



**LNF/T3/24542**  
**Concorso per un posto con il profilo di Tecnologo**  
**di III livello professionale**

**DOMANDE PROVA ORALE**

**Busta n. 1**

1) In riferimento ad una rete di utenze in BT o MT che includa impianti di generazione distribuita basati su fonti rinnovabili, il candidato illustri quali tecnologie di monitoraggio, gestione e controllo inserirebbe per un controllo in tempo reale, anche con riferimento ad aspetti impiantistici e normativi.

2) Il candidato descriva le funzioni principali di un SW di progettazione di impianti MT e Bt

3) Il candidato legga e traduca il seguente brano in lingua inglese:

*In the present work, the assumptions made by the classical state estimation theory based on weighted least squares are revised when this theory is applied to low voltage systems with non-aggregated smart meters data. The measurement errors will be analysed obtaining some interesting conclusions about their probability density functions. Finally, these conclusions will be validated by means of different power flow tests using different smart meters set-up.*





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**Busta n. 2**

- 1) Il candidato descriva le principali norme tecniche per la progettazione di impianti in BT e i principali criteri di dimensionamento.
- 2) Il candidato descriva le funzioni fondamentali di gestione di un Database
- 3) Il candidato legga e traduca il seguente brano in lingua inglese:

*Electrical power system is one of the largest and essential nowadays engineering systems that is used in every single field of the modern life. Over the years, the power system advanced significantly, developing from local isolated networks with small-scale load and generation to large networks, such as power plants, railways etc. With increasing the size of the systems, power flow management has become an important task that requires an application of proper methods and techniques to solve power flow problem. In this paper, the authors have applied a graph theory approach as an effective method for solving the load flow in a 2x25kV AC bivoltage traction systems. Obtaining a static system, proposed method is able to overcome numerous problems in the system topology and dimensions.*





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**Busta n. 3**

- 1) Il candidato descriva i dispositivi di protezione da utilizzare per un montante trasformatore AT/MT.
- 2) Il candidato descriva le funzioni principali di un SW di progettazione illuminotecnica.
- 3) Il candidato legga e traduca il seguente brano in lingua inglese:

*In the present work a new application of fuzzy clustering techniques is developed. The authors use this classification technique to study the magnetic losses in the induction machine stators, dividing this part of the motor in different clusters. There is a substantial difference between this fuzzy technique and the classical techniques of classification, while in the classical techniques a point can belong or not to a cluster in the fuzzy techniques a point can belong at the same time to different clusters with different membership degrees. These methods are strongly recommended for pattern recognition, classification and dimensionality reduction. In this case of study the methods are applied for classifying the points of the stator in the induction machines according to its magnetic losses. This classification allows us to separate the stator in different regions with different features. This region division is very helpful in the design step for many reasons. For example, the optimal shape of these regions in order to minimize the total amount of magnetic losses could be extracted*

