

4/ Brine mining from Sydney desalination plant (20 marks)

- Propose a comprehensive strategy for sustainable brine mining development in Sydney. Consider factors such as environmental sensitivities, socio-economic dynamics, and regulatory frameworks. Outline key steps for project planning, implementation, and monitoring to ensure responsible resource extraction and long-term environmental stewardship for Sydney.

5/ Conclusions and recommendations (10 marks)

- Summary of your works
- Recommendations from your works

6/ References (5 marks)

- Use EndNote or any other equivalent referencing software, number of references, latest references, appropriate references

Others for assessment (15 marks)

- Marks provided for overall report format and structure, sentence flow, clarity, English language including grammar, etc.

Assessment Task 3:

Report format

Cover page

Originality statement (signed) Title page

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1/ Abstract/executive summary (200-250 words, 5 marks)

2/ Background (10 marks)

- Discuss the importance and related issues of desalination for future water security in Australia.

3/ Desalination Plant Design Assessment (35 marks)

- A process flow chart clearly shows your selected intake design, pretreatment process, RO process, and any other relevant processes.
- A detailed design of the RO process clearly describing key parameters such as types of membrane, number of banks, stages, vessels, elements, and recovery, etc. You can use computer aid design software such as WAVE or any other relevant software. You should also clearly discuss what you have done to optimise the RO process design. How do you ensure that you have satisfied the boron limit of 0.3 mg/L?
- Provide a comprehensive literature review on the impact of brine disposal on cuttle fish. Propose relevant options to mitigate any adverse effects of brine disposal on cuttle fish taking into account both economic and environmental considerations.



Assignment Task 3: Design of an advanced seawater desalination plant

35 pts  Not Submitted

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Due

26 May 2025 at 4:59 PM

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Description