Green University of Bangladesh

Department of Computer Science and Engineering

Class test 03, Spring 2022

Course Code: CHE 101 Course Title: Chemistry

Full Marks: 15.   Time: 50 min

1. At equilibrium, the mass of each of the reactant and product remains constant. Does it mean that the reaction has stopped?     [3.0]
2. What is meant by a reaction quotient?                                                   [2.0]
3. Carbon nanotube is a newly invented materials made by pure carbon. Why recently

it is used as a semiconductor for nano device? Propose your opinion. [2.0]

For the following figure:

Chart, line chart

Description automatically generated

1. Is this reaction endothermic or exothermic? Explain your answer.               [3.0]

       5.   Modify the diagram for catalyzed and not catalyzed reactions.                         [2.0]

6. For the reaction CO2(g) + H2(g) 🡸🡺 CO(g) + H2O(g) the equilibrium constant at 1000 K is 0.53.  If a mixture at equilibrium in a 1 dm3 vessel contains 0.25 moles of CO and 0.6 moles of H2, how many moles of H2O are there in the vessel? [3.0]