellow colour |



3. Answer the following Questions based on the data given In Table 1.

Table 1: Paddy yields in Yala season in selected districts of Sri Lanka – 2020

District	Average paddy yield (kg/ha)	Deviation (b)
Colombo	3281	-1141
Gampaha	3445	-977
Matara	3573	-849
Kegalle	3731	-691
Kandy	4099	-323
Batticaloa	4582	160
Badulla	4973	551
Matale	5030	608
Vavuniya	5520	1098
Hambantota	5986	1564

Total = 44,220

Mean = 4422

$$MD = \frac{\sum |X - \bar{X}|}{n}$$

$$= \frac{7962}{10} = 796.2$$

(01marks)

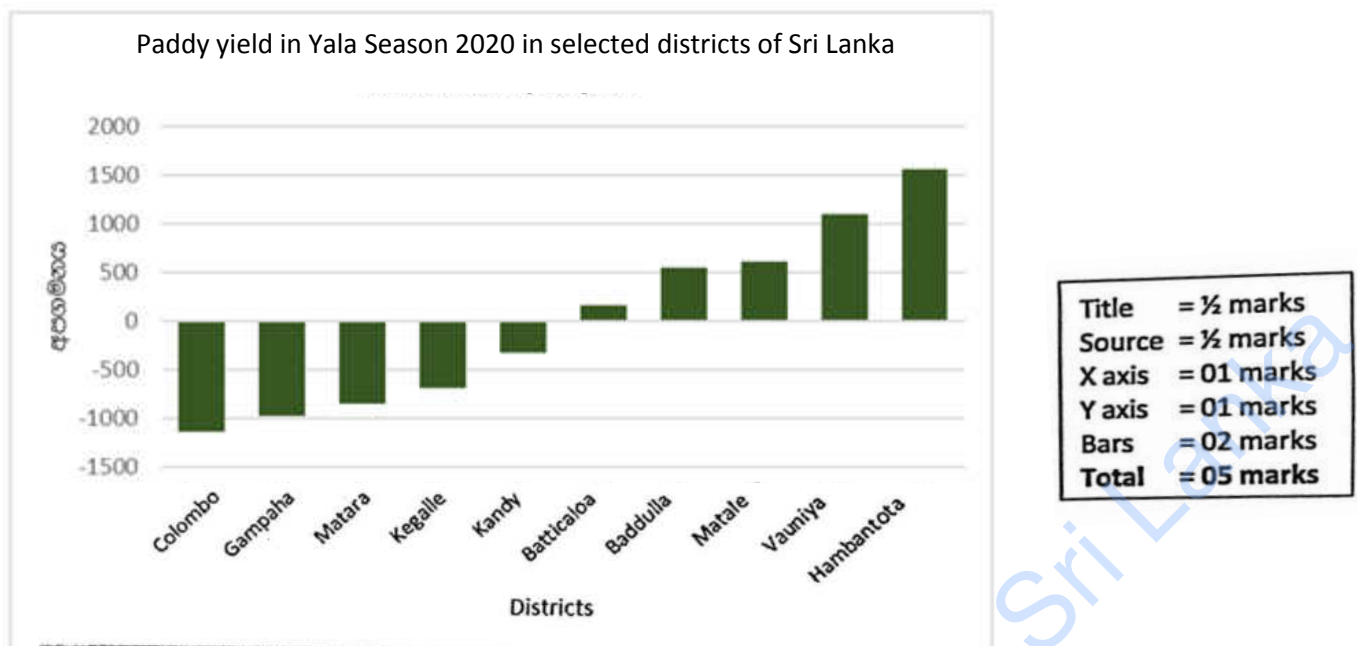
MD = Mean Deviation

\bar{X} = Values of the Variable

\bar{X} = Mean

N = No of districts

- a) Mean (01 marks)
- b) Calculation of deviations by district (02 marks)
- c) Calculation of mean deviation (01 marks)



(iii) Based on the graph you have drawn in 3(ii) above, describe in brief three salient features of the average paddy yields per hectare in the district.

1. Average paddy yield shows variations by districts.
2. Paddy yield of five districts (Colombo, Gampaha, Matara, Kegalle and Kandy) are below the mean yield.
3. Paddy yield of five districts (Batticaloa, Badulla, Matale, Vavuniya, Hambantota) is above the mean yield.
4. Hambantota and Vavuniya district have the highest paddy yield
5. The lowest paddy yield is recorded in Colombo and Gampaha Districts

(3x02 = 6 marks)

- (4) (i) Describe in brief, how the National Grid System of the 1:50 000 topographic map of Sri Lanka has been decided.

Topographic map of Sri Lanka is based on two coordinate systems

1. Global coordinate Systems (WGS 84)

2. National Grid Systems (Kandawala)

- In the National Grid System Piduruthalagala was considered as the base point for mapping. It is also known as the point of Kandawala.
- A false base point has been setup in the Southwestern Sea of Sri Lanka to prevent a part of country incorporating the minus coordinates and to include the whole country into coordinates with plus values.
- From this base point of Piduruthalagala, 200 kilometers to the West and 200 Kilometers to the South was changed to 500 kilometers to the West and 500 Kilometers to the South from Piduruthalagala to conduct the National Grid.

(03 marks)

- (ii) Explain what is meant by spatial data and non-spatial data in a Geographic Information System.

Spatial Data

Spatial Data means the geographical features represented by polygons, lines (polyline) and points. These spatial data can be located by a coordinate system.

Non-Spatial Data

Non-Spatial data means attributes related to spatial data. For Example, land extent within a polygon, length of the road (line), number of people living in a city (point).

(2x02 = 04 marks)

- (iii) Compare two differences between the aerial photographs and satellite images as remote sensing techniques.

Aerial Photographs	Satellite Images
<ul style="list-style-type: none"> • Aerial photographs are taken by an aircraft equipped with special camera 	<ul style="list-style-type: none"> • Images are taken from Satellite moving along in an orbit
<ul style="list-style-type: none"> • These photographs are taken at lower altitudes 	<ul style="list-style-type: none"> • Images are taken at very high altitude
<ul style="list-style-type: none"> • Aerial photographs are prepared in both printed and digital form 	<ul style="list-style-type: none"> • The information available on the ground captured by images are given in digital form
<ul style="list-style-type: none"> • Aerial photograph shows only the surface features of the earth 	<ul style="list-style-type: none"> • Satellite images portray not only the surface features but also the sub surface features
<ul style="list-style-type: none"> • Human guidance is necessary to take photographs 	<ul style="list-style-type: none"> • The satellite images are taken automatically
<ul style="list-style-type: none"> • Aircrafts taking photographs are operated at decided time and periods 	<ul style="list-style-type: none"> • They are taken from satellites rotating around the earth • They are rotating at regular intervals • Sometimes they cover entire Globe
<ul style="list-style-type: none"> • Aerial photographs cover small area 	<ul style="list-style-type: none"> • Satellite images cover wider area

(2x02 = 04 marks)

(iv) Explain how useful is a map for a tourist arriving in Sri Lanka with **four** examples.

A tourist can use either a printed map or a digital map. The Following information can be easily derived by using such maps.

- Locate the destination
- Easy access to destination
- Calculate the distance
- Finding attractive places
- Finding accommodation and related facilities
- Finding better services
- Finding governmental services
- Finding information such as security and health care facilities
- Finding easiest and shortest routes

(4 x 1 = 04 marks)

5.

(i) State **two** uses of interviews as a method of data collection

- The interviews allow the required information to be obtained accurately as far as possible.
- Unclear information can be verified again.
- It is most appropriate to find out people's attitudes, opinion's etc. through direct contact.
- It allows probing of in depth information.
- A researcher gets an opportunity to gather a lot of information and data relevant to the research objectives.

(2 x 1 = 02 marks)

(ii) Name **Three** techniques in practical Geography used in the presentation of information

- Maps
- Graphs
- Photographs and images
- Statistical methods
- Computers

(3 x1 = 03 marks)

(iii) Selecting two of the techniques you have mentioned in 5 (ii) above and describe two uses of each.

Maps

- Presenting details information concisely
- Ability to show spatial distribution
- Can be used to show temporal changes
- Can be used in various scales
- Can be interpreted easily

Graphs

- Ability to represent statistical/numerical data and information
- Possibility to use different graphical methods
- Ability to represent temporal changes
- Useful for spatial data representation
- Can be interpreted easily

Photographs and Images

- Possibility to use different types of images
- Ability to use surface photograph from ordinary camera
- Use of Aerial photos
- Utilization of imagery as a modern technique
- Can be interpreted easily

Statistical Methods

- Data analysis
- Use of specific statistical indices
- Ability to apply a variety of statistical methods
- Can be interpreted easily

Computers

- Storage of data and information
- Data analysis
- Data processing
- Data display
- Data update
- Teaching and learning process

(2 x 01) x 2 = 04 marks))

(iv) Discuss in brief, the importance of practical Geographical techniques in disaster management with three examples

- Identify the places where the disasters occur.
- Identify disaster prone areas
- Modeling vulnerable areas
- Identify the safe places and routes
- Planning of recovery activities
- Building a database related to disasters

(3 x 02 = 06 marks)

6.

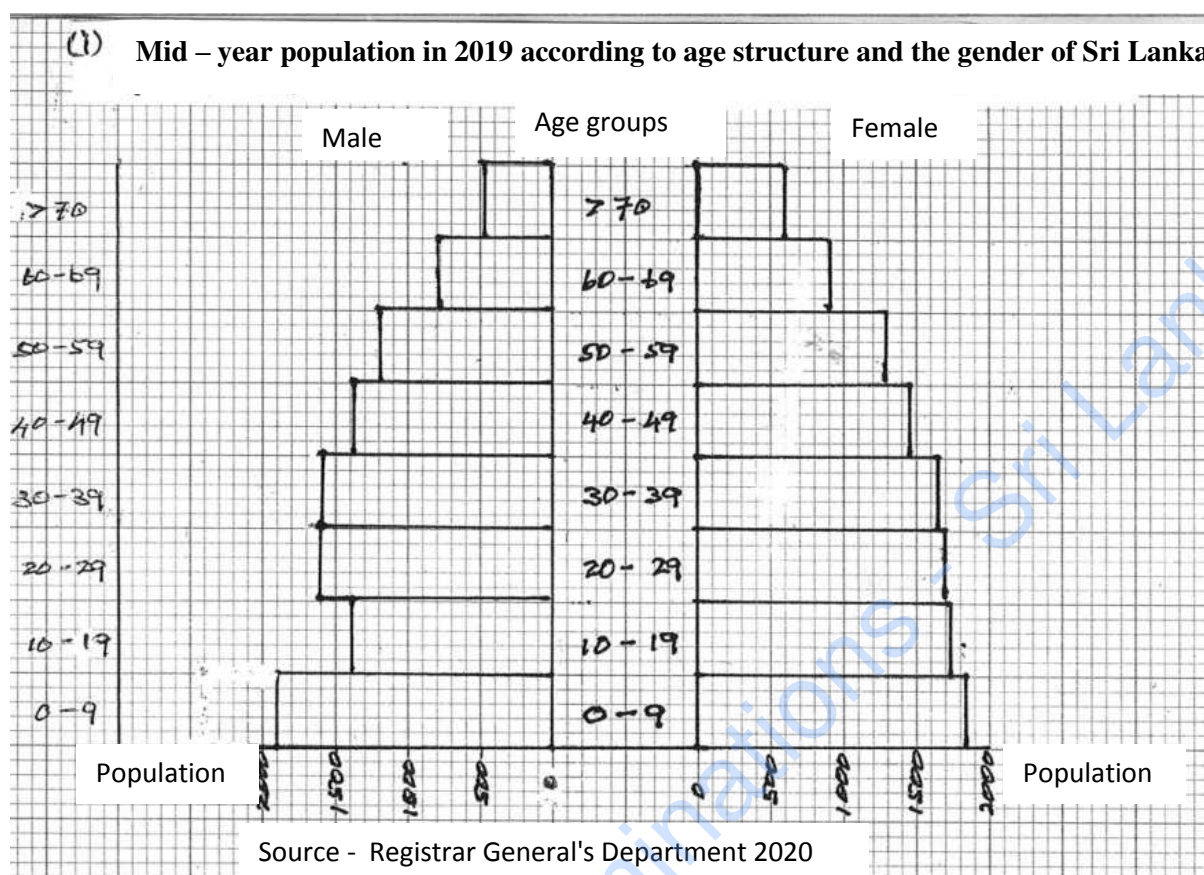
1. Using the data given in **Table 2** answer the following questions

Table 2 – Midyear population in 2019 according to the gender and age structure of Sri Lanka (in thousands)

Age group	Male	Female	Total population
0 – 9	1889	1856	3745
10 – 19	1374	1754	3108
20 – 29	1591	1714	3305
30 – 39	1588	1676	3264
40 – 49	1370	1462	2832
50 – 59	1158	1286	2444
60 – 69	758	899	1477
>70	424	610	1034

Source – Registrar General's Department, 2020

(i) Draw a pyramid graph to represent the age and sex structure of the population of Sri Lanka in 2019 as given in **Table 2**



Title - ½

Source - ½

X and Y axis - 02

Drawing of bars - 04

Colouring and clarity of the drawing - 01

Total marks - 08

(ii) Discuss four salient features of population by age and sex in Sri Lanka that can be observed from the graph you have drawn in 6 (i) above.

- Shape of the pyramid is moving away from the shape of the typical development country age pyramid
- The female population is relatively higher than the male population except the age category of 0 – 9
- Show a gradual decline of the female population
- Male population does not show such a gradual decline
- There is a conspicuous contraction in the 10 -19 years male age group
- The female population remains higher in the population over 70 years and above
- Male and female adult population groups are more or less the same
- The labour force is higher compared to the dependents

(4 x 01 = 04 marks)

(iii) Explain three advantages of the pyramid graph as a cartographic techniques

- Ability to present the population structure of a country
- The state of the population can be identified stable, expansive or declining
- Can predict the future trends in population from the age pyramid
- Ability to identify the number of dependents in relation to the labor force
- Ability to understand issues affecting the future development of a country
- There are no other graphical methods that can display such data in a single graph

(3 x 01 = 03 marks)

Paper II**Part I – Physical Geography**

(1) (i) What is meant by a system ?

- System is a structure comprising a number of interrelated components operating within a specific boundary.
- Objects or a collection of objects connected to each other resulting in a structure is called a system.

(02 Marks)

(ii) Briefly describe three characteristics of the biosphere

- Biosphere is the constantly active sub – system of the geo system
- The environment within which all plants and animals live belongs to the biosphere
- Organisms ranging from micro – organisms to gigantic animals and plants ranging from algae and lichens to large trees comprise the biosphere
- Air from the atmosphere, water from the hydrosphere and land, rocks and soils of the lithosphere are essential for the existence and functioning of the biosphere
- Biosphere consists of several organizational levels which are separable from each other distinctively
- Biosphere shows a biodiversity i.e., the diversity of its animals and plants
- Biosphere has created the interaction between the lithosphere, hydrosphere and atmosphere
- Plant and animal species in the biosphere do not exist in isolation but depend on and interact with each other

(3× 02 = 06 Marks)

(iii) Explain in brief the significance of the biosphere with three factors

- The biosphere plays an integral role in supporting the life of organisms and their interactions
- It is a vital element in climate regulation. Any change in the biosphere triggers a change in climate
- Ecosystems help the cycling of nutrients
- Biosphere regulates various animal and plant populations
- It helps to maintain the stability of biological communities

(3×02 = 06 Marks)

(iv) Examine three human activities that adversely affect the biosphere

- Deforestation can have an impact on the biosphere by reducing the quality of the land, as it makes the soil loose and increase the erosion
- Overgrazing reduces the usefulness, productivity and, biodiversity of the land.
- Over use of agro – chemicals in farming activities
- Degradation of environment due rapid urbanization
- Improper dumping of waste and discharging contaminated water in the biosphere
- Soil degradation and salinization due to agricultural practices
- Inappropriate mining and quarrying

(3× 02 = 06 Marks)

(2) (i) Name two ways of erosion associated with ocean waves

- Hydraulic actions
- Corrosion
- Abrasion

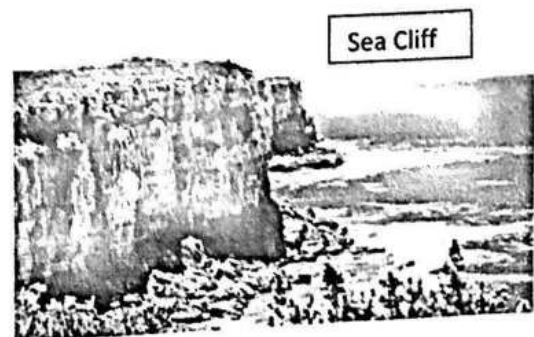
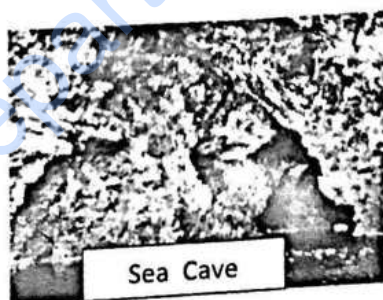
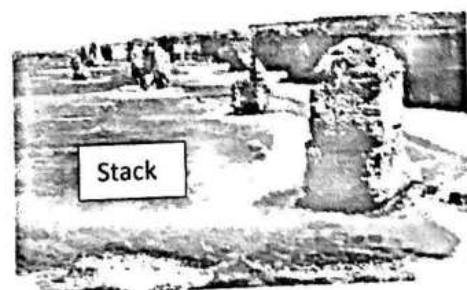
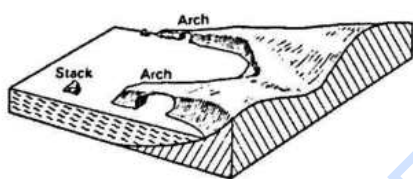
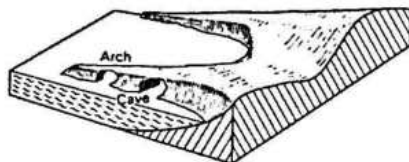
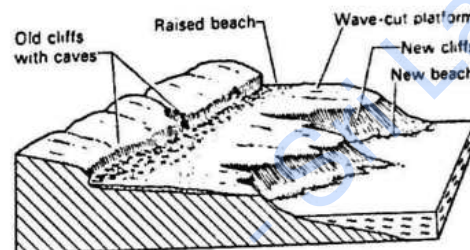
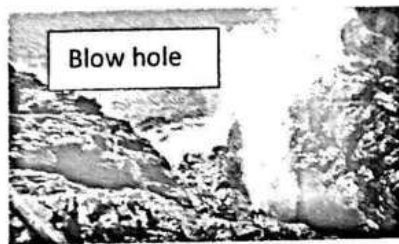
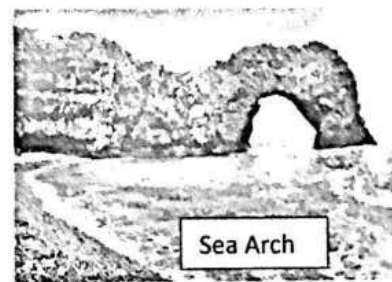
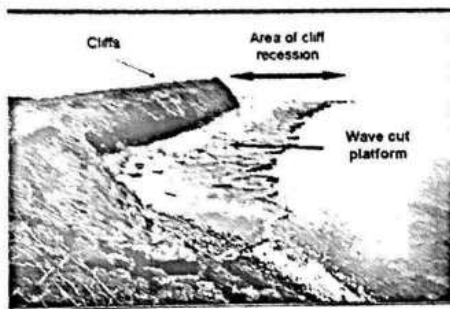
(02 Marks)

(ii) Briefly describe three landforms created by coastal erosion with suitable diagrams

- **Sea Cliffs:** A sea cliff is a steep coastal slope created by the erosive power of waves at its base. Cliffs are the most common features of coastal erosion. As waves attack the shore, the

Headlands are eroded, producing steep sea cliffs. Cliffs are usually formed by rocks resistant to weathering and erosion

- **Sea Caves:** Sea caves are formed in the headland of a sea cliff by wave action. The primary process involved is erosion. Sea caves occur on almost every cliffs' headland or coast where the waves break directly on a rock cliff and are formed by mechanical erosion rather than the chemical solution process. Sea caves are found throughout the world, actively forming along the coastlines.
- **Wave – cut Platforms:** A wave – cut platform develops because of wave abrasion. It is a gently sloping rock ledge that extends as coastal benches, or wave – cut benches as a narrow flat bedrock surface often found at the base of a sea cliff or along the shoreline of a bay or sea.
- **Sea Arches:** A natural rock formation where an arch is formed with an opening underneath. Natural arches commonly form where inland cliffs, and stacks are subject to erosion from the sea.
- **Sea stacks:** A sea stack is a geometrical landform consisting of a steep and often vertical columns of rock near a coast, formed by wave erosion. Stacks are formed over time by wind and water processes of coastal geomorphology. Eventually, the erosion will cause the stack to collapse.
- **Promontory (Headland):** The definition of a promontory is a high elevation or point of land that extends out into the sea. An example of a promontory is Dondra Head in Southern coastal belt. At headland, wave erode along the line of weakness, e.g. : fault line or joint, that lie or joint, that lines across the headland. Most promontories are formed from a hard ridge of rock that has resisted the erosive forces that have removed the softer rock to the sides of it.
- **Blow Hole:** A blowhole or marine geyser is formed as sea caves grow landwards and upwards in to vertical shafts and expose themselves towards the surface, which can result in hydraulic compression of seawater that is released through a hole from the top of the blowhole. The formation of a blowhole system begins as a littoral cave is formed. The main factors that contribute to littoral caves formation are wave dynamics and parent material's rock property
- **Sea Bay:** A Bay is a recessed, coastal body of water that directly connects to larger main body of water, such as an ocean or even another bay.



(3 × 02 = 06 Marks)

(Description = 01 and Diagram = 01)

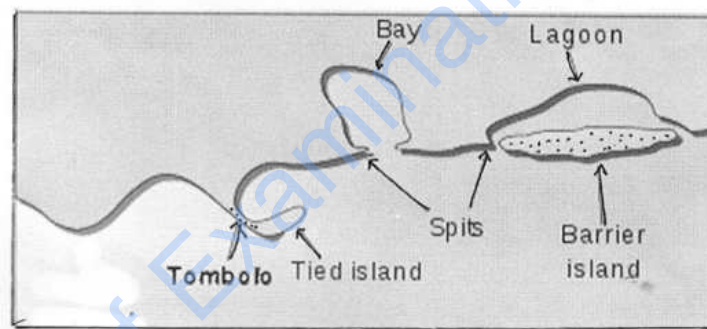
(iii) Depict the following two depositional landforms in the coastal areas with diagrams and explain their physical features

a) Tombolo

b) Sand spit

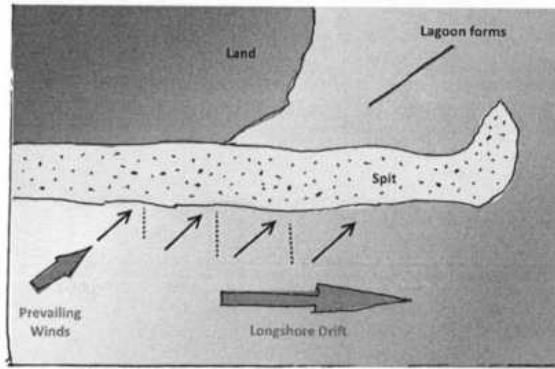
(a) Tombolo

- A narrow piece of land made of sediment such as gravel that connects an island to the mainland or another island
- Wave refraction causes deposit of sediments between the island and mainland.
- Two or more tombolo may form an enclosure that can eventually fill with sediment
- The sediments that make up a tombolo are coarser towards the bottom and finer towards the surface. It is easy to see this pattern when the waves are destructive and wash away finer grained material at the top, revealing coarser sands and cobbles at the base



(b) Sand spit

- A narrow point of sandy land projecting into the sea
- A sand spit is a deposition bar or beach land from off coasts
- It develops in places where deposition occurs by the process of long shore drift of long shore currents
- Spits, composed of sand or pebbles, are formed by the long shore movement of sediments
- They often are completely curved with a characteristic of a curved head (hook). This probably results from the refraction of waves around the spits end.
- Along narrow accumulation of sand or gravel



(2× 03 = 06 Marks)

(Description = 02 and Diagram = 01)

(iv) Explain briefly three measures which have been taken by the Coast Conservation Department (CCD) of Sri Lanka to protect the coastal environments.

- Issue of permits for activities associated with the coastal area
- Regulation of sand mining and coral mining
- Inspection of coastal region environmental activities
- Inspection of coastal region engineering activities
- Constructions of coastal protections
- Implementation of coastal security measures during disaster situation
- Formulation of national coastal region management plan
- Implementation of management activities in specifically selected wasted areas
- Implementation of educational programs related to coast conservation
- Cooperative action taken with other relevant institutions for coastal protection

(3× 02 = 06 marks)

03. (i) What is meant by over – use of water resources?

- When the withdrawal of water is more than its recharge rate in a particular area it is called over – use of water resources
- Over – use of water resource is referred to the extraction of water for irrigation and human consumption is more than the rechargeable rate

(02 marks)

(ii) Briefly discuss three fields where water resources are over – used.

Over – use of water resources could be directed along with four sectors.

- **Food Production**

Of the total quantity of fresh water 60% is spent on food production and according to the irrigation techniques practiced, 50% of the water used is wasted. It leads to over exploitation of water resources.

- **Industrial Sector :**

In industrial activities also the over – use of water resources takes place. A huge amount of water is used in industries like textiles and ceramic. In our country huge amount of water is used in activities such as washing, mining, concrete production and construction industry etc. These activities cause to over – use of water resources.

- **Household Consumption**

On every occasion in daily water consumption, an over use of water takes place. In washing (Clothes, Vehicles and other daily activities), water is used in quantities more than the required amount.

- **Environmental Beautification**

In our country, water is used in large quantities in environmental beautification activities. In such activities, water is wasted. The situation becomes worse since it uses the drinkable water

(3× 02 = 06 marks)

(iii) Explain briefly three ways of preventing over use of water resources.

- Use of water in domestic activities avoiding wastage
- Use of rain water
- Re – use of water after purification
- Avoid water wastage and over – use by using modern equipment
- Maintain good water management practices in agriculture
- Awareness among people on preventing over use

(3× 02 = 06 marks)

(iv) Discuss three measures that could be adopted to prevent the pollution of water resources in Sri Lanka

- Adoption of measures to dispose human waste
- Recycling of waste and human waste
- Imposing limitations on the use of chemical fertilizers, weedicides and pesticides.
- Enactment of laws on industrial waste disposal
- Minimization of sand mining, other mining activities and extraction of clay
- Awareness on preventing the pollution of water
- Punishment for people who violate the rules and regulations
- Release of water without waste in industrial activities
- Awareness of people on laws and regulations
- Stop illegal construction in water resource areas

(3× 02 = 06 marks)

(4) (i) What is meant by " Greenhouse Effects" ?

- Greenhouse effect is a natural process. It results in warming up of the earth surface and atmosphere. Without the greenhouse effects the Earth's temperature would be below freezing level
- However as we add greenhouse gases to the atmosphere, it warms up our planet. Natural greenhouse is necessary for creating a favourable environment for existence of life

(02 marks)

(ii) Explain three anthropogenic factors responsible for global climate changes

The average of the weather condition over a period of 30 years is considered as normal climate. The long-term changes in the climate is called climate change. When the greenhouse gases are released by human activities, it is called anthropogenic climate change.

Anthropogenic factors

- **Fossil fuel burning**

Humans are creating most of the current changes in the climate by burning fossil fuels, coal, oil and natural gases. Nitrous oxide is generated by burning fossil fuels. Over a period of 200 years since the industrial revolution, the amount of the carbon dioxide in the atmosphere has increased by about 30 per cent.

- **Industrialization**

Industrialization could be named as a major anthropogenic activity that has contributed to climate changes. A number of greenhouse gases are added to the atmosphere in this process. Carbon Dioxide (CO_2), Nitrous Oxide (N_2), Methane (CH_4), Hydrofluorocarbon (HFC_s), Sulfur Hexafluoride (SF_6), Perfluorocarbon, (PFC_s), Nitrogen fluoride (NF_3) are among them of the total greenhouse gas emission. Nineteen per cent of greenhouse gases has been contributed by industrial activities and the major contributors are developed and industrial countries.

- **Agriculture**

The arable land area of the earth is about 40-50 per cent of the total area. In the agricultural process, the greenhouse gases such as carbon dioxide, methane and Nitrogen Oxide are emitted to the atmosphere. Emission of methane from paddy fields and application of fertilizers with Nitrogen have been responsible for this situation. The greenhouse gases are emitted during the production of chemical fertilizers. The life span of the Nitrogen oxide emitted by agricultural activities are about 150 years. It immediately contributes of global warming.

- **Livestock Farming**

The livestock sector contributes about 14.5 per cent of global GHG emissions. Livestock is a highly significant source of methane emissions, contributing 34 – 50% of methane emission worldwide. Though Methane released by cattle is short lived than carbon dioxide, it contributes more than 28 % of the global warming. Livestock farming activities through greenhouse effect contribute to climate change. Animal waste, Urine and rumination contribute to the emission of methane gas.

- **Deforestation**

A key contributor of human impact on climate change is deforestation. When forests are cleared or brunt, they release carbon to the atmosphere. Deforestation and burning of bio mass immediacy contribute to emission of greenhouse gases. According to current estimates, the amount of carbon absorbed by forests is around 250 metric tons per hectare. The ability to absorb carbon dioxide in the atmosphere by plants is lost due to deforestation.

(3× 02 = 06 marks)

(iii). Discuss with three examples the effects of the global climate change

- Rise in sea level (up to 18 – 59 cm), melting glaciers and warming oceans.
- The global temperature could increase from 1.1 to 6.4 in the 21st century due to occurrence of wild fires.
- Frequent periods of high temperatures and wild fires.
- Frequent periods of high temperatures and heat waves.
- Draughts, cyclones and storms could occur.
- Decrease in agricultural production.
- Negative effect on human health.
- Weather related disasters and displacement of people, leaving many more vulnerable to poverty.
- Heavy rainfall, flooding and erosion
- Deserts are expanding reducing land for growing food.
- More carbon dioxide makes ocean are more acidic endangering marine life.

(3× 02 = 06 marks)

(iv) Examine in brief three measures that have been taken by the Government of Sri Lanka to mitigate the impact of climate changes

- Establishment of the national focal point to the UNFCCC and its Kyoto Protocol (KP) under the United Nations Framework Convention on Climate Change (UNFCCC). Establishment of climate change secretariat (CCS) for Preparation of national Climate change policy of Sri Lanka, Establishment of climate fund.
- Green Agriculture (Climate smart agriculture); Soil conservation Water efficiency, Organic farming techniques, Gradual transformation of existing plantations and other farmlands in eco – friendly farms and lands.
- Green Industries; cleaner and efficient use of energy, green trading paperless society
- Promoting Green cities and buildings: location specificity, design specificity, waste management, and energy efficiency, material efficiency, water efficiency, occupation health and safety
- Explore the potential of cleaned renewable energy sources of the country and enhance their production, accessibility and affordability.
- Awareness of people to avoid the climate change actions
- Establishment of emission testing centres for vehicles to reduce air pollution
- Promoting eco – tourism
- Promoting the use of electric cars to reduce use of fossil fuel.

(3× 02 = 06 marks)

(5)

Region	Year				
	1950	1970	1990	2020	2030*
Africa	14.3	22.6	31.5	38.9	48.4
Asia	17.5	23.7	32.3	44.8	56.7
Europe	51.3	63.1	69.9	72.9	77.5
Latin America and Caribbean	41.3	57.3	70.7	78.6	83.6
North America	63.9	73.8	75.4	80.8	84.7
Oceania	62.5	70.2	70.3	68.1	68.9
More Developed countries	54.8	66.8	72.4	77.2	81.4
Less Developed countries	17.7	25.3	34.9	46.1	56.7
World	29.6	36.6	43.0	51.7	60.4

(i) What is meant by the level of urbanization of a country?

- The number of people living in areas designated as urban as a percentage of the total population of that country is considered as the level of urbanization.

(02 marks)

(ii) Describe in brief any four characteristics of the urbanization revealed by the data given in table 1.

- The level of urbanization of the world has continuously increased.
- In general, in all regions of the world the level of urbanization has increased.
- Up to 1990, the level of urbanization of the world population was below 50 per out of the total world population.
- Since 2010, according to the table, the urban population of the world has been more than 50 percent of the total world population
- There are considerable variations in urbanization levels by regions of the world.
- In 2010, 77.2 percent of the total population in the more developed countries was urban. In comparison, only 46.1 percent of the total population in the less developed countries was urban. this difference will continue in to the year 2030 also.
- African Continent is the least urbanized region in the world (38.9 percent in 2010). In the year 2030 too, it will remain as the least urbanized region in the world.
- North America is the most urbanized region in the world. In 2010, 80.8 percent of the total population of North America was urban. In the year 2030 too, it will be the most urbanized region in the year 2030 too, it will be the most urbanized region in the world (84.7%).

(4× 1 ½ = 06 marks)

(iii) Explain in brief three factors that affect the level of urbanization in country.

- Criteria used for deciding the level of urbanization:

To identify the level of urbanization in a country, various criteria are used. they are as follows:

- Administrative boundary, population size, population density, percentage of the labor force engaged in non - agricultural activities, availability of infrastructure facilities such as electricity, pipe borne water supply.

- Some Countries use only single criteria while others use them in Combination. As such, the level of urbanization vary from one country to another.
- Rural - Urban migration: Many people migrate from rural areas urban areas in search of the better life in terms of employment, income, education and health facilities etc.
- Natural increase of population in urban areas:
- Infrastructure development: development in rural areas many retard the migration to urban areas as regional development brings many facilities to rural areas.
- Government Policies: establishment of growth poles will attract industries and service sand there by encourage migration into urban areas.
- Industrialization: establishment of industries in urban areas will attract people from rural areas. This has been a major factor in the urbanization process in England and other European Countries.
- Urban pull and rural push: People might be pushed out from rural areas due to various reasons like lack of employment opportunities, low levels of income, lack of facilities such as education and health care, unfavorable social and political conditions etc.

(3× 02 = 06 marks)

(iv) Examine three favorable impacts of urbanization.

- Urban areas are the centers of economic activities such as industry, Commerce and trade, transport, education, health Care Facilities, arts and culture, Science and Technology. These centers act as catalysts or drivers of development into other areas of the country.
- Urbanization is closely related to economic and social development transformation resulted in increased population mobility, decrease in human ferity and increased life expectance.
- The process of elimination of poverty starts from urban centers in developing countries.
- Hardly any country in the world has achieved development without urbanization. They are the catalysts of development.
- Economics transformation from low productive agriculture to high productive industry and service is associated with urbanization.

- Migration into urban areas for earning income helps developing rural areas. It reduces the pressure and unrest exerted by unemployment in rural areas.
- They are the Centers of new knowledge and knowledge production.
- They are the markets for agricultural and industrial production in the country.

(3× 02 = 06 marks)

6. (i) What is meant by population ageing?

- Population ageing means the increase in the percentage of population aged 60 years and over in a country's population.
- In other words, the gradual increase in the median age of the population of a country is also known as population ageing.

(02 marks)

(ii) Discuss two major factors responsible for population ageing.

- Increase in life expectancy: due to the improvement of health facilities, nutrition level, education level, happiness and government policies.
- Decrease in fertility level: due to increase in education level of women, employment, use of family planning, increased age at marriage and government policies.

(2 x 02 = 04 marks)

(iii) Examine with examples three impact of population ageing on the economy of a country

- Increase in elderly population will increase expenditure on elderly care.
- Increase of social expenditure of the government
- Increase responsibility of the government to provide means of livelihood for aged people
- Continued contraction of the labor force
- Reeducation in savings that retards investment. Aged people are mainly consumers rather than produces so that savings are less.
- Relatives decline in new inventions and decrease in productivity levels.

(3 x 02 = 06 marks)

(iv) Discuss in brief four measures that could be taken to solve the problems posed by population ageing.

(2 x 3 = 06 marks)

- Retain them in labor force by increasing the retirement age.
- Provide conducive environment for aged people in order to improve social environment to relieve them from mental isolation.
- Encourage family support for ageing parents.
- Provide institution high care for the elderly.
- Provide concessions in transport, entertainment, medical services etc.
- Government as this will be a long lasting demographic reality.

(4 x 02 = 08 marks)

7. (i) What is meant by manufacturing industries?

- Transformation of a raw material into a finished product is known manufacturing industry.
- A value addition is made by mixing one or more raw materials.
- Any industry that makes products from raw materials by use of labour or machinery.

(02 marks)

(ii) Describe briefly with three factors how transport affects the location of manufacturing industries.

- Transport is needed to procure raw material and energy resources could and send the finished products to the market.
- Transportation plays an important role in the location of industries.
- Industries are located at the places where energy resources could be easily obtained and the production cost is least.
- Technology has reduced the time taken for transformation and thereby facilitating the exchange of finished products with any country of the world.
- Industries are being located where air, naval and land transportation facilities are available sufficiently. Ex. Tokyo in Japan, Chicago in USA, London in UK
- The Opening of Panama and Suez Canals greatly helped industries to develop.

- Air transport helped largely online marketing and promoted manufacturing industries.
- Railways and highway transport have contributed the location of industries largely in Asian and Latin American Countries.
- Expansion of industries beyond boundaries with the help of land transport. Ex. Nike shoe production in China.

(3 x 02 = 06 marks)

(iii) Explain in brief three salient features of traditional handicraft industries in Sri Lanka.

- From the distant past, the traditional handicraft industry has been of importance in the economy of Sri Lanka.
- These industries have distributed in rural areas as well as in special villages.
- These industries utilize technologies transferring from generation to generation.
- This sector has recorded a growth rate of 2.5 percent in 2014.
- Geographical distribution: Beeralu in Magalle, masks in Ambalangoda, lacquer ware in Kandy, Rattan base craft in Wewaldeniya, Brass ware in Pilimathalawa, clay and ceramic in Kowulara .
- These productions earn foreign exchange.
- The State, through various ministries and department, has taken steps for the development of these industries.
- A large number of jobs have emerged in association with these industries (approximately 200,000 people)
- Since the product of these industries attracts tourists there is a tendency to develop the tourism industry.
- These industries use local raw materials in large quantities.
- Due to the emergence of specialized markets and creation of employment opportunities, it has contributed to regional development also.
- Scarcity of raw materials and moving out of new generation from the industry are some recent issues.
- Due to the lack of technology, low productivity has prompted low participation of businesspersons.

(3 x 02 = 06 marks)

(iv) Examine three contributions of manufacturing industries to the economic development of Sri Lanka.

- The industrial sector contributes to the economy of Sri Lanka through different fields.
 - Gross domestic product (19% in 1978, 15% in 2016) DCS.
 - Employment
 - Foreign exchange earning
 - Utilization of local resources
 - Growth in infrastructure facilities
 - Regional development
 - The contribution of the industrial sector to the gross domestic product is 32.3 percent in 2014
- Main sectors of GDP – 2020

Agriculture	7.3
Industries	28.4
Services	58.3
Taxes less Subsidies	6.0
Total	100.0
- The share of the industrial sector of the total employment of Sri Lanka is 6.5 percent in 2014.
- The industrial sector provides 74.2 percent of the foreign exchange earnings of the country, also in 2014.
- Cement, Steel, Ceramics, fuel product, paper, leather, tires, textiles, sugar, ligour, gem products salt, clay products.
- Development of infrastructure facilities such as railways, highways, electricity, telephone services and transportation in association with industrial plants and industrial cities, industrial estates and free trade Zones.
- Contribution to regional development through decentralization of industries.

(3 x 02 = 06 marks)

8. (i) State four sectors in globalization

- Economic globalization
- Cultural globalization
- Political globalization
- Technological globalization
- Social globalization
- Environmental globalization

(4 x ½ = 02 marks)

(ii) Explain two drivers of globalization with three features of each drivers

Drivers of globalization

- Information and communication technology
- Multinational corporation
- Human mobility
- Transportation

Information and communication technology

- Radio, television, Computers, telephones, satellites, Other electronic communication equipment are significant in this process.
- The rapid development which has been realized by the information and communication technology has affected globalization tremendously.
- In cultural and social sectors, it has been possible to exchange views, skills and attitudes of each other and improve their conditions.
- With the emergence of satellite technology, fiber optics cables, wireless networks, and mobile phones it has been possible for the people to be aware of any incident occurring in the world within a very short period of time.
- It has been possible to process the information at a great speed and store a large amount of information in a very small space.

Multinational Corporations

- The large companies who are having businesses at least in one country outside their home country are known as multinational corporations. The head offices and factories of these companies are established in various countries and their coordination is done by the main office located in the home country.
- These companies invest money in order to spread their businesses in other countries. It is called foreign direct Investment (FDI)
- The low cost production in developing countries, The Opening of the economies by these countries in order to expand foreign investment, relaxation of tax policies, relaxation of labor laws, expansion of infrastructure facilities etc. have increased the investments by multinational corporation in them.
- The leading companies of the world either by spreading their own businesses in the countries of the world over or investing to establish businesses in other countries contribute to globalization.

Human mobility

- The regional or international migration of the people is called human mobility. Human mobility takes place due to various factors such as employment, education, pleasure, business activities and religious purposes.
- In a globalization world, Countries are open to a large extent. especially due to the information and communication technology it has become easy to acquire knowledge and understanding about the world.
- Due to human mobility, the social and spatial gaps between countries have reduced.
- It has opened the space for people to migrate for educational, employment, pleasure and business purposes.
- Educational opportunities have widened. Opportunities are created for exchanging entrepreneurs. Opportunities for exchange of technology are created.

Transportation

- Contribution of the transportation is necessary for all countries to work under globalization
- To maintain the exchange of goods and services among all countries can be implemented with transportation
- The development of transportation can be identified under several categories " These are air transport, marine transport, railway transport, pipe transport and road transport
- The globalization is very strong in the counties where the development of transportation of high
- The development of urbanization within countries depends on the development of transportation. As such, the contribution of urbanization for the globalization also depends on the development of transportation.

(3 x 1)x 2 = 06 marks)

(iii) Describe three advantages and three disadvantages of globalization.

(03 + 3 = 06 marks)

Advantages of globalization

- It can acquire knowledge an enterprise for countries where they are not available.
- It can create opportunities for less developed countries to enter world market.
- It can encourage inflow of capital, technology and human capital possibilities for expanding import and export trade.
- It provides opportunities for entrepreneur of the less developed countries to become stakeholders of the international production networks.
- It acquires education and exchange technological knowhow.

Disadvantage of globalization

- Increase in income disparities between industrialized countries and industrially less developed countries and also within the less developed countries as well.
- The protecting policies of the developed countries controlling opportunities available for developing countries to access the export market.

- The measures followed by developing countries in competition with other developing countries with a view to attracting foreign capital investments create environmental problems.
- In practice, the globalization process operates from developed countries to developed countries to developing countries only.
- Gradual disappearance of cultural identity and cultural uniqueness of many countries and the spread of a global culture based on westernization led by the united states of American.

(3 x 01)x2 = 06 marks)

(iv) Discuss three ways of how the current COVID - 19 pandemic has affected the globalization process.

- **Economic effect**

Job losses,
foreign income loses,
imports and exports reduced,
economic recession may happen,
tourism reduced GDP per capital fallen,
trade stowed,
air travel reduced.

- **Social effect**

Stay at home order enforced,
one-meter distance was advised,
wear a mask,
use of sanitizer,
stay away from friends and relatives,
mentally stressful entertainment and sports closed,
social life badly affected,
life expectancy decreased.
Social unrest in some developed countries.

- **Political effect**

politicians and leaders become unpopular
decisions were unpopular and challenged,
political power of the countries diminished,
government regulations and controls are unpopular,
international relations are also weakened.

- **Technological effect**

work from home facilitated by technology,
telecommunication services expanded,
it consultancy expanded,
online learning and meetings increased,
social media strengthen,
online shopping and e-banking increased.

- **Environmental effect**

Air pollution has decreased,
carbon emissions fallen,
water pollution decreased,
disposal of masks and gloves create problems.

- **Research and Development (RD)**

Development by various vaccinations
Development in medical research
Development by local treatment

(3 x 02 = 06 marks)