

UNIVERSITI SAINS MALAYSIA

Peperiksaan Semester Kedua

Sidang Akademik 1999/2000

Februari 2000

HGF 324 – Geomorfologi dan Hidrologi

[Masa: 3 jam]

KERTAS PEPERIKSAAN INI MENGANDUNGI LAPAN [8] SOALAN DI DALAM TIGA [3] HALAMAN.

Jawab DUA [2] soalan dari bahagian A dan DUA [2] soalan dari bahagian B.

BAHAGIAN A:

1. Jadual 1 menunjukkan data aliran masuk dan aliran keluar air ke Tasik Idaman.

Jadual 1: Aliran masuk dan aliran keluar air ke Tasik Idaman

Tarikh	Masa	Aliran Masuk (m ³ / saat)	Aliran Keluar (m ³ / saat)
13/12/98	09.00 pagi	21	18
	10.00 pagi	24	20
	11.00 pagi	20	26
14/12/98	09.00 pagi	16	21
	10.00 pagi	24	20
	11.00 pagi	20	25

Merujuk kepada data dari Jadual tersebut kirakan;

- [a] Jumlah simpanan air (dalam m³) pada pukul 10.00 dan 11.00 pagi, 13 Disember 1998 sekiranya jumlah simpanan pada pukul 9.00 pagi adalah 2 hekter-meter.

[10 markah]

- [b] Jumlah simpanan air (dalam m³) pada pukul 12.00 tengah hari, 14 Disember 1998 sekirannya simpanan air pada pukul 9.00 pagi adalah 3 hekter-meter.

[10 markah]

- [c] Berikan huraian ringkas tentang keadaan simpanan air pada kedua-dua hari tersebut dan nyatakan kepentingannya dari aspek hidrologi.

[5 markah]

2. [a] Huraikan perbezaan yang jelas antara kaedah pengiraan sejatpeluhan bakal oleh Thornthwaite dan Penman.

[10 markah]

- [b] Kaedah manakah yang anda akan pilih sekiranya anda ingin membuat rumusan tentang nilai sejatpeluhan bakal di mana-mana lokasi di Semenanjung Malaysia? Huraikan dengan jelas asas-asas pemilihan kaedah tersebut.

[10 markah]

- [c] Jadual 2 menunjukkan jumlah hujan dan sejatpeluhan bakal untuk bulan Mei, Jun, Julai, Ogos dan September tahun 1999 bagi stesen A.

Jadual 2: Jumlah hujan dan Sejatpeluhan bakal Bulanan bagi Stesen A

Bulan	Mei	Jun	Julai	Ogos	September
Hujan (mm)	350	400	300	270	300
Sejatpeluhan bakal (mm)	200	350	275	241	205

Kira lebihan air untuk bulan-bulan tersebut sekiranya lengasan tanah pada bulan Mei telah mencapai had maksimum (150mm).

[5 markah]

3. [a] Jelaskan punca-punca utama pencemaran air tanah.

[10 markah]

- [b] Bincangkan suatu metodologi umum yang dapat digunakan dalam melaksanakan program pengawasan kualiti air tanah di sesuatu kawasan.

[15 markah]

4. Perindustrian merupakan salah satu aktiviti yang menyebabkan kemerosotan kualiti air sungai. Jelaskan bahan-bahan pencemaran utama yang dihasilkan oleh industri dan huraikan langkah-langkah yang perlu diambil untuk menjalankan kajian kualiti air sungai di kawasan tersebut.

[25 markah]

BAHAGIAN B:

5. [a] Apakah luahan? [3 markah]
- [b] Bagaimanakah luahan diukur secara langsung? Sertakan 2 contoh pengiraan dalam jawapan anda? [12 markah]
- [c] Apakah pertalian luahan dengan paras air dan apakah kegunaan pertalian tersebut. Sertakan contoh pengiraan yang lengkap. [10 markah]
6. Huraikan bagaimana perubahan yang berlaku pada ketepuan tanah dalam kes aliran tepu bawah permukaan. [25 markah]
7. Bincangkan kesan gangguan-gangguan yang berlaku di hutan ke atas hidrologi dan geomorfologi sesuatu kawasan tadahan. [25 markah]
8. [a] Huraikan beberapa pengubahsuaian kitaran hidrologi akibat perbandaran. [10 markah]
- [b] Huraikan masalah hidrologi pulau-pulau kecil di kawasan tropika dan bagaimanakah cara mengatasinya. [15 markah]

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(Section II)

14. Canadian government body which administers foreign aid programs
with the objective of development.

(Section C)

15. A group with a common interest or purpose that has been organized

and that has been given a name, a place of business, and a form of organization.

16. An association of persons who have joined together for a common purpose.

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