Daffodil International University

B. Sc. in Civil Engineering

Mid-Term Examination, Summer - 2026

Course Code: CHE 101 | Course Title: Chemistry | Teacher's Initial: AAA, SRA

Section: A, B, C | Level-Term: 1-1

Full Marks: 25 | Date: July 01, 2026 | Time: 1.5 Hours

Note: There are five sets of questions in total. Answer all of them. Right hand margin indicates full marks. Please maintain the order while answering.

1. (a) Distinguish between Homogeneous and Heterogeneous Mixtures. *[CO1, C1]* [03]

   (b) Explain the significance of pH in aquatic life. *[CO1, C1]* [02]

2. (a) Describe the industrial manufacturing process of Portland Cement along with mentioning all the raw materials of Portland Cement. *[CO2, C2]* [05]

3. (a) Illustrate the applications of cement. *[CO2, C2]* [02]

   (b) Compare between setting and hardening. *[CO2, C2]* [03]

4. (a) Calculate the mass percentage of glucose in a solution prepared by dissolving 10g of glucose into 100g of water. *[CO4, C3]* [02]

   (b) Calculate the Molality of a solution prepared by dissolving 10 g of toluene (C_7H_8) in 250 g of Benzene (C_6H_6). *[CO4, C3]* [03]

5. (a) Change the concentration of 0.2M H_2SO_4 into percentage. *[CO4, C3]* [02]

   (b) Calculate the amount of NaOH required to prepare 500 mL, 0.5M solution. *[CO4, C3]* [03]

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