



**MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2021/2022 ACADEMIC YEAR**

**THIRD YEAR SEMESTER II MAIN EXAMINATION**

**FOR THE DEGREE OF**

**BACHELOR OF INDUSTRIAL CHEMISTRY**

**COURSE CODE: SCI 366**

**COURSE TITLE: PLANT ECONOMICS AND INDUSTRIAL MANAGEMENT**

**DATE: FRIDAY, 26<sup>TH</sup> APRIL 2022**

**TIME: 3.00PM - 5.00PM**

---

**INSTRUCTIONS**

- *Answer ALL Questions.*
- *Candidates are encouraged to provide chemical equations, relevant examples or illustrations (where necessary) for clarity of their answers.*

*This paper consists of 3 printed pages. Please turn over.*



**Q1.**

**(21 marks)**

- (a) Give all broad types of manufacturing industries and for each provide information as indicated in the table below. [15]

SN.	Type of Industry	Specific Example of this Industry found in Kenya	Key Product(s)	Key Raw Material (s)	Main Process Applied
1					
2					
3					
4					
5					
6					

- (b) With relevant illustrations/examples of your own, outline all types of costs incurred in a typical manufacturing industry. [3]
- (c) In the industry there are variable and fixed costs, some costs are considered “mixed”. Discuss. [3]

**Q2.**

**(15 marks)**

- (a) Explain the meaning of the term ‘process’ as used in the manufacturing industry? [5]
- (b) You are given FIVE (5) processes namely distillation, evaporation, crystallization, mixing/agitation and drying most applied in manufacturing industry. Explain each of these specifically pointing out the definition, principle and application of the process. [10]

**Q3.**

**(20 marks)**

- (a) Explain why Feasibility Studies are normally undertaken. [2]
- (b) According to recent reliable press reports, gold deposits in excess of 48,000 Kgs has been discovered in a location within Kakamega County in Western Kenya. This gold can bring the country in excess of Kshs.331 billion if mined to its maximum. As an industrial chemist, theoretically carry out a feasibility study for this project and write a report for an interested investor to consider in order to make a decision whether project is viable or not. [18]

**Q4.**

- (a) What is capital investment? [2]
- (b) What is the difference between investment and capital? [3]
- (c) What is the difference between cash and capital? [2]
- (d) Give a relevant example of capital investment in Kenya. [2]
- (e) Industrial safety and environmental conservation is important in the industry. Explain.[6]