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Daffodil International University

Department of Electrical and Electronic Engineering
Faculty of Engineering
Final Examination, Fall – 2024

Course Code: 0223-121 | Course Title: Art of Living and Engineering Ethics
Section: A, B, C | Level-Term: L1-T2 | Teacher's Initial: AOH
Full Marks: 40 | Exam Date: December 23, 2024 | Time: 2 Hours

[**Notes:** Answer all the following questions.
CO's represent one of the learning outcomes of this course.
Figures on the right hand side indicate marks allocated for the questions.]

Q1. **Identify** the ethical problems an engineer may face in his/her workplace. **Mention** probable solutions. — CO-1 (C5) — [3+3]

Q2. Nizam is an electrical engineer, working in a multinational company. He and his team are developing a product that can increase the company's revenue. But it has some serious drawbacks for the environment. — CO-2 (C3) — [5]

Discuss whether this product should be developed in light of ethical theories.

Q3. On February 29, 2024, a fire broke out in a seven-storied building in Baily Road, killing 46 people. Officials stated that the fire was spread rapidly due to the presence of gas cylinders in the kitchens of multiple restaurants in the building. The building had no fire exits at the time of this accident. — CO-3 (C4) — [6]

Evaluate the responsibilities of an engineer to mitigate the risk factors prevailing in this kind of high-rise building.

Q4. Solar cell is a very important source of renewable energy. The shift to solar energy from traditional sources of energy can be quite challenging indeed. China is the world's largest solar market by far whose market boomed by 167% growth in a single year. This country alone was responsible for 57% of global installed capacity in 2023. — CO-4 (C4) — [5]

In the context of Bangladesh, **explain** the feasibility of implementing solar cells as an alternate source of energy.

Q5. Tanjib is an engineer who is tasked with designing a bridge that will be used by the public. His study indicates that the bridge can safely support the expected load, but the project manager insists of using cheaper materials that will — CO-5 (A2) — [5]