INSTRUCTIONS TO CANDIDATES:
To be read out by the external invigilator before the start of the examination

1. Check that there are 4 printed pages in this paper.

2. Write your name, number and school name in the spaces below.

3. This paper contains 17 questions, worth a total of 30 marks.

4. You will be given Papua New Guinea Topographic Survey Sheet 7585 KUTUBU for use with questions 1 to 17 in this paper.

5. Rulers are required.

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Name: ______________________________________

School: _____________________________________

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.
Answer all questions in the spaces provided in this booklet. Show all necessary working for the award of full marks.

**QUESTION 1**
What riverine feature, shown on the map, as evidence to suggest that Mubi River has changed its previous river course to the current location.

(1)

**QUESTION 2**
What direction is Wasemi Island from Iburu Point on Lake Kutubu?

(1)

**QUESTION 3**
Name the village at grid reference 660869.

(1)

**QUESTION 4**
Which of these grid references is the most suitable for an airstrip?
A. 666 855  
B. 735 974  
C. 595 835  
D. 545 915

(1)

**QUESTION 5**
What is the approximate short line distance, in kilometres, between Gesege Village (659869) and Lake Kutubu Patrol Post (537967).  
Give your answer to the nearest tenth of a kilometre.

(1)

**QUESTION 6**
At what six-figure grid reference is Mt Castle located?

(1)

**QUESTION 7**
What type of drainage pattern is found at grid reference 6082?

(1)

**QUESTION 8**
On the topographic map of Kutubu there are numerous sinkholes found. How were they formed and in what type of rock?

(2)
**QUESTION 9**
Calculate approximately the total distance, in kilometres, of Hegigio River from grid reference (213152) to grid reference (212028).
*Round your answer to a nearest kilometre.*  
(1)

**QUESTION 10**
Explain why Digimu River is not visible from Iburu Point.

(2)

**QUESTION 11**
Which of the following is the approximate area, in square kilometres, covered by Lake Kutubu?
A. 52  B. 5.2  C. 520  D. 5200  
(1)

**QUESTION 12**
A helicopter flies from a remote village (705069) to Montanda Mission (734088).
(i) Which of the following best describes the course set by the pilot?
A. South-West  B. South-East  C. North-East  D. North-West  
(1)

(ii) The pilot is required to clear the hills by at least 150 metres. How high, to the nearest 100 metres, must the helicopter fly?
A. 2300  B. 2500  C. 2700  D. 2900  
(1)

(iii) What is the approximate bearing required for the pilot to fly directly from the remote village to Montanda Mission.
A. 045°  B. 090°  C. 180°  D. 225°  
(1)

**QUESTION 13**
(i) What is the distance, to the nearest kilometre, from the top of Mount Kerewa (378349) to the edge of the falls (351356)?  
(1)

(ii) What is the change in altitude, to the nearest 100 metres, from the top of Mount Kerewa to the edge of the falls?  
(1)

(iii) Using your answers from (i) and (ii), the average gradient from the top of Mount Kerewa to the edge of the falls is approximately
A. 1 in 30  B. 1 in 8  C. 1 in 4  D. 1 in 2  
(1)
QUESTION 14
Rain falling at 368 110 will drain through four rivers named on the map.
Name the second and the fourth river into which it will drain.
2nd ____________________________  4th ____________________________  (2)

QUESTION 15
What is indicated on the map at the peak of Mount Imila (515345)?
A. landslide  
B. trig station  
C. spot elevation  
D. depression contour  (1)

QUESTION 16
(i) Name the vegetation type found at grid reference 603175. ____________________________  
(ii) Briefly, explain how this feature above was created?  

_____________________________  
_____________________________  (2)

QUESTION 17
Using information presented on the map, account for the settlement and land-use patterns on the area covered by the map.

Your answer should include reference to:
• the natural systems present and how they have influenced social and economic activities;  
• the effects people have had on the natural systems;  
• the terrain, likely food sources, cash crops and transport.  (5)

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END OF EXAMINATION