



nº da inscrição:

MINISTÉRIO DA EDUCAÇÃO
Universidade Federal de Ouro Preto
Programa de Pós-Graduação em Engenharia Ambiental – PROAMB



Prova de Seleção – ProAmb

LÍNGUA INGLESA

29/01/2018

Instruções aos candidatos:

- (1) O candidato que assinar a prova ou que se identificar de qualquer maneira será desclassificado.
- (2) Preencher o **número de inscrição** em todas as folhas.
- (3) Usar caneta preta ou azul.

Part 1 (50%) – Translate into Portuguese the following abstract, which is part of the paper:

Hacking, T.; Guthrie, P. A framework for clarifying the meaning of Triple Bottom-Line Integrated, and Sustainability Assessment. *Environmental Impact Assessment Review*, 28, 73-89, 2008.

Abstract: Terms such as Integrated Assessment and Sustainability Assessment are used to label ‘new’ approaches to impact assessment that are designed to direct planning and decision-making towards sustainable development (SD). Established assessment techniques, such as EIA and SEA, are also widely promoted as SD ‘tools’. This paper presents the findings of a literature review undertaken to identify the features that are typically promoted for improving the SD-directedness of assessments. A framework is developed which reconciles the broad range of emerging approaches and tackles the inconsistent use of terminology. The framework comprises a three-dimensional space defined by the following axes: the comprehensiveness of the SD coverage; the degree of ‘integration’ of the techniques and themes; and the extent to which a strategic perspective is adopted. By applying the framework, assessment approaches can be positioned relative to one another, enabling comparison on the basis of substance rather than semantics.

Part 2 (50%) – Translate into Portuguese the following abstract, which is part of the paper:

Chong, M.N.ab, Jin, B.abcEmail Author, Chow, C.W.K.c, Saint, C.c (2010). Recent developments in photocatalytic water treatment technology: A review. *Water Research*, 44(10), 2997-3027.

Abstract: In recent years, semiconductor photocatalytic process has shown a great potential as a low-cost, environmental friendly and sustainable treatment technology to align with the "zero" waste scheme in the water/wastewater industry. The ability of this advanced oxidation technology has been widely demonstrated to remove persistent organic compounds and microorganisms in water. At present, the main technical barriers that impede its commercialisation remained on the post-recovery of the catalyst particles after water treatment. This paper reviews the recent R&D progresses of engineered-photocatalysts, photoreactor systems, and the process optimizations and modellings of the photooxidation processes for water treatment. A number of potential and commercial photocatalytic reactor configurations are discussed, in particular the photocatalytic membrane reactors. The effects of key photoreactor operation parameters and water quality on the photo-process performances in terms of the mineralization and disinfection are assessed. For the first time, we describe how to utilize a multi-variables optimization approach to determine the optimum operation parameters so as to enhance process performance and photooxidation efficiency. Both photomineralization and photo-disinfection kinetics and their modellings associated with the photocatalytic water treatment process are detailed. A brief discussion on the life cycle assessment for retrofitting the photocatalytic technology as an alternative waste treatment process is presented. This paper will deliver a scientific and technical overview and useful information to scientists and engineers who work in this field.



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