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Daffodil International University

Department of Electrical and Electronic Engineering

Faculty of Engineering

Midterm Examination, Fall-2026

Course Code: 0531-121 | Course Title: Chemistry

Section: A, B, C, D, E, F | Level-Term: L1-T2 | Teacher's Initial: AAA, SRA

Full Marks: 25 | Exam Date: Nov 02, 2026 | Time: 1.5 Hours

Answer all the questions. Please do not split answers.

Q1.	**Define** ionization energy. **Discuss** the exemption from regular pattern regarding the periodic changes in ionization energy of Mg & Al, P & S. Or **Define** electron affinity and electronegativity. **Discuss** the basic differences between these two and similarities in their periodical changes.	CO-1 C(2)	5
Q2.	(a) **Derive** the Rhydberg's equation. (b) **Define** Isotope and Isobar with examples.	CO-1 C(1), C(3)	3+2
Q3.	(a) The maximum wavelength of a spectral series of H atom is 6563 Å. **Determine** the series does the spectral line belong to? (b) **Calculate** the number of photons will be required to obtain 1.0 J energy from a radiation of 400 nm wavelength.	CO-2 C(3)	2+3
Q4.	**Define** the metallic bond. **Explain** the properties of metal. Or **Define** covalent bond. State some of its examples. **Discuss** the differences between sigma bond & pi bond.	CO-3 C(2)	5
Q5.	(a) **Define** Ionic Bond. **Name** the bonds a water molecule can have. (b) Given, there are two isomers of an organic compound having different H-bonds. **Explain** the H-bonds present in O-nitrophenol & P-nitrophenol.	CO-3 C(1), C(2)	2+3