FORM TP 2016077

TEST CODE **01225020**

MAY/JUNE 2016

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

GEOGRAPHY

Paper 02 – General Proficiency

2 hours 30 minutes

26 MAY 2016 (a.m.)

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This paper consists of TEN questions in FOUR sections.
2. Section A consists of ONE compulsory question. EACH of Sections B, C and D consists of THREE questions.
3. Answer FOUR questions: Question 1 from Section A and ONE question from EACH of Sections B, C and D.
4. Begin EACH answer on a new page.
5. Credit will be given for the use of relevant sketch maps and diagrams.
6. You may use a silent, non-programmable calculator to answer questions.
7. You may use geometrical instruments.
8. Write all of your responses in the answer booklet provided unless otherwise stated in the question. ALL inserts used MUST be fastened securely to your answer booklet.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

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SECTION A (Mapwork)

Answer this compulsory question.

1. Study the 1984 map of Kingston, Jamaica, on a scale of 1:50 000 **(provided as an insert)**, and answer the following questions.

   (a) State the six-figure grid reference of the circle at the road junction at Three Mile (between Easting 67 and Easting 70). **(2 marks)**

   (b) Determine the distance from the junction at Three Mile along the Class B road to the first junction with the Class C road near Half Way Tree, to the **nearest 100 metres**. **(2 marks)**

   (c) Determine the grid bearing of the junction at Half Way Tree **from** the junction at Three Mile. **(2 marks)**

   (d) State the compass direction of the junction at Three Mile **from** the junction at Half Way Tree. **(1 mark)**

   (e) What **fraction** of the real horizontal distance between any two points shown on a map is the (map) distance between these points? **(1 mark)**

   (f) List THREE **government** services available in Port Royal (at the end of the Palisadoes). **(3 marks)**

   (g) The road which ascends Long Mountain starts at a point 120 m high and ends at a point 420 m high. Calculate the gradient of the straight slope between these two points. **Show your calculation.** **(3 marks)**

   (h) Describe FOUR characteristics of the settlements in the area shown on the map. **(8 marks)**

   (i) Giving an example of EACH, outline the association between the relief and THREE types of land use shown on the map. **(6 marks)**

Total 28 marks

SECTION B (Natural Systems)

Answer ONE question from this section.

2. (a) Draw a diagram to show the formation of a spit. **(4 marks)**

(b) (i) Define the term 'soil creep'. **(2 marks)**

(ii) State TWO indicators that soil creep is occurring on a slope. **(2 marks)**

(iii) List FOUR human activities that contribute to landslides in the Caribbean. **(4 marks)**

(c) (i) Explain how earthquakes occur at transform plate boundaries. **(4 marks)**

(ii) Account for the formation of fold mountains and volcanoes at **destructive** plate boundaries. **(8 marks)**

Total 24 marks

3. (a) Draw a sketch map of Barbados or Jamaica and on it, shade an extensive area of limestone. **(4 marks)**

(b) (i) Describe the formation of a waterfall in areas where there are alternate layers of hard and soft rocks. **(4 marks)**

(ii) Describe the process of frost shattering. **(4 marks)**

(c) (i) Explain how rock structure and chemical composition influence the weathering of limestone. **(6 marks)**

(ii) With the help of a diagram or diagrams, explain the formation of pillars in limestone areas in the Caribbean. **(6 marks)**

Total 24 marks

4. (a) Study Table 1 which shows the number and cost of floods, droughts and hurricanes worldwide, and answer the questions that follow.

TABLE 1: NUMBER AND COST OF FLOODS, DROUGHTS AND HURRICANES WORLDWIDE, 1960–1999

Period	Number (Major Events)	Cost (US$ billions)
1960–69	27	73
1970–79	47	131
1980–89	63	204
1990–99	89	629

Source: Wilson, Caribbean Environment, 2005, p. 181.

(i) Identify the period which had the HIGHEST cost **per event**. **(1 mark)**

(ii) Between which TWO periods was there the HIGHEST increase in the number of events? **(1 mark)**

(iii) Outline TWO trends in the data presented in the table. **(2 marks)**

(b) (i) State FOUR characteristics of the weather associated with the passage of a tropical wave. **(4 marks)**

(ii) For areas with a tropical marine climate, outline TWO characteristics of the rainfall and TWO characteristics of the temperature. **(4 marks)**

(c) Compare THREE adaptations of vegetation to the climate in the equatorial and tropical continental regions. Include reasons for EACH adaptation. **(12 marks)**

Total 24 marks

SECTION C (Human Systems)

Answer ONE question from this section.

5. (a) Table 2 shows the annual growth of a Caribbean town between the years 1985 and 2016.

TABLE 2: ANNUAL GROWTH FOR A CARIBBEAN TOWN, 1985–2016

Year	Population
1985	5 000
1997	73 000
2006	94 000
2016	160 000

On the grid, **provided as an insert**, complete a line graph to illustrate the data in the table. Include a title and label the vertical axis. **(4 marks)**

(b) (i) Define the term 'urbanization'. **(1 mark)**

(ii) Outline THREE reasons for rural–urban migration in the Caribbean. **(3 marks)**

(iii) Describe TWO measures that have been used to control the rate of urbanization in the Caribbean. **(4 marks)**

(c) (i) With reference to specific Caribbean examples, explain how any TWO of the following factors influenced population distribution:

- Natural vegetation
- Presence of minerals
- Soils **(6 marks)**

(ii) For a **named** Caribbean territory, explain TWO ways in which its relief influences population density. **(6 marks)**

Total 24 marks

6. (a) Table 3 presents data showing the distribution of the labour force in Saint Lucia according to economic activity.

TABLE 3: PERCENTAGE OF SAINT LUCIA LABOUR FORCE IN SECTORS OF THE ECONOMY

Economic Activity	Size of Labour Force (Percentage)	Size of Sector (Degrees)
Primary	21	76
Secondary	25	90
Tertiary	54	194
Total	**100**	**360**

Source: Bleasdell, S. et.al., CSEC: New Integrated Geography, p. 425.

On the **insert provided**, complete the pie chart to show the distribution of the labour force in EACH economic activity. (Include a title.) **(4 marks)**

(b) (i) Define the term 'primary economic activity'. (Include an example in your definition.) **(2 marks)**

(ii) Outline the role of THREE factors in the development of the tourist industry in the Caribbean. **(6 marks)**

(c) (i) Explain THREE ways in which tourism benefits Caribbean economies. **(6 marks)**

(ii) Explain THREE challenges faced by the tourist industry in the Caribbean. **(6 marks)**

Total 24 marks

7. (a) Table 4 presents the value of banana exports in millions of US$ for two Caribbean countries in 1990 and 2003.

TABLE 4: BANANA EXPORTS FROM THE CARIBBEAN, 1990 AND 2003 (US$ MILLIONS)

Country	1990	2003
St Vincent	45	11
Dominica	32	05

Source: Wilson, M., Caribbean Environment, 2005, p. 147.

On the grid, **provided as an insert**, construct a bar graph to illustrate the data presented in the table. (Include a title and label the vertical axis.) **(4 marks)**

(b) (i) State FOUR characteristics of large-scale arable farming in the Caribbean. **(4 marks)**

(ii) Describe the characteristics of peasant farming in the Caribbean using any TWO of the following headings:

- Size of plots
- Labour supply
- Location
- Farming practices **(4 marks)**

(c) (i) Outline TWO reasons for the decline in importance of agriculture in the economy of Caribbean countries. **(4 marks)**

(ii) Outline TWO similarities and TWO differences between large-scale commercial arable farming in the Caribbean and wheat farming in the prairies of Canada under EACH of the following headings:

- Farming practices
- Market trends **(8 marks)**

Total 24 marks

SECTION D (Human–Environment Systems)

Answer ONE question from this section.

8. (a) Study Figure 1, **on page 9**, which shows the track of a tropical weather system that developed into Hurricane Jeanne during the period 13–26 September 2004, and answer the following questions.

(i) Identify the group of islands that was affected when the weather system was a hurricane. **(1 mark)**

(ii) State the name of the country that was affected by the storm between 16 and 17 September. **(1 mark)**

(iii) Outline TWO changes in the weather system between 19 and 24 September. **(2 marks)**

(b) Describe TWO ways in which the bauxite industry contributes to EACH of the following types of pollution in the Caribbean:

(i) Air pollution **(4 marks)**

(ii) Water pollution **(4 marks)**

(c) Explain TWO ways in which the Caribbean Disaster Emergency Management Agency (CDEMA) assists member states to respond to

(i) hazards (pre-disasters) **(6 marks)**

(ii) disasters. **(6 marks)**

Total 24 marks

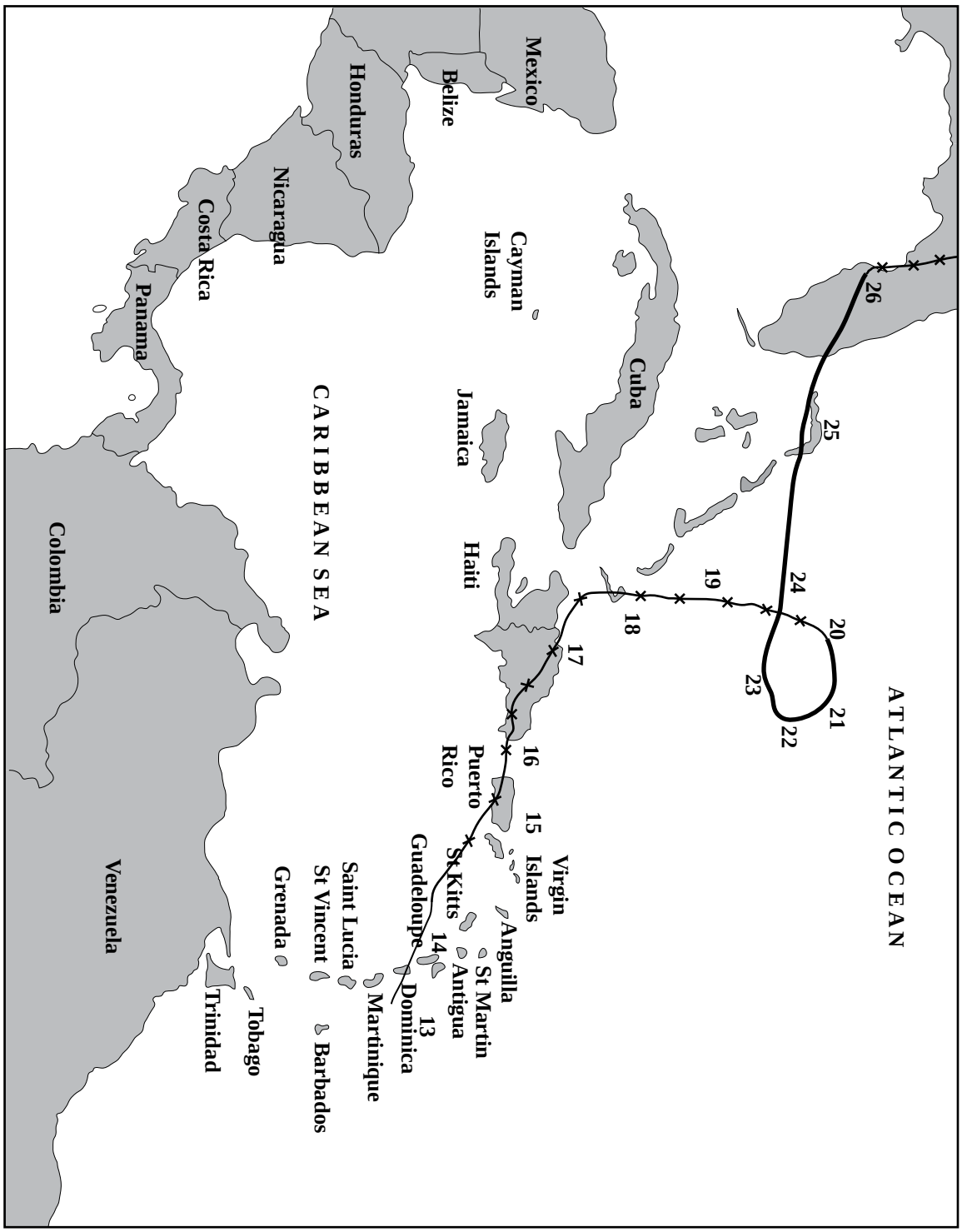


Figure 1. Track of Hurricane Jeanne during 13–26 September 2004

Source: Guiness, Paul, et. al., Geography for CSEC, 2008, pp. 306–307.

9. (a) Study Table 5 which summarizes the effects of Hurricane Allen on selected Caribbean countries, and answer the questions that follow.

TABLE 5: EFFECTS OF HURRICANE ALLEN ON SELECTED CARIBBEAN COUNTRIES, 1980

Country	Number of Deaths	Cost of Damage (US$ millions)
Barbados	0	6
Grenada	0	5.3
Jamaica	8	100
Saint Lucia	6	235
St Vincent and the Grenadines	0	16.3

(i) State the total number of persons who died as a result of the hurricane. **(1 mark)**

(ii) Identify the country that suffered the GREATEST damage. **(1 mark)**

(iii) Determine the TOTAL cost of damage in the countries listed. **(1 mark)**

(iv) Determine the TOTAL cost of damage in the Windward Islands listed. **(1 mark)**

(b) (i) Define the term 'natural hazard'. **(2 marks)**

(ii) Describe THREE ways in which any ONE of the following hazards impacts life and property:

- Earthquake
- Volcano
- Hurricane **(6 marks)**

(c) (i) Explain THREE causes of deforestation in the Caribbean. **(6 marks)**

(ii) Giving specific Caribbean examples, explain TWO consequences of deforestation. **(6 marks)**

Total 24 marks

10. (a) Study the graph shown in Figure 2 which shows, by regions, the health status (Grades A, B, C) of coral reefs in 2003, and answer the questions that follow.

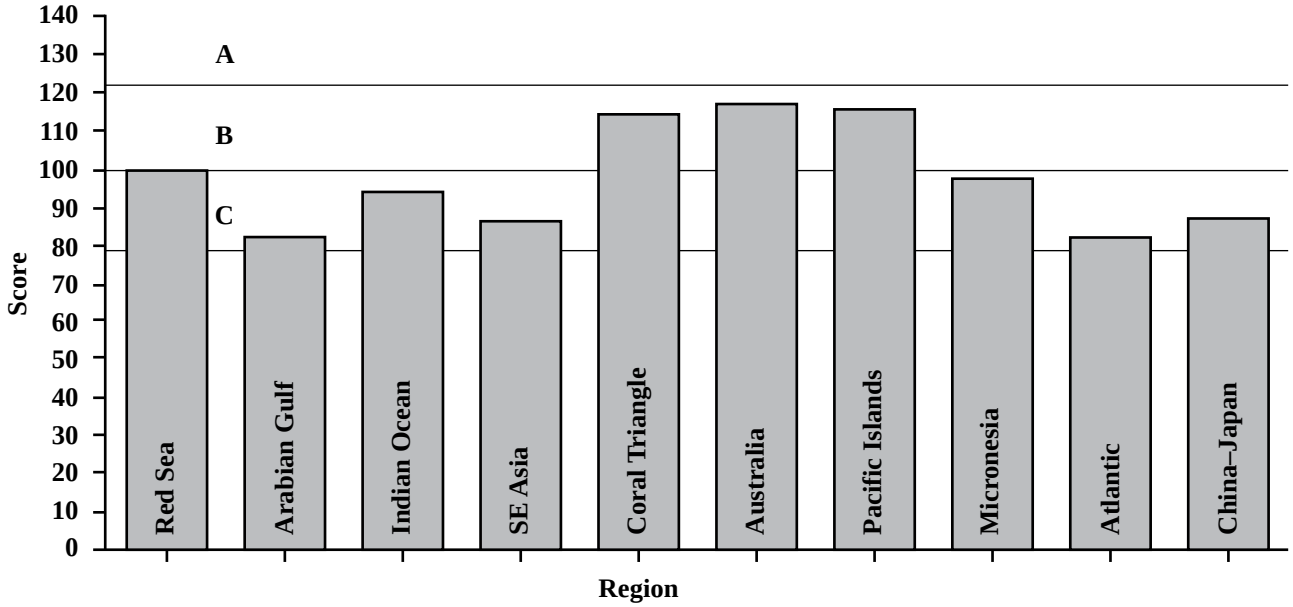


Figure 2. Graph showing the health status of coral reefs in 2003 by regions

Source: Status of Coral Reefs of the World: 2004. Executive Summary, p. 34, pdf. Accessed 21 May 2014 from http://www.panda.org/downloads/climate_change/executivesumm.

(i) Identify the region that had the healthiest reefs. **(1 mark)**

(ii) Determine the score that the Atlantic region earned. **(1 mark)**

(iii) List the regions that earned an overall Grade B. **(1 mark)**

(iv) Determine the score that was required to earn a Grade A. **(1 mark)**

(b) Using an appropriate example, describe ONE measure used to reduce the harmful effects of pollution under EACH of the following headings:

- Industrial and technological operations
- Environmental protection practices
- Use of everyday materials
- Energy sources **(8 marks)**

(c) Explain any THREE measures that are used to reduce

(i) greenhouse gases **(6 marks)**

(ii) coral reef degradation. **(6 marks)**

Total 24 marks

END OF TEST

IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.

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CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

GEOGRAPHY

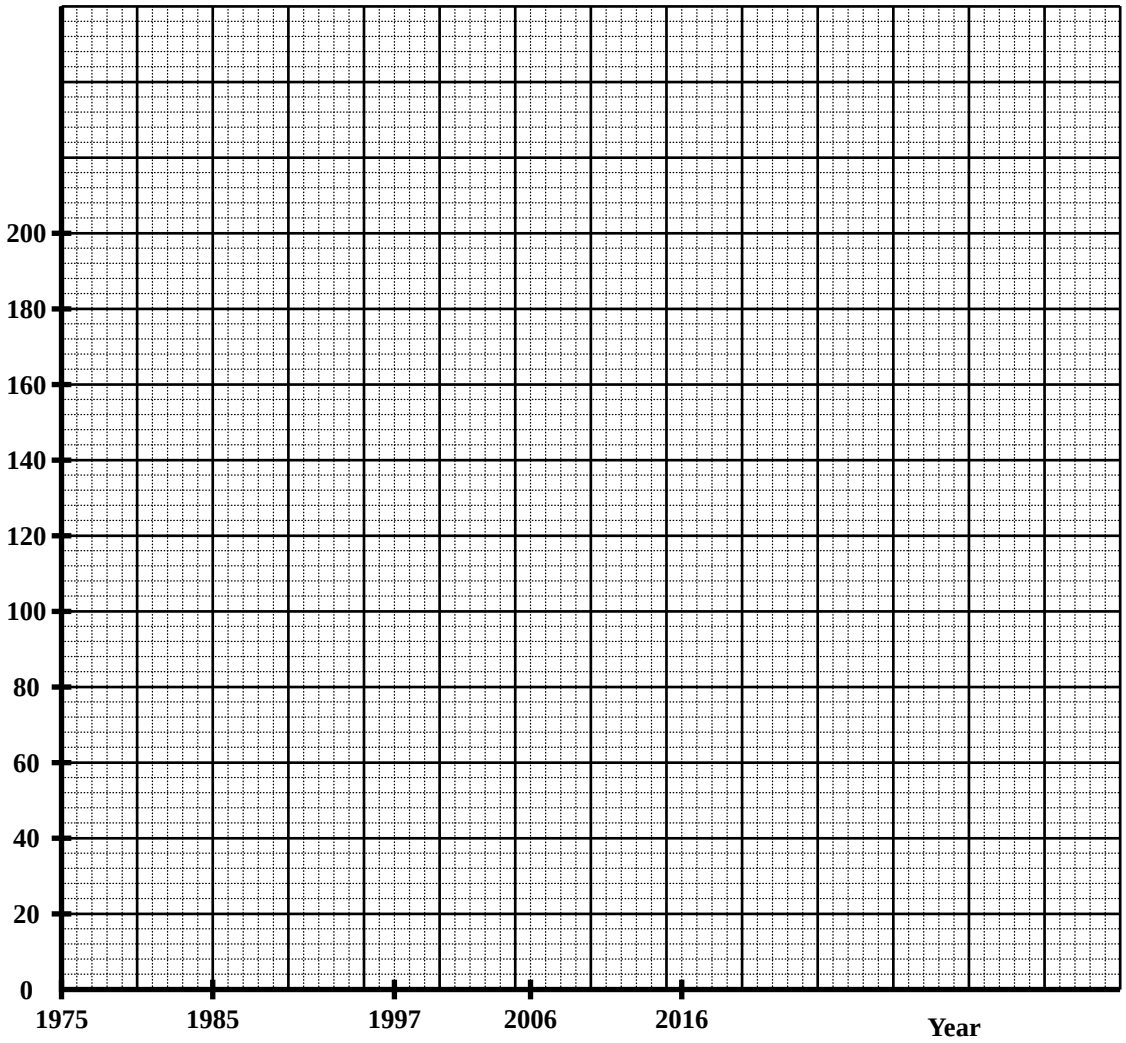
Paper 02 – General Proficiency

Insert for Question 5. (a)

Centre Number _____

Candidate's Number _____

Title: _____



TO BE ATTACHED TO YOUR ANSWER BOOKLET

FORM TP 2016077

TEST CODE **01225020**

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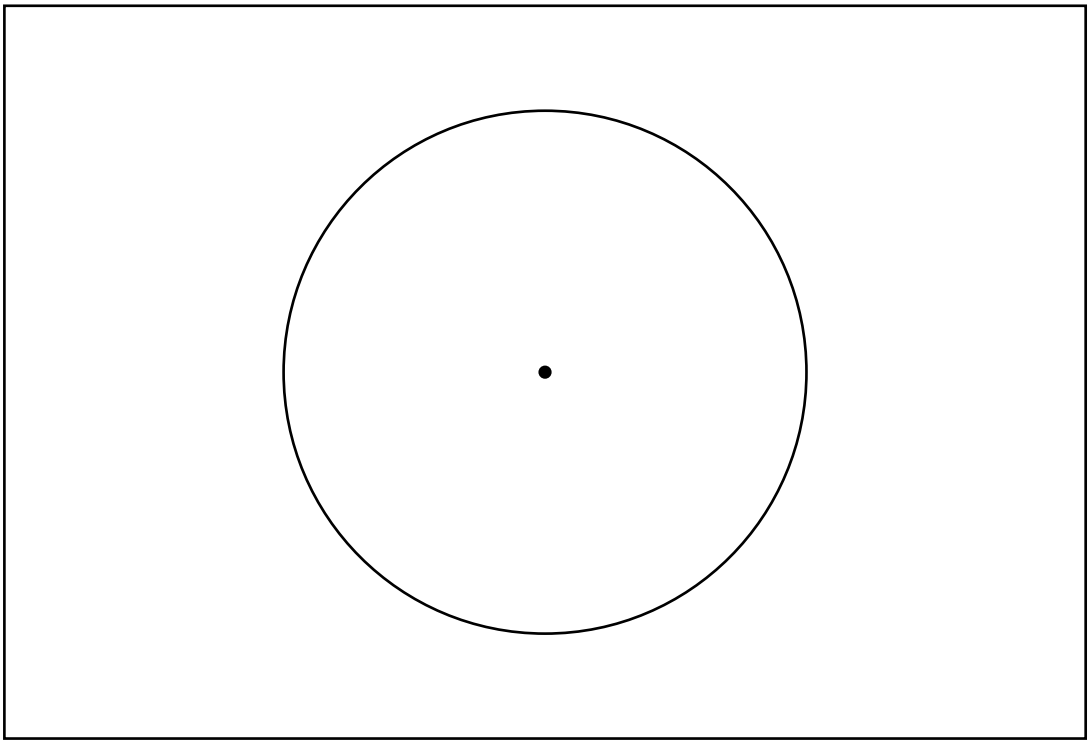
Paper 02 – General Proficiency

Insert for Question 6. (a)

Centre Number _____

Candidate's Number _____

Title: _____



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FORM TP 2016077

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MAY/JUNE 2016

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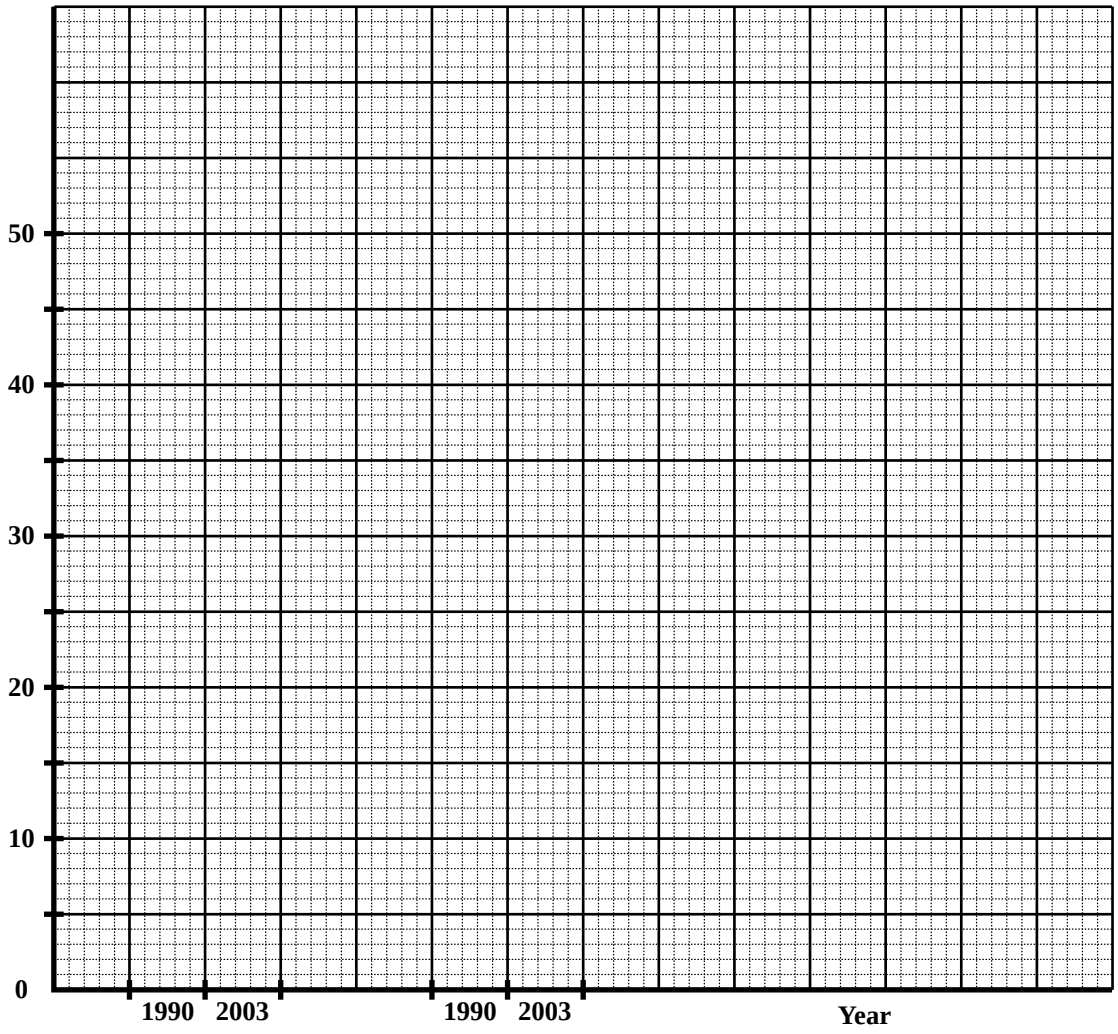
Paper 02 – General Proficiency

Insert for Question 7. (a)

Centre Number _____

Candidate's Number _____

Title: _____



TO BE ATTACHED TO YOUR ANSWER BOOKLET

JAMAICA 1:50 000 (METRIC EDITION)

KINGSTON

Series 1
Sheet 18
Edition 1- JSD/OSD 1984



LEGEND

- Road - Class A, Dual Carriageway
- Road - Class B
- " - Class C
- " - Other
- Motorable Track or Footpath
- Built-up Area
- Named Building, Hotel, Other Building
- ST ANN'S BAY — Large Town
- RETREAT — Town
- CARRON HALL — Minor Town
- Chester — Village
- Railway
- Light Railway or Siding
- Railway tunnel
- Power Transmission Line
- Boundary - County
- " - Parish
- Boundary - Forest Reserve
- Trigonometrical Station
- Photogrammetric Spot Height
- Contours 20m V.I. up to 80m and 40m V.I. thereafter
- Depression
- Woodland
- Trees and Scrub
- Forest Plantation
- Sugar Cane Plantation
- Banana Plantation
- Citrus Plantation
- Coconut Plantation
- Tobacco Plantation
- Mixed or scattered Cultivation
- Pasture
- Watercourse, Waterfall, Rapids, Dam
- " Alignment uncertain
- Pond, Lake
- Water Tank, Borehole
- Well, Spring
- Rice
- Mangrove
- Marsh or Swamp
- Coral
- Sand or Gravel
- Lighthouse, Chimney
- Point of Interest
- Transmitter
- Games Field / Playground
- Flat Rock
- Cliff, Quarry

The delineation of boundaries must not be considered authoritative

The representation on this map of a road, track or footpath is no evidence of a right of way

The accuracy of contours cannot be guaranteed in areas of high vegetation

Underwater features should not be relied on for the purposes of navigation

Published by the Government of the United Kingdom (Ordnance Survey) for the Government of Jamaica (Survey Department)

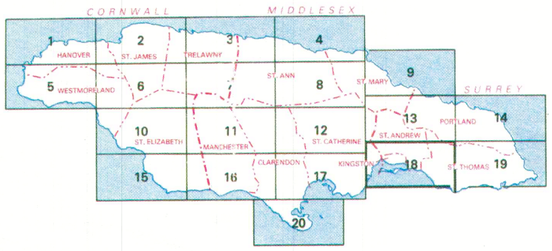
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Extract produced by Ordnance Survey 1989

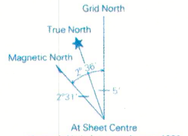
SHEET HISTORY
Edition 1 prepared by the Overseas Surveys Directorate, Ordnance Survey under the U K Government's Technical Co-operation Programme
Control taken from results of aerial triangulation for Jamaica 1:12500 series Ja 200
Air photography by BKS Surveys Ltd, Dec 1979 - Feb 1980 and Spartan Air Services Ltd, 1968
Field completion by Survey Department, Jamaica, August - September 1982

THIS SERIES WAS PREPARED JOINTLY BY THE GOVERNMENT OF JAMAICA (SURVEY DEPARTMENT) AND THE GOVERNMENT OF THE UNITED KINGDOM (OVERSEAS SURVEYS DIRECTORATE, ORDNANCE SURVEY)

INDEX TO SHEETS



Grid:-	Jamaica Metre Grid
Projection:-	Lambert Conical Orthomorphic with One Standard Parallel (18°N)
Spheroid:-	Clarke 1866
Unit of Measurement:-	Metre
Meridian of Origin:-	77° West of Greenwich
Latitude of Origin:-	18° North
Scale Factor at Origin:-	1·000
False Co-ords of Origin:-	250,000m Easting 150,000m Northing
Plan Datum:-	Fort Charles Flagstaff
Height Datum:-	Mean Sea Level



JAMAICA METRE GRID

TO GIVE A GRID REFERENCE ON THIS SHEET
Prefix 1:50,000 Sheet number e.g.18/823437

POINT △ Rodneys Lookout

Easting		Northing	
Take West edge of square in which point lies, and read the figure printed opposite this line on North or South margin. Estimate tenths Eastwards.	62 3	Take South edge of square in which point lies, and read the figure printed opposite this line on East or West margin. Estimate tenths Northwards.	43 7
East	623	North	437

REFERENCE 18/823437 to nearest 100 metres

ABBREVIATIONS

Cem	Cemetery
Ch	Church
Com C	Community Centre
Ct Ho	Court House
Dis	Distillery
Fcty	Factory
FS	Fire Station
F	Ford
HC	Health Centre
Hosp	Hospital
HEP	Hydro Electric Plant
LC	Level Crossing
Lib	Library
Mkt	Market
NT	National Trust Commission Monument
PS	Police Station
PO	Post Office
PA	Postal Agency
Pwr S	Power Station
Res	Reservoir
Rn	Ruin
Sch	School
Tk	Tank
TEx	Telephone Exchange
UC	Under Construction
WCa	Water Catchment

CONVERSION TABLE

Metres	Feet
2000	6500
1900	6000
1800	5500
1700	5000
1600	4500
1500	4000
1400	3500
1300	3000
1200	2500
1100	2000
1000	1500
900	1000
800	500
700	0
600	-500
500	-1000
400	-1500
300	-2000
200	-2500
100	-3000
0	-3500

SCALE 1:50,000

METRES 1000 500 0 1 2 3 4 5 6 7 8 9 10 KILOMETRES
YARDS 1000 500 0 ¼ ½ ¾ 1 2 3 4 5 6 MILES

HEIGHTS IN METRES

Four colours should appear above; if not then please return to the invigilator.

Four colours should appear above; if not then please return to the invigilator.

Series 1
Sheet 18
Edition 1- JSD/OSD 1984