



**FACULTY OF SCIENCE AND TECHNOLOGY**  
**END OF SEMESTER EXAMINATIONS - APRIL 2025**

**PROGRAMME: BSEM**

**YEAR/SEM: YEAR 3/SEMESTER 2**

**COURSE CODE: BSE3204**

**NAME: CLEANER PRODUCTION AND ENVIRONMENTAL STANDARDS**

**DATE: 2025-04-23**

**TIME: 2:00-5:00PM**

**INSTRUCTIONS TO CANDIDATES:**

1. Read the instructions very carefully
2. The time allowed for this examination is STRICTLY three hours
3. Read each question carefully before you attempt and allocate your time equally between all the Sections
4. Write clearly and legibly. Illegible handwriting cannot be marked
5. Number the questions you have attempted
6. Use of appropriate workplace examples to illustrate your answers will earn you bonus marks
7. Any examination malpractice detected will lead to automatic disqualification.

**DO NOT WRITE ANYTHING ON THE QUESTION PAPER**

## **Section A Attempt all questions in this section (40 marks)**

### **Question 1:**

- a. What is an industry? (2 marks)
- b. Mention the 5 categories of industries (7 marks)
- c. What are the characteristics of proactive environmental strategies (8 marks)
- d. What is an environmental footprint? (3 marks)
- e. What is the role of housekeeping in cleaner production? (6 marks)
- f. Differentiate between reactive and proactive environmental strategies (8 marks)
- g. Who is a stakeholder in cleaner production? Mention at least 4 stakeholders in cleaner production (6 marks)

## **Section B Attempt any 3 questions (60 marks)**

### **Question 1:**

- a. Why is employee engagement crucial to the successful implementation of cleaner production strategies? Discuss how employees at different levels of an organization can contribute to cleaner production efforts. (10 marks)
- b. b. What are the roles of the cleaner production project team? (10 marks)

### **Question 2:**

How does the adoption of cleaner production practices lead to cost savings in manufacturing processes? Provide examples of specific cost reductions that companies might experience. (10 marks). (20 marks)

### **Question 3:**

What are the core principles of cleaner production, and how do they guide decision-making in industrial processes? (20 marks)

### **Question 4:**

- a. What is cleaner production, and how does it differ from traditional environmental management approaches like end-of-pipe treatment? (10 marks)
- b. In which ways can cleaner production be put in practice? (10 marks)

### **Question 5:**

How do the following parties benefit from cleaner production adoption and implementation? (5 marks each)

- i. The government
- ii. Employers
- iii. Employees
- iv. Environment
- v. The general community

**Question 6:**

Cleaner production is a production strategy that promotes economic development with minimal or no risk to humans and the environment. What are the barriers to cleaner production implementation? (20 marks)