

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : BE/ECE	Year / Semester : III/V	Format No.	NAC/TLP-07a.13
Subject Code : OMD551	Subject Name : Basics Of Biomedical Instrumentation	Rev. No.	02
Unit No : 4	Unit Name : Measurement Of Non-Electrical parameters	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ / True or False / Fill up with Choices)	BTL
1.	Which of the following instrument is used for recording the electrical activity of the brain? a) ECG b) EMG c) PCG d) EEG	L3
2.	EEG electrodes are larger in size than ECG electrodes. a) True b) False	L3
3.	_____ is the superimposed wave of neuron potentials operating in a non-synchronised manner in a physical sense. a) VCG b) ECG c) EEG d) PCG	L4
4.	Which of the following is material is used to improve electrical contact? a) Silver Tungsten b) Electrode jelly c) Silver Graphite d) Copper Tungsten	L4
5.	Whose electrodes give high skin impedance as compared to ECG? a) VCG b) PCG c) EMG d) EEG	L5
6.	What are generally designed to have a very high value of input impedance to take care of high electrode impedance? a) Montages b) Electrodes c) Preamplifiers d) Filters	L6
7.	A pattern of electrodes on the head and the channels they are connected to are _____ a) Amplifiers b) Oscilloscope c) Montage d) Wires	L4
8.	Preamplifiers used in electroencephalograph have high gain and low noise characteristics. a) True b) False	L3

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9.	EEG machines have notch filter sharply tuned at _____ Hz as to eliminate mains frequency interference. a) 10 b) 30 c) 50 d) 70	L4
10.	How much blood is present in an average adult? a) 10-12 L b) 2-3 L c) 5-6 L d) 20-25 L	L1
11.	Identify which of the following flowmeters inherently measures mass flow rate: (A) Thermal (B) Magnetic (D) Flow nozzle (D) Vortex (E) Venturi tube	L3
12.	A magnetic flowmeter will not properly measure the flow rate of: (A) Dirty water (B) Milk (C) Oil (D) Caustic (E) Acid	L2
13.	If a flutter or sinusoidal wave-form persists for more than _____ seconds in any ECG channel, then the monitor alarms for ventricular fibrillation. a) 8 sec b) 2 sec c) 4 sec d) 12 sec	L4
14.	The frequency of the sinusoid and the filter leakage fraction, these two criteria are used for _____ a) Detection of arrhythmias b) Detection of QRS complex c) Detection of Ventricular fibrillation d) Detection of Heart-rate	L1
15.	For an ideal sinusoid, the filter leakage fraction will be _____ a) 1 b) 0 c) Infinity d) Undefined	L4
16.	Where are potentials picked up by patient electrodes taken to? a) Lead Selector switch b) Preamp c) Power Amplifier d) Instrumentational amplifier	L1

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17.	<p>_____ are made horizontally on electrocardiogram.</p> <p>a) Time Measurements b) Heart Rate Measurements c) Time Measurements and Heart Rate Measurements d) Not fixed and can be any thing</p>	L5
18.	<p>What measurements are made vertically on electrocardiogram?</p> <p>a) Time Measurements b) Heart Rate Measurements c) Amplitude Measurements d) Time Measurements and Heart Rate Measurements</p>	L3
19.	<p>What is sensitivity of an electrocardiograph?</p> <p>a) 10 mm/mV b) 15 mm/mV c) 20 mm/mV d) 25 mm/mV</p>	L2
20.	<p>The frequency of the sinusoid and the filter leakage fraction, these two criteria are used for _____</p> <p>a) Detection of arrhythmias b) Detection of QRS complex c) Detection of Ventricular fibrillation d) Detection of Heart-rate</p>	L5
21.	<p>Which one of the following is not the category of ECG compression techniques?</p> <p>a) Transformation domain b) Parameter Extraction c) Frequency domain d) Time domain</p>	L6
22.	<p>The scan-along polygonal approximation and the amplitude zone time epoch coding are the examples of the _____ category of ECG compression techniques.</p> <p>a) Transformation domain b) Time domain c) Parameter extraction d) Frequency domain</p>	L5
23.	<p>A signal of poor quality that cannot be processed is called chaotic.</p> <p>a) True b) False</p>	L4
24.	<p>In the detection of the waveform of ECG signal, a wave is considered as a T wave if _____</p> <p>a) It occurs within a 120 ms interval b) Its peak occurred within 1/6th the R-R interval c) It occurs within a 200 ms interval d) Its peak occurred within 1/3rd the R wave height</p>	L5

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25.	Which instrument is used for clinical detection of heart sounds? a) Stethoscope b) Endoscope c) Anoscope d) Proctoscope	L5
26.	Interruption or interference with normal physiological and developmental processes or structures is called _____ a) Functional Limitation b) Pathophysiology c) Societal Limitation d) Modality-Specific	L5
27.	An artificial limb, a sensory substitution system, or an augmentative communication aid is prosthetic devices _____ a) therapeutic device b) diagnostics device c) orthosis device d) prosthetic device	L3
28.	_____ waves have short wave-length. a) Microwave b) Radio wave c) Gamma rays d) IR waves	L5
29.	The method based on the absorption of radiation of a substance is known as _____ a) Absorption photometry b) Spectrophotometry c) Absorption tocometry d) Absorption spectrophotometry	L3
30.	Which of the following instrument is used to measure the oxygen saturation level of blood in localized areas of oxygen? a) Ear Oximeter b) Pulse Oximeter c) Skin reflectance Oximeter d) Intravascular Oximeter	L4
31.	Who has poorer signal-to-noise ratio? a) Transmission Pulse Oximeter b) Reflection Pulse Oximeter c) Ear Oximeter d) Pulse Oximeter	L5
32.	What was utilized around the light source to enhance the signal? a) Photodiodes b) Optical Shied c) Ceramic Substrate d) Red and infrared LED's	L3

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33.	The detected signals are processed in the form of photo – plethysmographs to determine _____ a) SiO ₂ b) SO₂ c) CO ₂ d) TiO ₂	L4
34.	What is incorporated in sensor to warm the tissue so as to increase local blood flow? a) heater b) heating plate c) thermostat d) thermometer	L4
35.	Whose electrodes give high skin impedance as compared to ECG? a) VCG b) PCG c) EMG d) EEG	L5
36.	What are generally designed to have a very high value of input impedance to take care of high electrode impedance? a) Montages b) Electrodes c) Preamplifiers d) Filters	L4
37.	How is bipolar recording done? a) Omni channel EEG b) Multi channel EEG c) Uni Channel EEG d) Non Channel EEG	L5
38.	The amplitude of EMG signals depend upon which of the following factor? a) Respiration b) Position of electrode c) Blood Resistivity d) Ventricular Volume	L5
39.	What is included in the system to facilitate playback and study of EMG sound waveforms at a later convenient time? a) Preamplifier b) Oscilloscope c) Tape Recorder d) Ground Electrode	L4
40. \	Which of the following instrument is used for making a study of reflex responses? a) EEG b) ECG c) VCG d) EMG	L5