

# CONCLUSION

## 6.0. Conclusion

Based on the findings of the present study, the following conclusions can be made:

1. The 1% BBM, with 0.03 mM  $\text{NaNO}_3$  was suitable as a minimal medium for the bioassay tests, as the nitrogen level was the lowest that stimulated growth of *Chlorella vulgaris* UMACC 001.
2. No marked difference in overall growth trends of the three chlorophytes was recorded for the range of nitrogen and phosphorus levels used in the 96 h tests. However, the final cell numbers and  $\text{OD}_{620}$  attained after 96 h increased with increasing nitrogen and phosphorus levels.
3. The three chlorophytes, *Chlorella vulgaris* UMACC 001, *Scenedesmus quadricauda* UMACC 041 and *Ankistrodesmus convolutus* UMACC 101 were tolerant to high  $\text{NH}_4\text{Cl}$  levels, as growth was enhanced even at 18.75 mM  $\text{NH}_4\text{Cl}$ .
4. Similar growth responses to variations in phosphate levels were shown for the chlorophytes, except *Chlorella vulgaris* UMACC 001, when the nitrogen levels used were at 0.03 or 18.75 mM.

5. The Percentage Growth Enhancement at 96 h (PGE-96) based on the percentage increase of cell numbers or  $OD_{620}$  attained at 96 h in the cultures grown at the different levels of nitrogen and phosphorus, relative to that attained in Dilution Water was a useful parameter for bioassay of nitrogen and phosphorus.
  
6. The three chlorophytes are useful test organisms for bioassays of nitrogen and phosphorus, and thus, have potential use in measuring the fertility of waters in tropical freshwater environments. However, further studies, especially on the interactive effects of nitrogen and phosphorus and effects of N: P ratios are necessary to assess their potential use in water quality tests.