
UNIVERSITI SAINS MALAYSIA

First Semester Examination
2014/2015 Academic Session

December 2014 / January 2015

BAT 202/3 – Oceanography
[Oseanografi]

Duration: 3 hours
[Masa : 3 jam]

Please ensure that this examination paper contains THREE printed pages before you begin the examination.

[Sila pastikan bahawa kertas peperiksaan ini mengandungi TIGA muka surat yang bercetak sebelum anda memulakan peperiksaan ini.]

Instructions: Answer **FIVE** (5) out of **SIX** (6) questions, in English or Bahasa Malaysia. Each question carries 20 marks.

Arahan: Jawab **LIMA** (5) daripada **ENAM** (6) soalan yang diberikan dalam Bahasa Inggeris atau Bahasa Malaysia. Tiap-tiap soalan bernilai 20 markah.]

In the event of any discrepancies, the English version shall be used.

[Sekiranya terdapat sebarang percanggahan pada soalan peperiksaan, versi Bahasa Inggeris hendaklah diguna pakai].

1. Describe **THREE** (3) types of plate boundaries, and include in your discussion the following items :

*[Huraikan **TIGA** (3) jenis plat sempadan, dan masukkan dalam perbincangan anda perkara berikut :]*

[a] Cross section of the boundaries

[Keratan rentas sempadan]

[b] Direction of plate movement

[Arah pergerakan plat]

[c] Sea floor features

[Ciri-ciri dasar laut]

[d] An example

[Satu contoh]

(20 marks / 20 markah)

2. Describe the Coriolis effect in the Northern and Southern Hemispheres. Discuss why the effect increases with increased latitude.

[Huraikan kesan Coriolis di Hemisfera Utara dan Hemisfera Selatan. Bincangkan kenapa kesan ini meningkat dengan meningkatnya latitud.]

(20 marks / 20 markah)

3. Illustrate and explain the oceanographic conditions to produce upwelling and downwelling in the ocean circulation.

[Lakar dan jelaskan keadaan oseanografi yang menghasilkan "upwelling" dan "downwelling" dalam peredaran lautan.]

(20 marks / 20 markah)

4. [a] Based on what criterion are marine organisms been classified? Describe this classification and give examples in each category.
[Berdasarkan kriteria apakah organisma marin dikelaskan? Terangkan klasifikasi ini dan berikan contoh dalam setiap kategori.]

(10 marks / 10 markah)

- [b] What influences ocean colour ?
[Apakah yang mempengaruhi warna laut ?]

(10 marks / 10 markah)

5. Describe the tidal patterns of diurnal, semidiurnal, and mixed based on the number of high and low tides in a lunar day, the period, and any inequality.

[Terangkan corak pasang surut diurnal, semidiurnal, dan bercampur-campur berdasarkan bilangan air pasang tinggi dan air pasang rendah dalam satu hari qamari, tempoh, dan apa-apa ketidaksamaan.]

(20 marks / 20 markah)

6. [a] Describe the differences between monsoon beaches and non-monsoon beaches. Explain why these differences occur.
[Terangkan perbezaan di antara pantai monsun dan pantai bukan monsun. Jelaskan mengapa perbezaan ini berlaku.]

(12 marks / 12 markah)

- [b] What is salinity? How does salinity change in the Pacific Ocean from the South Pole to the North Pole ?
[Apakah saliniti? Bagaimanakah saliniti berubah dari Kutub Selatan ke Kutub Utara di Lautan Pasifik ?]

(8 marks / 8 markah)