TEMI ASSEGNATI PER LA PROVA SCRITTA

A) L'importanza dell'applicazione delle fonti rinnovabili e del risparmio energetico negli edifici. In particolare il candidato illustri gli aspetti di cui ritiene di avere maggiore conoscenza e/o esperienza

A) Renewable energy sources and energy saving in building. In particular describe the features of which you believe to have a better knowledge and/or expertise

B) Architettura e Territorio: dall'Analisi al Progetto
Il candidato affronti gli aspetti culturali e scientifici del tema, anche alla luce delle proprie esperienze

B) Architecture and Territory: from Analysis to Design
Discuss the heritage and scientific aspects of the topic, also taking into consideration your own expertise

C) I motori elettrici ad alta efficienza. Criteri di dimensionamento di un motore asincrono trifase

C) High efficiency electric motors: design criteria of a three phase induction motor

D) Caratterizzazione, analisi di rischio e bonifica dei siti contaminati: si introduca l'argomento discutendone gli aspetti ambientali, storico-culturali, socio-economici e normativi. Successivamente il candidato approfondisca la discussione di una tecnologia di bonifica a sua scelta, esaminandone gli aspetti tecnico-scientifici e discutendone lo stato dell'arte e gli aspetti meritevoli di ricerca scientifica e sviluppo tecnologico

D) Assessment, risk analysis and remediation of polluted sites: introduce the topic by examining its environmental, heritage, socio-economical and regulatory aspects. Subsequently, deepen the discussion about a freely selected remediation technology, by examining its technical-scientific aspects and debating its state-of-the-art and its aspects worthy of scientific research and technological development

E) Il candidato illustri aspetti teorici e metodi di misura della potenza nei sistemi elettrici

E) Describe theoretical aspects and measurement methods of power in electrical systems

F) Il candidato illustri il tema del risparmio energetico e della microgenerazione distribuita sulla base delle conoscenze acquisite e di potenziali argomenti da sviluppare

F) Describe the topic energy saving and distributed microgeneration based on your expertise and dealing with potential future developments

G) "There's no alternative to sustainable development.
Even so, many companies are convinced that the more environment-friendly they become, the more the effort will erode their competitiveness. They believe it will add to costs and will not deliver immediate financial benefits.
Talk long enough to CEOs, particularly in the United States or Europe, and their concerns will pour out: Making our operations sustainable and developing "green" products places us at a disadvantage vis-à-vis rivals in developing countries that don't face the same pressures. Suppliers can't provide green inputs or transparency; sustainable manufacturing will demand new equipment and processes; and customers will not pay more for eco-friendly products during a recession.
That's why most executives treat the need to become sustainable as a corporate social responsibility, divorced from business objectives. (...)
Executives behave as though they have to choose between the largely social benefits of developing sustainable products or processes and the financial costs of doing so. But that's simply not true. (...) Our research shows that sustainability is a mother lode of organizational and technological innovations that yield both bottom-line and top-line returns. Becoming environment-friendly lowers costs because companies end up reducing the inputs they use. In addition, the process generates additional revenues from better products or enables companies to create new businesses.
In fact, because those are the goals of corporate innovation, we find that smart companies now treat sustainability as innovation's new frontier.
Indeed, the quest for sustainability is already starting to transform the competitive landscape, which will force companies to change the way they think about products, technologies, processes, and business models.
The key to progress, particularly in times of economic crisis, is innovation."

Ram Nidumolu, C.K. Prahalad, and M.R. Rangaswami (2009). "Why sustainability is now the key driver of innovation", Harvard Business Review, Sept.

G) Il candidato inquadri il tema dell'innovazione nell'ambito delle discipline di management e discuta (anche con il supporto di casi reali) il rapporto innovazione-sostenibilità in relazione ad almeno uno dei seguenti ambiti:

- Innovazione di prodotto/servizio
- Innovazione ICT-driven
- Workplace innovation
- Innovazione nel modello di business

G) After framing the innovation stream in the management field, the candidate has to discuss the innovation-sustainability relationship, in term of one of the following topics, at least:

- Product/service innovation
- ICT-driven innovation
- Workplace innovation
- Business model innovation