S5 Geography Practice Paper: Plate Tectonics, Rivers and Flood Management, Coastal Landforms, Weather and Climate, Urban Growth and Population, Agricultural and Industrial Location (100 marks)

S5 | Geography | Time: 60 minutes | Total: 100 marks | 24 questions

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Part 1: Plate Tectonics, Earthquakes and Volcanoes (16 marks)

Use geographical terms correctly. Show all working in calculations.

1. Describe two differences between a divergent boundary and a subduction boundary in magmatic activity and earthquake distribution. [5]

2. A seismic station records a 10 second difference between the arrival of P waves and S waves. Given a P wave speed of 6 km/s and an S wave speed of 3.5 km/s, find the distance to the epicentre. [4]

3. Explain two reasons why the intensity of the same earthquake differs from place to place. [4]

4. State the plate tectonic reason for the formation of the Pacific Ring of Fire. [3]

Part 2: Fluvial Processes and Flood Management (16 marks)

Answer in complete sentences and give units in calculations.

5. Compare the upper and lower courses of a river in valley shape and dominant erosion process. [5]

6. A river section falls from 320 m to 200 m over a horizontal distance of 4 km. Find the gradient as a percentage. [4]

7. A river channel has a cross-sectional area of 45 m2 and a mean velocity of 1.2 m/s. Find the discharge. [4]

8. State two hard engineering measures used to reduce river flooding and one limitation of them. [3]

Part 3: Coastal Landforms and Coastal Management (16 marks)

Explain with reference to geomorphic processes, not names alone.

9. Explain the formation of a wave-cut platform and a sea arch. [5]

10. Twelve waves pass a point in 96 seconds and the wavelength is 88 m. Find the wave period and wave speed. [4]

11. Compare hard and soft coastal management in two ways. [4]

12. State two functions of mangroves in coastal management. [3]

Part 4: Weather and Climate (16 marks)

Refer to monsoon systems and local climate data in your answers.

13. Explain why Hong Kong has cool dry winters and hot wet summers in terms of the monsoon. [5]

14. Rainfall at a station over four days is 45.5, 12.0, 88.0 and 31.5 mm. Find the total and the daily mean. [4]

15. On a day the maximum temperature is 32 degrees C and the minimum is 24 degrees C. Find the daily range and the daily mean temperature. [4]

16. State one cause of the urban heat island effect and one way to reduce it. [3]

Part 5: Urban Growth and Population (18 marks)

Show working and units in population calculations.

17. A district has a population of 480 000 and an area of 12 km2. Find its population density. [4]

18. A place has a birth rate of 12 per thousand and a death rate of 8 per thousand. Find the rate of natural increase as a percentage. [4]

19. Explain two reasons for the segregation of commercial and residential land uses in a city. [5]

20. Explain two impacts of urban sprawl on commuting and the environment. [5]

Part 6: Agriculture and Industrial Location (18 marks)

Name the factor and explain it in location questions.

21. Using locational factors, explain why horticultural farming is often located on the outskirts of large cities. [5]

22. Explain two food security problems and one sustainable farming measure. [5]

23. A farm of 400 hectares yields 2.5 tonnes of rice per hectare. Find the total output, and the output per person in kilograms if the local population is 5 000. [4]

24. Explain two reasons for the relocation of manufacturing from developed to developing countries. [4]
