

**Part I. Answer these questions by marking the best answer among the choices given:**

1. For a 60 Hz current, respiratory arrest occur starting from currents as low as ...
  - a. 5 mA
  - b. 10 mA
  - c. 50 mA
  - d. 150 mA
2. The effects of electric current passing through the body do NOT include ...
  - a. Burns
  - b. Muscular paralysis
  - c. Pain
  - d. High blood pressure
3. Portable equipment should pass ...
  - a. Inward force and impact test
  - b. Handle test
  - c. Drop test
  - d. All of the above
4. Hygiene measures aim to ...
  - a. Protect clinical staff/employees during handling of medical devices and working with patients
  - b. Protect patients during use of medical devices and inside hospital environment.
  - c. Guarantee complete killing of germs everywhere
  - d. A and B
5. Disinfection of hands and skin can be done using ...
  - a. Alcohol
  - b. Peroxides
  - c. Formaldehyde
  - d. Physical disinfection
6. Disadvantages of chemical disinfection do NOT include ...
  - a. Gaps in effectiveness
  - b. Lower impact on environment
  - c. Concentration dependence
  - d. Inactivation by soup
7. To disinfect against spores of the anthrax pathogen, we use ...
  - a. Chemical disinfection using alcohol
  - b. Chemical disinfection at temperature of at least 100°
  - c. Physical disinfection at temperature 75° for at least 15 min
  - d. Physical disinfection at temperature 105° for at least 5 min
8. To reduce risk of exposure to airborne transmitted disease, It is sufficient to use ...
  - a. Respiratory protection
  - b. Gloves and gown
  - c. Chemical disinfection of hands

- *Assigned:* April 7, 2015
- *Deadline:* Tuesday April 14, 2015
- *Submission:* Electronic form (PDF) to instructor's email address: ykadah@kau.edu.sa

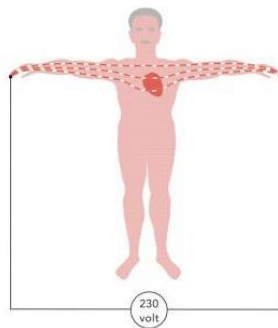
- d. All of the above

**Part II. Mark the following statement as either True (T) or False (F):**

9. The let-go current changes with frequency of applied current.
10. It is possible for a biomedical engineer to receive a microshock while repairing a medical device.
11. After running mechanical strength tests, equipment should look good in order to pass.
12. The step test is necessary for ensuring safety of mobile devices.
13. Washing the hands eliminates the permanent bacterial colonization in the skin.
14. To avoid droplet transmission of germs, a distance of 1 m to infectious patients should be kept.
15. Chemical disinfection allows higher degree of reliability in automated disinfection.
16. Physical disinfection may have allergenic and toxic side effects.

**Part III. Answer the following question:**

17. Compute the applied voltage that would guarantee the occurrence of macroshock with a 60 Hz current of 50 mA for the person shown below.



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