

Program: BE Biomedical Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester V

Course Code: BMC501 and Course Name: Biomedical Instrumentation -I

Time: 1 hour

Max. Marks: 50

Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	In Auto analyser dialyser section does the function of
Option A:	Protein removal
Option B:	Mixing reagent
Option C:	Amplification of the signal
Option D:	Maintaining temperature of the sample
Q2.	The process by which component of the mixture are separated is called as -----.
Option A:	Colorimetry
Option B:	ELISA
Option C:	Chromatography
Option D:	Electrophoresis
Q3.	HIV test is carried out by
Option A:	Chromatography Technique
Option B:	ELISA Technique
Option C:	Electrophoresis Technique
Option D:	Colorimetric Technique
Q4.	In the equation, $A = \epsilon bc$, " c " represents
Option A:	absorbance
Option B:	molar concentration
Option C:	path length
Option D:	molar absorptivity
Q5.	In colorimeter sensor(transducer) used is
Option A:	Photo cell
Option B:	Strain gauge
Option C:	Thermistor
Option D:	Load cell
Q6.	Percentage of the total specimen volume occupied by the platelets is known as
Option A:	Mean Platelet Volume
Option B:	Platelet Distribution Width
Option C:	Plateletcrit
Option D:	Mean Packed Cell Volume

Q7.	pH is measured as ----- ion concentration
Option A:	Oxygen
Option B:	Hydrogen
Option C:	Nitrogen
Option D:	Chlorine
Q8.	The range of pH in health is -----
Option A:	7.36-7.42
Option B:	7.0- 7.36
Option C:	7.44-7.88
Option D:	7.88-8.0
Q9.	For the diagnosis of CBC ----- instrument is used
Option A:	Blood cell counter
Option B:	Blood Gas analyzer
Option C:	Colorimeter
Option D:	Auto analyzer
Q10.	Which of the following instrument is not diagnostic
Option A:	Blood cell counter
Option B:	Blood Gas analyzer
Option C:	Colorimeter
Option D:	Ventilator
Q11.	Transient time and Doppler shift blood flow meters are types of
Option A:	electromagnetic blood flow meter
Option B:	ultrasonic blood flow meter
Option C:	NMR blood flow meter
Option D:	LASER Doppler blood flow meter
Q12.	Measure of concentration difference between upstream and downstream on the injection of indicator is used in cardiac output measurement using
Option A:	indicator dilution method
Option B:	Thermal dilution technique
Option C:	Impedance technique
Option D:	Doppler based technique
Q13.	Basal impedance of thorax is about
Option A:	10 Ω
Option B:	25 Ω
Option C:	60 Ω
Option D:	100 Ω
Q14.	In Ultrasonic Spirometer, the gas flow meters operate in the frequency range of
Option A:	50 Hz to 250 Hz
Option B:	40 Hz to 200 Hz
Option C:	1 MHz to 2 MHz

Option D:	20 Hz to 200 KHz
Q15.	Pressure limited ventilator is the type of ventilator based on
Option A:	cycling control
Option B:	type of safety limit
Option C:	pressure pattern
Option D:	power transmission
Q16.	The total amount of air that can be forcibly expired as quickly as possible after taking the deepest possible breath is
Option A:	maximum mid expiratory flow
Option B:	mid expiratory time
Option C:	forced expiratory volume
Option D:	forced vital capacity
Q17.	Differential manometer is a type of
Option A:	pneumotachometer
Option B:	spirometer
Option C:	ventilator
Option D:	stimulator
Q18.	Total lung capacity is sum of
Option A:	vital capacity and residual volume
Option B:	tidal volume and inspiratory reserve volume
Option C:	expiratory reserve volume and residual volume
Option D:	vital capacity and tidal volume
Q19.	A ventilator which operates independent of the patient's inspiratory efforts is called
Option A:	controller
Option B:	assistor
Option C:	direct power transmission
Option D:	indirect power transmission
Q20.	Pressure gradient developed across mouth and pleural surface at lung is
Option A:	transpulmonary pressure
Option B:	transairway pressure
Option C:	transalveolar pressure
Option D:	static elastic recoil pressure
Q21.	The _____ of the heart lung machine functions as artificial lungs
Option A:	dialyzer
Option B:	oxygenator
Option C:	leads
Option D:	reservoir
Q22.	Which of the following statement is incorrect for CPB
Option A:	to facilitate a surgical intervention
Option B:	provide a motionless field

Option C:	provide a bloodless field
Option D:	to paralyze the lungs
Q23.	Sound waves are _____ waves
Option A:	electromagnetic
Option B:	pressure
Option C:	radiation
Option D:	transverse
Q24.	_____ is/are used to find hearing thresholds
Option A:	pure tone audiometer
Option B:	speech audiometer
Option C:	hearing aids
Option D:	cochlear implants
Q25.	_____ is used to plot audiogram in evoked response audiometry
Option A:	ECG
Option B:	EEG
Option C:	EMG
Option D:	EKG

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	C
Q3.	B
Q4	B
Q5	A
Q6	C
Q7	B
Q8.	A
Q9.	A
Q10.	D
Q11.	B
Q12.	A
Q13.	B
Q14.	B
Q15.	B
Q16.	D
Q17.	A
Q18.	A

Q19.	A
Q20.	A
Q21.	B
Q22.	D
Q23.	B
Q24.	A
Q25.	B