

Program: BE Biomedical Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester VI

Course Code: **BMC605** and Course Name: **Medical Imaging-I**

Time: 1 hour

Max. Marks: 50

=====

=====

0310_R12_BM_VI_BMC605_QP4

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

Q1.	Brightness of dot in B-mode corresponds to
Option A:	Location of reflected echo
Option B:	Speed of reflected echo
Option C:	Angle of reflected echo
Option D:	Strength of reflected echo
Q2.	In color Doppler , blood flow towards the transducer is display as
Option A:	Red in color
Option B:	Black in color
Option C:	Blue in color
Option D:	Green in color
Q3.	Choose wrong option for Ultrasonography
Option A:	It is Portable
Option B:	It is Non-invasive
Option C:	Use Ionizing radiations
Option D:	It is low cost as compared to CT and MRI
Q4.	You would generally select a high frequency transducer to get
Option A:	Better tissue penetration
Option B:	Better image detail
Option C:	Less resolution
Option D:	Decreased attenuation
Q5.	The principle on which the ultrasound transducer operates is the
Option A:	photoelectric effect
Option B:	piezoelectric effect
Option C:	Compton effect
Option D:	transducer effect
Q6.	Which of the following sound waves is ultrasonic and least useful in diagnostic imaging?

Option A:	30 KHZ
Option B:	10 KHZ
Option C:	8 MHz
Option D:	10 Hz
Q7.	Doppler effect is change in echo
Option A:	Strength
Option B:	Amplitude
Option C:	Frequency
Option D:	Direction
Q8.	Scatter radiations are removed from X-ray beam
Option A:	Filter
Option B:	Grids
Option C:	Collimator
Option D:	X-ray tube
Q9.	Collimation results in
Option A:	Increased radiation exposure to the patient
Option B:	Increased scatter within the patient
Option C:	Improved tissue contrast
Option D:	Improved quantum mottle
Q10.	An X ray machine was invented by a professor named
Option A:	Sir Wilhelm Conrad Roentgen
Option B:	Dr Dennis Colonello
Option C:	Dr Larry wang
Option D:	Sir Norman Rolston
Q11.	A good x-ray source should produce x-rays of narrow beam and
Option A:	parallel x-rays
Option B:	perpendicular x-rays
Option C:	anti-parallel x-rays
Option D:	anti-perpendicular x-rays
Q12.	Wavelength of X-rays is in range
Option A:	10^{-8} to 10^{-13} m
Option B:	10^{-7} to 10^{-14} m
Option C:	10^{-10} to 10^{-15} m
Option D:	10^2 to 10^9 m
Q13.	What kind of photon is required for the Compton effect to occur?
Option A:	Visible Light Photon
Option B:	X-ray Photon
Option C:	Infrared
Option D:	UV Photon

Q14.	Which of the following disease can be detected by X-Ray?
Option A:	Bladder infection
Option B:	Bone fracture
Option C:	Diarrhea
Option D:	Fever
Q15.	Computed radiography is also referred to as
Option A:	PSP technology
Option B:	flat panel technology
Option C:	indirect DR
Option D:	direct DR
Q16.	Digital radiography is characterized by
Option A:	the electrification of data scanned from a film-based media
Option B:	the use of reusable receptors
Option C:	the application of analog counting techniques
Option D:	the processing of the receptor data using dry chemistries
Q17.	Out of following which one is the major component of Mammography
Option A:	Infra-red camera
Option B:	Ear piece
Option C:	Light source
Option D:	Molybdenum target x-ray tube
Q18.	The total brightness gain of an image intensifier _____
Option A:	is the product of the minification and flux gains
Option B:	is the addition of the minification and flux gains
Option C:	is the subtraction of the minification and flux gains
Option D:	is the division of the minification and flux gains
Q19.	Out of following which one is true for Electrostatic focusing Lens
Option A:	Electron focusing inverts and reverses the image.
Option B:	Electron focusing decrease the image.
Option C:	No connection with image
Option D:	Electron focusing filtering the image.
Q20.	In any thermogram, the purples and dark blue/black indicate
Option A:	Cooler temperatures (less heat and infrared radiation emitted).
Option B:	No relation with temperature
Option C:	Warmer temperatures (more heat and infrared radiation emitted)
Option D:	No effect
Q21.	Out of the following which one is not the part of endoscope
Option A:	A light source
Option B:	Eye piece

Option C:	Tube for putting in instruments
Option D:	X ray source
Q22.	Which if the following diagnostic procedures require an endoscope?
Option A:	Transesophageal Echocardiography
Option B:	X Ray of the Chest
Option C:	Counting the Number of Platelets
Option D:	Detecting Leukemia
Q23.	Why is endoscopy done?
Option A:	to visualize your insides
Option B:	to help you lose weight
Option C:	to make you stronger
Option D:	to help relieve pain
Q24.	Fluorescence is the property when X-ray falls on a material it emits
Option A:	Infrared Waves
Option B:	Visible Light
Option C:	Gamma rays
Option D:	UV light
Q25.	The scatter radiations are produced in diagnostic X-ray due to following effect
Option A:	Photoelectric effect
Option B:	Compton effect
Option C:	photodisintegration
Option D:	pair production

Program: BE Biomedical Engineering

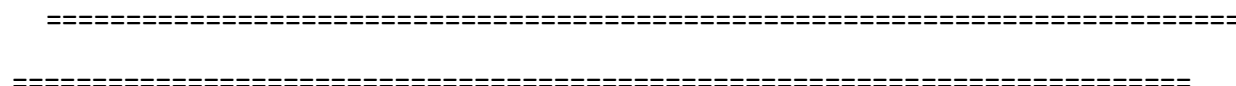
Curriculum Scheme: Revised 2012

Examination: Third Year Semester VI

Course Code: **BMC 605** and Course Name: **Medical Imaging-I**

Time: 1 hour

Max. Marks: 50



0310_R12_BM_VI_BMC605_AK4

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

Q17.	D
Q18.	A
Q19.	A
Q20.	A
Q21.	D
Q22.	A
Q23.	A
Q24.	B
Q25.	B