

QUIZ II

1. Which statement **IS NOT** true about the electric field of point charge?
 - A. The electric field is homogenous.
 - B. Field lines are straight lines which spread radially.
 - C. The electric field is proportional to the charge which produces it.
 - D. The electric field decreases with the square of distance from the source charge.
2. A piece of biological tissue is put within the alternating electric field. The action of electric field induces:
 - A. increase in relative permittivity of the tissue with higher frequency of the electric field
 - B. heating of the tissue due to the induced eddy currents of ions in it
 - C. heating of the tissue due to the phase polarization of blood
 - D. heating of the tissue induced by the vibrations of ions in viscous medium
3. Diamagnetic properties:
 - A. are present in the materials built from atoms with paired electrons
 - B. are the consequence of the interaction of external magnetic field with orbital magnetic moment of electron
 - C. are responsible for the magnetization in the material in the direction of external magnetic field
 - D. are present in the materials who have relative magnetic permeability slightly larger of 1
4. Which statement comes from Gauss's law?
 - A. The flux of electric field is proportional to the charge which is transferred through any surface
 - B. The flux of electric field is proportional to the charge within the closed surface
 - C. The flux of electric field is equal to the charge količini naboja which is transferred through any closed surface
 - D. The electric field of the dipole is proportional to the dipole moment.
5. Which mechanism of the polarization of dielectric in the external electric field **DOES NOT** exist in homogenous media?
 - A. membrane polarization
 - B. dipole polarization
 - C. electronic polarization
 - D. ionic polarization
6. Planar surface of refraction:
 - A. creates real image of the object at the intersection of refracted rays.
 - B. creates virtual image of the object at the intersection of refracted rays.
 - C. creates virtual image of the object at the intersection of reflected rays.
 - D. creates virtual image of the object which is always on the different side of the surface of refraction than the object.
7. What is true about transmission electron microscope?
 - A. The image is obtained on the basis of wave properties of electrons.
 - B. The electron's wavelength is proportional to its velocity.
 - C. The image has a 3D effect.
 - D. The numerical aperture is larger than for optical microscope.

8. Which statement **CANNOT** be applied to the prism?
- A. The use of prism is based on the reflection of light from two planes at small angle on to the other.
 - B. The prism can be used for the deflection of the light beam.
 - C. The white light is dispersed in the prism into the spectar.
 - D. The angle between incident and exit beam is called deviation angle.
9. Numerical aperture of the microscopic objective **IS NOT** connected with:
- A. the angular enhancement of microscope.
 - B. the angle of acceptance of the objective.
 - C. the index of refraction of immersion medium.
 - D. the resolution of microscope.
10. Which statement **IS NOT** true for the object and the image?
- A. The realni object is the source of diverging beam of light.
 - B. From virtual object the optical system can create real image.
 - C. The virtual image cannot be created from the virtual object.
 - D. The real image is the intersection of rays from the converging beam.