

MEDICAL ELECTRONICS

ASSIGNMENT 9 - ANSWER KEY

1. Which of the following option is the correct full form of CRO?

1 / 1 pt
Auto-graded

Common Ray Oscilloscope

Common Ray Oscillator

Cathode Ray Oscillator

Cathode Ray Oscilloscope ✓

2. In telemedicine, the recommended file formats suitable for transmission of medical images (e.g. CT scan) from a remote end to the specialist end is

1 / 1 pt
Auto-graded

powerpoint

DICOM ✓

JPEG

MPEG

3. _____ uses computers and telecommunications equipment to deliver medical care at a distance.

1 / 1 pt
Auto-graded

Medical Informatics

Telemedicine ✓

Computer Informatics

None of the above

4. _____ treats skin rashes at a distance

1 / 1 pt
Auto-graded

TeleStroke

Telecardiology

Teleoncology

Teledermatology ✓

5. _____ technology involves sharing information in a time and place, independent way over the Internet

1 / 1 pt
Auto-graded

Store and send

Send and save

Store and forward ✓

Independent videoconferencing

6. _____ or teleconferencing allows doctors to consult with each other and with patients in real time, at a distance.

1 / 1 pt
Auto-graded

Store and send

Send and save

Store and forward

Interactive videoconferencing ✓

7. _____ technology can link devices such as a pace maker and a cell phone.

1 / 1 pt
Auto-graded

WiFi

Satellite

Bluetooth ✓

None of the above

8. In _____, the pathologist sees images on a monitor instead of under a microscope.

1 / 1 pt
Auto-graded

Teleradiology

Telepathology ✓

Interactive radiology

None of the above

9. _____ involves the sending of radiological images in digital form over telecommunications lines.

1 / 1 pt
Auto-graded

Teleradiology ✓

Telekinetics

Both A and B

None of the above

10. Remote medical consultations and exams were first tried _____.

1 / 1 pt
Auto-graded

After World War II

In 1997

As soon as the telephone was invented ✓

1977

11. Many telemedicine programs have been found to be effective. But _____ is not.

1 / 1 pt
Auto-graded

Distance monitoring of problem pregnancies ✓

Telehome care

Telemedicine in prisons

Telenurses programs run by nurses

12. In which of the following cases would face-to-face medical care be less expensive than telemedicine?

1 / 1 pt
Auto-graded

Therapy for depression

Medical care for prisoners

Surgery



Telemedicine is always less expensive

13. The full form of RTD is _____

1 / 1 pt
Auto-graded

resistive thermal detector

resistance temperature detector



resistance temperature device

reluctance thermal device

14. Which of the following quantity is measured by Thermister?

1 / 1 pt
Auto-graded

pressure

displacement

temperature



height

15. _____ is not a soft tissue

1 / 1 pt
Auto-graded

ligament

bone



tendons

skin

16. The amplifier from the following that has a limited frequency response is _____

1 / 1 pt
Auto-graded

dc amplifiers ✓

differential amplifier

ac coupled amplifiers

carrier amplifiers

17. Which feedback system is employed in DC amplifiers?

1 / 1 pt
Auto-graded

Can be any positive or negative doesn't matter

Negative ✓

Depends on the application

Positive

18. Which of the following IC is a variable negative voltage regulator?

1 / 1 pt
Auto-graded

7912

7905

LM337 ✓

LM317

19. A disturbance in the heart's normal rhythmic contraction is called _____

1 / 1 pt
Auto-graded

Heart stroke

Cardiac arrest

Arrhythmias ✓

Premature contraction

20. Which of the following two elements are removed by the detection filter in the process of the ECG waveform?

1 / 1 pt
Auto-graded

- Low frequency noise, motion noise ✓
- Muscle artifact, motion noise
- Baseline wander, motion noise
- Baseline wander, muscle artifact

21. Which of the following is used to detect Ventricular Fibrillation?

1 / 1 pt
Auto-graded

- Shape of the QRS complexes
- Frequency domain analysis ✓
- Timing sequence of QRS complexes
- Difference of the R-R interval

22. What is the region called in which the output does not change with an increase in input?

1 / 1 pt
Auto-graded

- saturation ✓
- threshold
- offset
- input range

23. The endoscope that examines the respiratory tract is called as _____

1 / 1 pt
Auto-graded

- Bronchoscopy ✓
- Laparoscopy
- Colonoscopy
- Arthroscopy

24. Endoscope used to examine the upper GI tract is

1 / 1 pt
Auto-graded

Laparoscopy

Bronchoscopy

Esophagogastroduodenoscopy ✓

Laryngoscopy

25. Capsule endoscope has a _____ for taking images.

1 / 1 pt
Auto-graded

CCD camera ✓

LED camera

X-Ray camera

US camera

26. Extraction of a small piece of the diseased organ is called

1 / 1 pt
Auto-graded

biopsy ✓

surgery

chemotherapy

replacement

27. Which of the following operations can be done with an endoscope? i. Bypass surgery ii. Cardiac Catherization iii. Kidney Stone Removal iv. Knee Replacement v. Biopsy vi. Tracheotomy vii. Appendix Removal

2 / 2 pts
Auto-graded

i, ii, iii, iv, vii

ii, iii, v, vii ✓

iii, vii

v, vi, vii

28. Which if the following diagnostic procedures require an endoscope?

2 / 2 pts
Auto-graded

Transesophageal Echocardiography ✓

X Ray of the Chest

Counting the Number of Platelets

Detecting Leukemia

29. Which endoscope can be used to look at the knees before and after a surgery?

1 / 1 pt
Auto-graded

Colonoscopy

Arthroscopy ✓

Bronchoscopy

Laryngoscopy

30. In order to maintain the levels of sugar in the blood, what devices are commonly being used?

1 / 1 pt
Auto-graded

Glucometer

Insulin Pump ✓

Gluco Strips

Portable Pulse Oximeter

31. Which device is used to separate the components of blood?

1 / 1 pt
Auto-graded

auto analyzer

centrifuge ✓

hematocrit

magnetic stirrer

32. How are the blood cells and plasma separated?

1 / 1 pt
Auto-graded

hematocrit ✓

hot plate

centrifuge

water bath

33. The cells related to blood are collectively called as

1 / 1 pt
Auto-graded

oestoblast cells

condrocyte cells

hematopoietic cells ✓

megakaryocytes

34. On what basis is the blood group classified?

1 / 1 pt
Auto-graded

Antigen and antibody ✓

Haemoglobin content

Rhesus Factor

Oxygen Content

35. Extraction of a small section of diseased tissue to study and diagnose is called _____

1 / 1 pt
Auto-graded

autopsy

biopsy ✓

necrosis

endoscopy

36. On collecting blood, what solution is added to it?

1 / 1 pt
Auto-graded

- sodium citrate ✓
- potassium citrate
- sodium phosphate
- potassium phosphate

37. Which of the following tests can be performed on the extracted blood? i) HIV ii) Diabetes iii) Hepatitis B surface antigen iv) Malaria v) Antibody to Hepatitis C vi) Serological test for Syphilis vii) Dengue viii) Creatinine

2 / 2 pts
Auto-graded

- i, iii, v, vi ✓
- i, ii, iii, iv, v, vi, viii, viii
- ii, iv, vii, viii
- i, v, viii

38. How is dengue detected in blood?

1 / 1 pt
Auto-graded

- Low level of RBCs
- Low level of WBCs
- Low level of Platelets ✓
- Low level of fibrin

39. What machine is used to test the blood?

1 / 1 pt
Auto-graded

- Auto analyzer ✓
- Hemodialyzer
- Diathermy machine
- Ventilator

40. Anaemia is caused due to deficiency of _____

1 / 1 pt
Auto-graded

Haemoglobin ✓

Fibrin

Thrombin

Neutrophils

41. What is the lifespan of platelets?

1 / 1 pt
Auto-graded

1 – 7 days

8 – 12 days ✓

14 days

1 month

42. Who is most likely to use Brain Computer Interface?

1 / 1 pt
Auto-graded

A paralyzed patient with the Lou Gehrig's Disease ✓

A deaf student

A person who has been brain dead for 5 months

43. What type of cap is used to allow Brain-Computer Interface to happen?

1 / 1 pt
Auto-graded

Baseball cap

Clay Cap with reinforcements

Electroencephalograph Cap ✓

Magnetoencephalograph Cap

44. What is Brain-Computer Interface?

2 / 2 pts
Auto-graded

A process in which your brain is taken and put in a computer hard drive.

A process in which the brain waves from your brain are sent to wires and converted from chemical to electrical energy and then the process occurs on the computer, this device is designed for paralyzed people with disabilities. ✓

A process in which the brain waves from your brain are sent to wires and converted from electrical to chemical energy and then the process occurs on the computer, this device is designed for paralyzed people with disabilities.

A process in which a brain gives of UV Radiation to a computer and the computer captures the thoughts and carries out the task virtually

45. Which of the following are the two main characteristics of receivers?

1 / 1 pt
Auto-graded

Selectivity and sensitivity ✓

Gain and attenuation

Modulation and demodulation

Multiplexing and demultiplexing

46. Analog signals : Signal to noise ratio:: Digital signals

1 / 1 pt
Auto-graded

_____ Signal Attenuation

Bit error rate ✓

Error rate

Digital noise ratio