	Roll No.							
	Sig. of Candidate							

C.

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## RADIOGRAPHIC TECHNIQUES HSSC-II

SECTION - A (Marks 20)

NOTE:	an: ha	Section—A is compulsory and comprises pages 1-2. All parts of this section are to be answered on the question paper itself. It should be completed in the first 25 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.							
Q. 1	Circl	Circle the correct option i.e. A / B / C / D. Each part carries one mark.							
	(i)	Whic	ch of the following is the atomic number of t	ungste	en?				
		A.	24	В.	54				
		C.	74	D.	94				
	(ii)	Whic	ch of the following is ionizing radiation?						
		A.	Radio-waves	B.	Gamma rays				
		C.	Microwave	D.	F.M waves				
	(iii)	Whic	ch of the following is incorrect about x-ray?						
		A.	Very low frequency	B.	Very small wavelength				
		C.	Very high energy	D.	Can cause genetic mutation				
	(iv)	Whic	th of the following is correct about x-ray?						
		A.	Non-ionizing	B.	Wavelength is angstrom				
		C.	Energy less than sunlight	D.	Safe is pregnancy				
	(v)	Whic	th of the following is incorrect about x-ray g	ener <b>a</b> t	tion?				
		A.	Electrons are boiled by filament heating	B.	Anode is positively charged				
		C.	High KVs (100kv)	D.	Large amount of heat is produced				
	(vi)	Wha	t is incorrect about mammography?						
		A.	Study of mammary glands	B.	Low dose radiations are used				
		C.	Useful in detecting cancer	D.	Is done by the common machine				
	(vii)	Whic	h is incorrect about mammography machin	e?					
		A.	Dedicated machine	B.	Compression device				
		C.	About 60 KVs are used	D.	None of these				
	(viii)	Whic	h is incorrect about angiography?						
		A.	Contrast study of blood vessels	B.	Catheterization may be needed				
		C.	Invasive procedure	D.	May be done by MRI				
	(ix)	Whic	h is incorrect about barium study?						
		A.	Barium sulphate is used as contrast	B.	Barium is an inert material				
		C.	Is easily absorbed through gut	D.	Is used in studying GIT				
	(x)	Whic	h of the following is a bone of Thigh?						
		A.	Tibia	B.	Fibula				
		C.	Radius	D.	Femur				
	(xi)	Whic	h is incorrect about Oesophagography?						
		Δ	Also called barium swallow	R	Dysphagia is the most common indication				

D.

Is contra-indicated in children

(xii)	\Mhich	of the following is wrong about Sialograph	 ıy?	·····	
(XII)	A.	There are four pairs of salivary gland			
	В.	Submandibular glands are located below	v tongue	9	
	C.	Parotid gland is located at angle of man-			
	D.	None of these			
(xiii)		of the following is incorrect about comput	ed radio	ography (CR)?	
(2011)	Α.	Special x-ray machine is used			
	л. В.	Film is replaced by a phosphor plate			
	C.	Also called filmless radiography			
	D.	X-ray can be stored in the computers for	r long te	erm	
(xiv)	Which	n of the foll <b>ô</b> wing is wrong about gamma ra			
()	A.	Are non-ionizing radiation	B.	Energy is higher tha	
	C.	Wavelength is smaller than x-ray	D.	Is emitted by radioa	ctive elements
(xv)	Which	n of the following statement is Incorrect?			
•	A.	Grids absorb scatter	В.	Grids reduce radiati	on dose
	C.	Grids are of moving and stationary type		None of these	
(xvi)	Which	h of the following is an incorrect statemen	t about (	CT scan?	
	A.	Also known as computed tomography	B.	It takes cross section	onai images
	C.	Both A and B	D.	None of these	
(xvii)	Whic	h of the following is wrong about x-ray film			
	A.	Is painted on both sides with radio-gra	phic em	ulsion	
	B.	Base is made of polyester of plastic			
	C.	Different sizes are available			
	D.	Film processing time in automatic proc		s three minutes	
(xviii)	(xviii) Which of the following is wrong about dark room?				
	A.	No sunlight allowed			
	В.	Amber color light is used	.: Ala filman		
	C.	Cassettes are loaded and unloaded w			
	D.	Is located at a distance from x-ray roo	)(11		
(xix)	Whi	ch of the following is correct about CT?	В.	Claustro-phobia is	common
	A.	Takes long time than MRI	D.	Is expensive than	
	C.	Helical or spiral CT are modern CT	D.	10 0/4	
(xx)	Wh	ich is wrong about MRI?	В.	Movement does r	not spoil the image
	Α.	Is good for soft tissue imaging	D.	Children may nee	
	C.	Shows better contrast than CT	Ο.	•	
For	Exami	ner's use only:			<b></b>
			Tot	tal Marks:	20
			Ma	rks Obtained:	



# RADIOGRAPHIC TECHNIQUES HSSC-II

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: Sections B and C comprise pages 1-2. Answer any twenty-five parts from Section 'B' and any three questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly.

#### SECTION - B (Marks 50)

	•		/AR A-FAL
Q. 2	Answer any TWENTY-FIVE of	parts. The answer to each part should not exceed 2 to 4 lines.	(25x2=50)

- (i) Define lonizing radiation.
- (ii) Write names of ionizing and nonionizing radiation.
- (iii) What is inverse square law?
- (iv) What is collimation?
- (v) What is attenuation?
- (vi) What is mammography?
- (vii) How is a mammographic machine different from common x-ray machine?
- (viii) What is the normal length of oesophagus? Write the names of normal curves seen in oesophagus.
- (ix) What is enterocylsis?
- (x) What is real time imaging? Which studies is real time?
- (xi) What is angiography?
- (xii) What is infertility? What are the studies done to investigate these problems?
- (xiii) What is nephrogram?
- (xiv) Write the names of films taken during IVU.
- (xv) Which part of GIT is studies during barium follow through? What are the films taken in this study?
- (xvi) What is skyline view?
- (xvii) What is orbito meatal line? What is its significance?
- (xviii) Write the names of para nasal sinuses. What are the views taken for these?
- (xix) What is high and low osmolar contrast media?
- (xx) What are the serious side effects of intravascular contrast media?
- (xxi) What are planes of imaging? What is the plain used by CT scan?
- (xxii) Write four main advantages of CT scan over MRI.
- (xxiii) What is MRI?
- (xxiv) Write four main differences between CT scan and MRI.
- (xxv) How will you define ultrasound?
- (xxvi) What is transducer?
- (xxvii) What are two basic principles of radiation protection?
- (xxviii) What are the objects of radiation protection available in the x-ray room?
- (xxix) What is transducer?
- (xxx) What is Apical view?
- (xxxi) What is High Tension Generator?

#### SECTION - C (Marks 30)

### Note: Attempt any THREE questions. All questions carry equal marks.

 $(3 \times 10 = 30)$ 

- Q. 3 What is IVU? Describe its procedure.
- Q. 4 What is dysphagia? Which study is done for this problem? Write the procedure of doing barium swallow.
- Q. 5 What is HOCM and LOCM? Write side effects of ionic contrast media.
- Q. 6 What is inverse square law? Where is this law applied? Write down the basic fundamentals of radiation protection.
- Q. 7 Which parts of body are studied in Barium follow through and Barium enema tests? Name the series of views for Barium enema test.