 

**Electronic Constructions**

**Examen Mejoramiento**

**II Term 2015-2016**

**1) True or False**

a) Carbon particle resistors show an inductive effect \_\_\_\_ (2p)

b) Electrolytic capacitors do not allow inverse polarization \_\_\_\_\_ (2p)

c) Ferromagnetic materials have the lowest magnetic permeability \_\_\_\_\_ (2p)

d) The solid state relays have the following advantages over electromechanical relays

Lower size \_\_\_\_ (2p)

Longer life \_\_\_\_ (2p)

Open circuit when fails \_\_\_\_ (2p)

e) Silicon has a body centered cubic structure as crystal lattice \_\_\_\_ (2p)

f) Electrons and photons behave as a particle and as a wave \_\_\_\_ (2p)

g) Silicon has 16 electrons in its intrinsic structure \_\_\_\_ (2p)

h) Silicon is a direct semiconductor \_\_\_\_ (2p)

i) Semiconductors have an overlapped bandgap \_\_\_\_ (2p)

j) Boron is a very common material for Silicon n-doping \_\_\_\_ (2p)

k) Jonson effect is due to the atomic interaction in carbon particle resistors \_\_\_\_ (2p)

l) Silicon is expensive to produce in crystal form \_\_\_\_ (2p)

m) Silicon allows three dimensional structuring with etching procedures \_\_\_\_ (2p)

**2) Explain step by step the procedure for manufacturing printed circuit boards at ESPOL Lab. (20p)**