S2 Geography Practice Paper (Set 3): water cycle, coastal landforms, land-use conflict, slope hazards, energy mix and map skills

S2 Geography | Time: 60 minutes | Total: 100 marks | 22 questions

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Section A: The Water Cycle and River Processes (16 marks)

Study the data and answer the questions.

1. (a) Using the data, calculate the total annual precipitation over the catchment and the volume that becomes runoff, in cubic metres. (4 marks)

2. (b) Name the two processes by which sea water becomes rain, and state two roles of plants in the water cycle. (4 marks)

3. (c) After the same catchment is urbanised, the flood peak arrives earlier and is higher. Explain why. (4 marks)

4. (d) Describe how erosion, transportation and deposition differ between the upper and lower courses of a river. (4 marks)

Section B: Coastal Landforms (16 marks)

Study the data and answer the questions.

5. (a) Using the data, name two coastal erosional landforms and outline how one of them is formed. (4 marks)

6. (b) The sand bar at Kiu Tsui Chau is exposed only at low tide. Explain two conditions needed for such a landform to form. (4 marks)

7. (c) During a typhoon the beach at Tai Long Wan becomes noticeably narrower. Explain why. (4 marks)

8. (d) With reference to the data, compare beaches and wave-cut platforms in terms of location and the processes that form them. (4 marks)

Section C: Urbanisation and Land-use Conflict (16 marks)

Study the data and answer the questions.

9. (a) Calculate brownfield sites as a percentage of the total area, to one decimal place. (4 marks)

10. (b) Give two examples of land-use conflict in this area and explain why they arise. (4 marks)

11. (c) State two impacts of urban sprawl on the natural environment of this area. (4 marks)

12. (d) Suggest two planning measures to reduce land-use conflict in this area. (4 marks)

Section D: Slope Hazards and Their Control (16 marks)

Study the data and answer the questions.

13. (a) State three conditions that lead to a landslide. (4 marks)

14. (b) Using the data, explain how rainfall and slope angle affect the landslide risk in this case. (4 marks)

15. (c) Suggest three engineering measures to prevent another landslide on this slope. (4 marks)

16. (d) Apart from engineering works, state two non-engineering measures the government can take to reduce casualties. (4 marks)

Section E: The Energy Mix and the Environment (16 marks)

Study the data and answer the questions.

17. (a) Using the data, calculate the percentage of the fuel mix that comes from fossil fuels and name the two fossil fuels listed. (4 marks)

18. (b) Compare the effects of coal-fired and gas-fired generation on air quality. (4 marks)

19. (c) Wind and solar supply only 5% of the mix. State two reasons why these renewables are limited in large-scale generation in Hong Kong. (4 marks)

20. (d) Suggest two measures to reduce the environmental impact of electricity generation and outline how each works. (4 marks)

Section F: Map Skills and Data Analysis (20 marks)

Study the data and answer the questions.

21. (a) (i) Calculate the real straight-line distance between A and B in kilometres; (ii) give the bearing from B to A; (iii) how many contour lines does the peak cross from sea level, and explain. (10 marks)

22. (b) The district plans to add green space in the city centre. Discuss how greening relieves the urban heat island effect and suggest two limitations in carrying it out. (10 marks)

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