

MEDICAL ELECTRONICS

ASSIGNMENT 5 - ANSWER KEY

1. Which electrode is known as a limb electrode?

1 / 1 pt

Auto-graded

Metal Plate ✓

Metal Disk

Flexible

Suction cup

2. Which electrode is also known as the chest electrode?

1 / 1 pt

Auto-graded

Metal Plate

Metal Disk

Floating

Suction cup ✓

3. _____ electrode can be used for ECG, EEG, EMG recording.

1 / 1 pt

Auto-graded

Metal Plate

Disposable ✓

Flexible

Suction cup

4. The electrode that is used frequently in electromyography is _____

1 / 1 pt

Auto-graded

Skin surface electrode

Micro electrode

Needle electrode ✓

All the above

5. In which electrode, the lead wire is soldered to the back of the electrode.

1 / 1 pt
Auto-graded

Metal Plate

Metal Disk ✓

Flexible

Suction cup

6. Which electrode does not need any skilled technicians?

1 / 1 pt
Auto-graded

Disposable foam-pad electrode ✓

metal disk electrode

Metal plate electrode

Flexible electrode

7. How many reactions take place when an electrode is placed in an electrolyte

1 / 1 pt
Auto-graded

1

2 ✓

3

4

8. The oxidation reaction causes ____ of an electrons and the reduction reaction causes _____ of an electrons

2 / 2 pts
Auto-graded

Loss, Gain ✓

Gain, Loss

Loss, Loss

Gain, Gain

9. In _____ reaction, electrons are released and in _____ reaction electrons are gained.

2 / 2 pts
Auto-graded

- Oxidation, Reduction ✓
- Reduction, Oxidation
- Oxidation, Oxidation
- Reduction, Reduction

10. The most commonly used electrode is _____

1 / 1 pt
Auto-graded

- Ag/AgCl ✓
- Ag
- Au/AgCl
- Stainless steel

11. A layer of transparent gel is applied in between electrode and electrolyte to _____

1 / 1 pt
Auto-graded

- Stick electrode to skin surface
- Maintain good contact between electrode and the skin ✓
- To increase the contact impedance
- to reduce artifact

12. The other name of half-cell potential is known as _____

1 / 1 pt
Auto-graded

- membrane potential
- Electrode potential ✓
- Resting potential
- Action potential

13. Which electrode is manufactured by applying a heat to a small area of glass tubing and pulling the glass when it gets soft. 1 / 1 pt
Auto-graded

macroelectrode

metal microelectrode

non-metallic microelectrode ✓

needle electrode

14. Metallic microelectrode have _____ impedance compared to surface electrodes 1 / 1 pt
Auto-graded

Low

Equal

High

Very high ✓

15. Which electrode is used to study the electrical activity of a single cell 1 / 1 pt
Auto-graded

macroelectrode

microelectrode ✓

surface electrode

needle electrode

16. Instrument used for recording electrical activities associated with heart is known as _____ 1 / 1 pt
Auto-graded

Electrocardiogram

Echocardiograph

Electrocardiograph ✓

magnetocardiograph

17. Limb surface electrodes are made of _____

1 / 1 pt
Auto-graded

- German silver ✓
- Copper
- Gold
- Platinum

18. Which surface electrode produces less artefacts?

1 / 1 pt
Auto-graded

- Suction cup
- Metal disk
- Flexible
- Floating ✓

19. In which surface electrode, the electrode does not come in direct contact with the skin?

1 / 1 pt
Auto-graded

- Suction cup
- Metal disk
- Flexible
- Floating ✓

20. _____ electrode is designed for new born babies

1 / 1 pt
Auto-graded

- Suction cup
- Metal disk
- Flexible ✓
- Floating

21. _____ electrode is used to pick a signal from a single cell.

1 / 1 pt
Auto-graded

skin surface

macro

micro ✓

needle

22. _____ electrode is used to pick a signal from a nerve.

1 / 1 pt
Auto-graded

Skin Surface

macro

micro

needle ✓

23. In the electrode-electrolyte interface, complete this equation, $A^{n-} \rightleftharpoons$

1 / 1 pt
Auto-graded

$A + me^-$

$A + ne^-$ ✓

$C + ne^-$

ne^-