INSTRUCTIONS TO CANDIDATES:

(To be read out by the external invigilator before the start of the examination)

1. Check that there are 8 printed pages in this question booklet. An 8-page answer booklet is enclosed in the centre of this booklet.

2. Take out the answer booklet and check that you have the correct number of pages.

3. Write your name, number and school name in the spaces provided in the answer booklet.

4. There are seven questions in this paper, worth 10 marks each.

   TOTAL MARKS = 70

5. Answer all questions in the spaces in the answer booklet provided. Show all necessary working for full marks.

6. Candidates are advised to spend the first 10 minutes reading through this paper.

7. Calculators may be used.

DO NOT WRITE ON THE QUESTION PAPER.

Answers written on the question paper will not be marked. Write your answers neatly in the spaces provided in the answer booklet.

The Penalty for Cheating or Assisting Others to Cheat in National Examinations is Non-Certification.

DO NOT TURN OVER THE PAGE AND DO NOT WRITE UNTIL YOU ARE TOLD TO START.
QUESTION 1

a) The diagram shows three models of urban spatial structure.

(i) What is the name given to area 1 on diagram A? (1)

(ii) Explain why the buildings are multi-storey in area 1 in diagram A. (2)

(iii) What name is given to area 6 in diagram B? (1)

(iv) Which of the following represents the high-class residential areas in each model?

<table>
<thead>
<tr>
<th></th>
<th>Concentric Circle</th>
<th>Sector</th>
<th>Multi-Nuclear</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>1</td>
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<td>C</td>
<td>5</td>
<td>1</td>
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<td>D</td>
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<td>E</td>
<td>5</td>
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</table>

(v) Which of the three models A, B or C is the most likely to develop outwards along the major roads and railways? (1)

(vi) Which of the three models A, B or C explains the growth of modern conurbations? (1)

(vii) Which of the three models A, B or C represents the urban structure of Port Moresby city? (1)

b) (i) What is a hinterland? (1)

(ii) Why are hinterlands very important to the three models? (1)
QUESTION 2

(a). The diagrams below show two types of volcano.

(i) Shield volcanoes spread over a wide area because their lava is basic and relatively fast-flowing.

How does the lava and composition of a composite cone volcano compare?

(make two separate points) (2)

(ii) Name one common feature found in both volcano types? (1)

(iii) Which volcanic type can give rise to violent eruptions?

Give evidence to support your answer (2)

(b) Give two advantages and two disadvantages of volcanic action? (3)

(c) Explain how the volcanic rock, basalt, is formed? (2)
QUESTION 3

The diagrams below show two types of wave.

SURGING BREAKER

PLUNGING BREAKER

a)  (i) Which of the above two waves would help create depositional landforms? (1)
    (ii) Explain how the action of waves can cause material to move along a shoreline. (1)

b) Waves cause erosion by *corrasion*, *hydraulic action* and *attrition*. For each of the following landforms, state which of these forces are involved and briefly explain how they may act to create the feature.

   (i) Wave-cut platform (2)
   (ii) Stack (2)
   (iii) Blowhole (2)

c) Both dunes and sand bars are depositional features found along shorelines. Briefly describe their locations on a shoreline and state the agent responsible for the formation of each feature. (2)
QUESTION 4

The maps below show the distribution of three different types of forest.

A.  B.  C.

a) Of these types one;
1. is managed in a generally sustainable way for the timber and pulp industries.
2. is under imminent threat of destruction due to logging and land clearance.
3. has largely disappeared to make way for agriculture.

(i) Name the type of forest identified by each map, A, B, and C. (2)

(ii) Identify the characteristics of each forest as listed above (1, 2 or 3) (2)

b) (i) Match the climate graphs below to each type of forest. (2)

(ii) What precipitation characteristic do these regions all have in common? (1)

(iii) Which of these forest biomes produces the most fertile soil? (1)

(iv) For each of the other two forest biomes, give a reason why they do not produce soil of a high fertility. (2)
QUESTION 5

The diagrams below show how global wind systems are generated.

a)  (i) What kind of air pressure is found at the equator and why.  
(ii) What type of climates are usually found in the global high pressure areas?  
(iii) Winds are formed by differences in air pressure. In terms of pressure, in what direction do the winds blow?  
(iv) Name the instrument that is used to measure air pressure.  
(v) Name the instrument used to measure wind speed.  
b)  (i) Which two climatic factors are mainly affected by altitude?  
(ii) Describe what effect this has on vegetation patterns.
QUESTION 6

Study the diagram below and answer the questions that follow.

a) (i) Which type of weathering is dominant in Region III? (1)
(ii) Briefly explain, giving three reasons, why it is dominant in that region. (3)

b) (i) Name the type of weathering found at the desert and semi-desert areas. (1)
(ii) Explain why the depth of rock weathering in region II is very shallow. (2)

c) What vegetation type would be found if the mean annual rainfall is 500 mm and the mean temperature 15°C? (1)

d) (i) Which factor has most effect on the depth of weathering? (1)
(ii) In which Region would both chemical and physical weathering play equally important parts? (1)
QUESTION 7
Refer to Map 1 and Map 2 to answer the question.

(a) For each of the agricultural types listed below, briefly describe the factors (vegetation and climate) that makes it the most suitable form of agricultural land use for the area.

(i) wheat farming
(ii) beef cattle
(iii) dairying

(b) What is the advantage of farming wheat and sheep on the same farm?

(c) Why are dairy farms located closer to main towns and cities?

END OF EXAMINATION