

Forum:Seminar papers/Biophysics/2. LF/2017-2018/Group 2B (Marim): MCQ - Biophysics of Vision, Electricity and Magnetism

Article to be checked

Check of this article is requested.

Suggested reviewer: Carmeljcaruana

Biophysics of Vision

1. The average optical power of the human eye is: A. 42 Dpt. B. 70 Dpt. C. the sum of the optical power of the lens and cornea. (correct) D. is equal to the reciprocal of the focal length of the lens measured in centimeters.
2. Which of the following affects visual acuity? A. Ametropia B. Astigmatism C. Size of pupil D. All of the above (correct)
3. Select the correct statement regarding hypermetropia. A. It is corrected with a diverging lens. B. It is a physiological process that occurs after the age of 40. C. A sharp image is formed behind the retina and is corrected with a converging lens. (correct) D. Those who suffer from this condition have difficulty seeing objects far away.
4. Which of these statements is correct? A. The nasal and temporal monocular fields of view are 95° and 65°, respectively. B. The periphery is not sensitive to motion. C. The field of view of an individual can be tested with optometric examination. D. None of the above (correct)
5. Which of these statements is fully correct? A. During the day, scotopic vision is used. At low illumination, rods are used and there is loss of color perception. B. In mesopic vision, only cones are functional. There is a stable sensitivity curve, with the maximum at 555 nm. C. Pseudoisochromatic plates are effective if the patient recognizes the main picture in up to one minute. D. During photopic vision the eye uses cones to process light for higher color discrimination and during scotopic vision the eye uses rods to process light. (correct)

Electricity and Magnetism

1. The property of a material to remain magnetized after removal of magnetizing force is called: A. Retentivity (correct) B. Permeability C. Hysteresis D. Reluctance
2. Which of the following statements is completely true? A. Gravity is the strongest of the four fundamental forces. B. Electric forces of attraction and repulsion have a negligible effect on the structure of the nucleus. (correct) C. As an inverse square force with a long range, the strong force can hold a nucleus together against the enormous forces of repulsion of the protons. D. None of the above.
3. How can electro-stimulation be applied to medical uses? A. An active electrode is used as a surgical tool in hyperthermia procedures. B. Permanent cardio-stimulation involves only the introduction of a stimulating electrode (by catheterization) into the left ventricle. C. Galvanism can be used for the treatment of psychiatric diseases. D. None of the above. (correct)
4. Which of the following statements regarding magnetic resonance imaging (MRI) is fully correct? A. Contrast agents amplify T2 and reduce T1 weighting image enabling visualization of fine structure not resolvable in the native image. B. For image improvement, diamagnetic agents are used, such as gadolinium and compounds of iron. C. Contrast agents amplify T1 and reduce T2 weighting image enabling visualization of fine structure not resolvable in the native image. (correct) D. For image improvement, paramagnetic agents are used such as copper and gold.
5. Select the correct statement. A. In magnetotherapy, magnetic fields of magnetic induction lower than 10 T should not be used due to significant pathological effect. B. In magnetotherapy, magnetic fields of magnetic induction lower than 10 T have no significant pathological effect. (correct) C. Pulse magnetotherapy can be used to treat degenerative joint diseases, carcinoma, and tuberculosis. D. In magnetotherapy, magnetic fields of magnetic induction higher than 10 T should be used for effective treatment.