

سری سوال: یک ۱

زمان آزمون (دقیقه): تستی: ۱۲۰ تشریحی: ۰

تعداد سوالات: تستی: ۳۰ تشریحی: ۰

عنوان درس: زبان تخصصی، زبان تخصصی مهندسی پزشکی

رشته تحصیلی/کد درس: مهندسی برق - گرایش مهندسی پزشکی (بیوالکتریک)، مهندسی پزشکی - بالینی ۱۳۱۸۰۱۶ - مهندسی پزشکی - گرایش بیومتریال، مهندسی پزشکی - گرایش بیومکانیک ۱۳۱۸۰۵۲

1-The principal application of EMG is in clinical neurophysiology but it is also employed in kinesiology and in provision of control signals for prosthetic devices. The word "kinesiology" can be defined as.....

- | | |
|-------------------------------|---|
| 1. the combination of signals | 2. the study of stimulation of the nerves |
| 3. the study of limb implants | 4. the study of limb movement |

2-..... is the technique of recording the electrical responses (action potentials) of the muscles in response to stimulation of the nerve supplying the muscle.

- | | |
|------------------------|---------------------|
| 1. electrocardiography | 2. electromyography |
| 3. neurophysiology | 4. electrosurgery |

3-Blood flow measurement can be used by obstetricians for

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|---|--|
| 1. the investigation of the limb | 2. the measurement of fetal heart rate |
| 3. the investigation of red blood cells | 4. the measurement of induced voltage |

4-..... is a diagnostic or therapeutic technique that does not need the skin to be broken or a cavity or organ of the body to be entered.

- | | | | |
|-------------|-------------|-----------------|-----------------|
| 1. invasive | 2. clinical | 3. non-invasive | 4. non-clinical |
|-------------|-------------|-----------------|-----------------|

5-Elaborate is necessary for precise measurement of blood flow.

- | | | | |
|-------------|----------|-------------|--------------|
| 1. drawback | 2. organ | 3. resistor | 4. equipment |
|-------------|----------|-------------|--------------|

6-An electroretinogram (ERG) is a recording of the pattern of transient electrical signals that develop across the when it is stimulated by light.

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|---------|-----------|----------|--------|
| 1. head | 2. retina | 3. heart | 4. ear |
|---------|-----------|----------|--------|

7-Any organic coloring material produced in the body is called

- | | | | |
|------------|-----------------|-------------|-----------------|
| 1. pigment | 2. oscilloscope | 3. stimulus | 4. displacement |
|------------|-----------------|-------------|-----------------|

8-A transient ultrasonic beam, which has a wide frequency spectrum, becomes increasingly homogenous in the near field. The word "homogenous" means

- | | | | |
|-------------|---------------|------------|---------------|
| 1. complete | 2. incomplete | 3. similar | 4. dissimilar |
|-------------|---------------|------------|---------------|

9-Absorbent is a product of substance that can.....

- | | |
|-------------------------------|--|
| 1. produce gas bubbles | 2. absorb liquids or gases |
| 3. combine liquids with gases | 4. measure pulses of ultrasonic energy |

10-There is no thermal hazard in contemporary diagnostic techniques. The word "hazard" is a synonym for.....

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|-------------|-------------------|----------------|-----------|
| 1. velocity | 2. characteristic | 3. attenuation | 4. danger |
|-------------|-------------------|----------------|-----------|

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11- "Adhesive" refers to the quality of a substance that enables it

1. to measure the distribution of electrical potential
2. to become attached to another substance
3. to amplify the electrical activity
4. to generate the electrical potentials

12- Electrocardiography is the recording of potentials existing on the skin as a result of the electrical activity of the

1. brain
2. muscle
3. heart
4. eye

13- Saline is a substance that

1. absorbs liquid and gases
2. contains a salt of alkali metal
3. conducts an electrical activity
4. decreases electrical activities on the surface of the body

14- The need for improved soft tissue discrimination in oncology has led to greater use of CAT scanners in hospitals. The word "oncology" refers to

1. diagnostic methods
2. brain studies
3. cancer studies
4. therapeutic methods

15- The basic unit of adult human bone is the Haversian system of osteon, which forms a roughly cylindrical elongated structure. The word "elongate" means

1. to become longer
2. to reduce strain
3. to decrease compression
4. to increase strength

16- The value of the longitudinal modulus for slow tensile tests on wet specimens commonly falls in the range 15-20 GPa. The word "specimen" is closest in meaning to.....

1. structure
2. frequency
3. simple
4. sample

17- In an artificial pacemaker unit, ROM or Ram are used to.....

1. test data
2. store data
3. program data
4. terminate the activity

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18-The word telemetry refers to

1. the transmission of data between distant points
2. the stimulation of nerve cells
3. the production of sinusoidal waves
4. the combination of temporary pacing

19-The most common indication for a pacemaker is a very slow heart rate or due to a failure of the natural pacemaker.

1. implanted
2. speed up
3. bradycardia
4. cardiovascular

20-The new techniques led to the development of modern solid-state electrosurgery apparatus. The word apparatus in this sentence refers to.....

1. a device for a specific purpose
2. a special type of surgery
3. the use of electricity in surgery
4. the use of output circuits

21-Another method of coagulation, desiccation, is the straightforward ohmic heating of tissue resulting from contact between the active electrode and tissue. The word "straightforward" can be replaced with.....

1. complete
2. temporary
3. direct
4. indirect

22-A is a synthetic material used to replace part of a living system or to function in intimate contact with living tissue.

1. biological material
2. biomaterial
3. pharmacology
4. composite

23-With the advent of antibiotics, infectious disease is less of a threat than in former times. The word "infectious" has nearly the same meaning as

1. psychological
2. physiological
3. concave
4. contagious

24-....., which may be rigid or flexible, is a device which facilitates the examination of body cavities which are not accessible to the human eye.

1. endoscope
2. tomography
3. electrocardiograph
4. catheter

25-"Brittle" refers to substances which are.....

1. soft and easily shaped
2. hard but easily broken
3. hard and not easily broken
4. stiff and shaped

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26- There are two types of electrodes which are used in electromyography. These include: electrodes and surface electrodes.

1. provision 2. recording 3. needle 4. digital

27- The of bone density employs a beam of monoenergetic photons.

1. measure 2. measurement 3. measured 4. measurable

28- A study of the movement of a dye in rabbit eye showed that a posterior flow may in the retina.

1. existence 2. existing 3. existent 4. exist

29- In ultrasonography, the intensity of the is related to the ratio of the characteristic acoustic impedance across the interface.

1. reflection 2. reflective 3. reflected 4. reflect

30- Most prescreeners that have so far been are based on one of the two technologies: image analysis and flow cytometry systems.

1. develop 2. developed 3. development 4. developmental