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Daffodil International University

Department of Electrical and Electronic Engineering
Faculty of Engineering
Midterm Examination, Summer-26

Course Code: 0223-121
Section: A, B, C, D
Full Marks: 25

Course Title: Art of Living & Engineering Ethics
Level-Term: L2-T2
Exam Date: July 1, 2026

Teacher's Initial: MW, AS
Time: 1.5 Hours

All questions are compulsory. The second rightmost column indicates the corresponding Course Outcomes (COs) along with their respective Bloom's Taxonomy levels, and the rightmost column indicates the allocated marks for each question.

Q1. A recently graduated engineer joins a company that has adopted a new AI-based design software. One engineer refuses to learn the software, believing that technical abilities are fixed and cannot be significantly improved, while another engineer actively practices the software and views challenges as opportunities to develop new skills. — CO-4, C-3, P-2 — 6

(a) **Differentiate** between the mindsets demonstrated by the two engineers by citing at least three points of contrast.
(b) Using the concept of neuroplasticity, **explain** how the second engineer's approach can help him/her adapt to new technologies and continuously improve professional competencies.

Q2. A newly appointed engineer in a manufacturing company frequently ignores workplace communication protocols, fails to respect team members' opinions, and does not follow professional behavior during meetings and project discussions. **Interpret** how the absence of professional etiquette can affect ethical decision-making, teamwork and engineering practice. — CO-1, C3 — 3

Q3. A civil engineer working on a bridge construction project discovers that a slightly cheaper grade of steel was used during construction. It still passes the minimum safety code, but it gives a much smaller safety margin than the original design specified. The project's opening has already been publicly announced, and the supervisor insists the steel "passed inspection, so it's fine," pressuring the engineer to stay quiet. Raising the issue now would delay the opening and damage the contractor's reputation, but staying silent leaves a reduced safety margin if the bridge ever faces above-expected loads. **Justify** what kind of moral situation this represents, mention possible causes behind such situations, and outline the key steps the engineer should take to resolve it responsibly. — CO-3, C-5, A-3 — 7

Q4. **Analyze** the concept of moral autonomy in the context of ethical decision-making. **Mention** the levels of moral development according to Kohlberg and **analyze** how Gilligan's theory differs from Kohlberg's theory with appropriate examples. — CO-2, C-4, A-4, P-1 — 5

Q5. **Demonstrate** the normative sense of engineering ethics. **Using** the codes of ethics that engineering professional societies typically uphold, explain how an engineer should reason through deciding when raising a safety concern becomes a professional obligation rather than just a personal choice. — CO-1, C3 — 4