

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : BE / EEE	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	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 is the technique of analyzing the electrical activity of the heart by obtaining ECG's? a) VCG b) EEG c) EMG d) PCG	L2
2	Vectorcardiogram displays the electrical events in _____ perpendicular axes. a) one b) two c) three d) four	L2
3	_____ is a vectorial representation of the distribution of electric potentials generated by heart. a) EEG b) ECG c) PCG d) VCG	L1
4	How many loops each vectorcardiogram exhibits? a) one b) two c) three d) four	L2
5	Which of the following instrument is used for recording the sounds connected with the pumping action of the heart? a) ECG b) VCG c) PCG d) EEG	L1
6	Which instrument is used for clinical detection of heart sounds? a) Stethoscope b) Endoscope c) Anoscope d) Proctoscope	L1
7	Who provides a recording of waveforms of heart sounds? a) Electrocardiograph b) Vectorcardiograph c) Phonocardiograph d) Electromyograph	L1

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8	<p>What is the frequency range of sound generated from the closure of the mitral and tricuspid valve?</p> <p>a) 0 to 30 Hz b) 30 to 100 Hz c) 100 to 1000 Hz d) above 1000 Hz</p>	L2
9	<p>Which of the following microphone is used for recording phonocardiograms?</p> <p>a) Contact Microphone b) Shotgun Microphone c) Handheld Microphone d) Lapel Microphone</p>	L2
10	<p>What is the frequency range of sound produced at the closure of aortic and pulmonic valves?</p> <p>a) less than 0 Hz b) 0 to 30 Hz c) 30 to 100 Hz d) above 100 Hz</p>	L2
11	<p>What is the thickness of the new acoustic sensor?</p> <p>a) 0.25 mm b) 0.5 mm c) 1.0 mm d) 1.5 mm</p>	L2
12	<p>Who described the new acoustic sensor?</p> <p>a) Golden et al b) Rijn et al c) Levkov et al d) Kassal et al</p>	L2
13	<p>Acoustic sensor principal sensing component is made up of which polymer?</p> <p>a) PEO(Poly-ethylene oxide) b) PET(Poly-ethylene tetraphthalate) c) PVDF(Poly-vinylidene fluoride) d) PS(Poly-styrene)</p>	L1
14	<p>What is the frequency range of amplifier used for a phonocardiograph?</p> <p>a) less than 0 Hz b) 0 to 20 Hz c) 20 to 2000 Hz d) above 2000 Hz</p>	L1
15	<p>PCG amplifiers usually have gain compensation circuits to increase the amplification of high frequency signals, which are usually of low intensity.</p> <p>a) True b) False</p>	L2
16	<p>Which of the following instrument is used for recording the electrical activity of the brain?</p> <p>a) ECG b) EMG</p>	L2

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	c) PCG d) EEG		
17	EEG electrodes are larger in size than ECG electrodes. a) True b) False		L2
18	_____ is the superimposed wave of neuron potentials operating in a non-synchronized manner in a physical sense. a) VCG b) ECG c) EEG d) PCG		L1
19	Which of the following is material is used to improve electrical contact? a) Silver Tungsten b) Electrode jelly c) Silver Graphite d) Copper Tungsten		L1
20	Whose electrodes give high skin impedance as compared to ECG? a) VCG b) PCG c) EMG d) EEG		L1
21	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		L1
22	Voltage difference between an active electrode on the scalp with respect to reference electrode at ear lobe or any other part of body is known as _____ recording. a) Monopolar b) Bipolar c) Unipolar d) Nonpolar		L1
23	How is bipolar recording done? a) Omni channel EEG b) Multi channel EEG c) Uni Channel EEG d) Non Channel EEG		L2
24	EEG signals picked up by surface electrodes are usually small as compared to ECG. a) True b) False		L2
25	A pattern of electrodes on the head and the channels they are connected to are _____ a) Amplifiers		L2

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	b) Oscilloscope c) Montage d) Wires	
26	Where is the reference electrode placed? a) nasal b) cervical c) forehead d) facial	L2
27	What is the typical value of the calibration signal? a) 10 uV/cm b) 30 uV/cm c) 50 uV/cm d) 70 uV/cm	L2
28	Preamplifiers used in electroencephalograph have high gain and low noise characteristics. a) True b) False	L1
29	EEG machines have notch filter sharply tuned at _____ Hz as to eliminate mains frequency interference. a) 10 b) 30 c) 50 d) 70	L1
30	What is the typical frequency range of standard EEG machines? a) 0.025 to 0.05 Hz b) 0.05 to 0.1 Hz c) 0.1 to 70 Hz d) 70 to 140 Hz	L1