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RADIOGRAPHIC TECHNIQUES HSSC-II

SECTION – A (Marks 20)

Time allowed: 25 Minutes

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Note: Section – A is compulsory. All parts of this section are to be answered on the separately provided OMR Answer Sheet which 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 Choose the correct answer A / B / C / D by filling the relevant bubble for each question on the OMR Answer Sheet according to the instructions given there. Each part carries one mark.

- 1) Sternoclavicular joint:
 - A. Is a fibrous joint
 - B. Is a synovial joint
 - C. Is at the level of T2 vertebra
 - D. Is at the level of disk between T2 and T3 vertebrae
- 2) Deltoid and coracoid tubercles are found in:

A. Humerus bone	B. Radius bone
C. Ulna bone	D. Clavicle bone
- 3) Supraspinatus fossa of scapula:
 - A. Is on ventral surface
 - B. Is on dorsal surface
 - C. Is below the inferior angle of scapula
 - D. Is on the lateral surface where it forms joint with humerus.
- 4) Intertubercular groove is seen on:
 - A. Lower end of ulna
 - B. Upper end of radius
 - C. Anterior side of upper end of humerus
 - D. Posterior side of lower end of humerus.
- 5) Coronoid fossa:
 - A. Is on posterior side of lower end of humerus
 - B. Is on anterior side of upper end of humerus
 - C. Is lateral to radial fossa
 - D. Is medial to radial fossa
- 6) **Carpus means:**

A. A part of foot	B. A part of hand
C. A part of neck	D. Bones of chest
- 7) Ischial spine:
 - A. Is the portion of ischium one sits on
 - B. Is the portion of ischial bone projecting laterally
 - C. Is the portion of Ischial bone projecting medially
 - D. Is the portion of Ischial bone projecting posteriorly
- 8) What is **TRUE** statement regarding knee joint?
 - A. Spine is seen on tibial bone
 - B. Spine is seen on fibular bone
 - C. Spine is seen in the depression on lower end of femur
 - D. No spine on bones forming knee joint
- 9) Which is **NOT** symphysal joint?

A. Sternocostal joint	B. Manubriosternal joint
C. Xiphisternal joint	D. Symphysis menti

- 10) Deterministic effects of radiation:
- A. Is dose dependent
 - B. May lead to cataract of eye
 - C. Follows all or none law
 - D. Malignancy is due to this effect
- 11) Best statement regarding low dose X-ray is:
- A. When fetal dose is less than 2 mGy
 - B. When fetal dose is less than 5 mGy
 - C. When fetal dose is less than 10 mGy
 - D. When fetal dose is less than 20 mGy
- 12) Which of the following is **NOT** used as oral contrast for CT abdomen?
- A. High density barium solution
 - B. Gastromiro
 - C. Urographin
 - D. Gadolinium
- 13) Iodinated contrast:
- A. Is safe in pregnancy
 - B. Is safe in breast feeding
 - C. Is not safe in pregnancy
 - D. Is teratogenic if injected during pregnancy
- 14) Which is **NOT** water soluble oral contrast?
- A. Barium sulphate
 - B. Gastromiro
 - C. Gadolinium
 - D. Urographin
- 15) Dystonic side effects may occur with:
- A. Maxolon
 - B. Injection Buscopan
 - C. Injection Paracetamol
 - D. Injection Glucagon
- 16) Keeping the anode angle between 6 – 20 degree rather than 90 degree, results in:
- A. Need for more factors to expose film
 - B. Reduction in effective focal spot size
 - C. Reduction in actual focal spot size
 - D. Film tilted to 10 degrees
- 17) Thick part of body for X-ray should be placed:
- A. On anode side of tube
 - B. On cathode side of tube
 - C. No effect whether placed on anode or cathode side
 - D. All above statements are incorrect
- 18) Focusing cup of X-ray tube is made of:
- A. Tungsten
 - B. Nickle
 - C. Copper
 - D. Copper and Tungsten alloy
- 19) In Tube rating chart:
- A. Tube current is placed on X axis
 - B. Time and Tube current are placed on X Axis
 - C. Time is place on X axis
 - D. Time is placed on Y axis
- 20) Wrong about attenuation of X-ray beam means:
- A. Reduction in number of photons
 - B. Reduction in energy of photons
 - C. Reduction in intensity of beam
 - D. Reduction in number of electrons



RADIOGRAPHIC TECHNIQUES HSSC-II

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: 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)

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

- (i) What happens if object and film are not parallel while exposing X-ray?
- (ii) How subject contrast can be improved?
- (iii) What are the types of scattered radiations?
- (iv) Write about film fog.
- (v) Why gonads are protected from radiation?
- (vi) What is coronal plane?
- (vii) Write different positions of radiography.
- (viii) What positions are taken for X-ray hand?
- (ix) Write direction and centring of the X-ray beam of ball catching view of X-ray hands.
- (x) Write centring point for X-ray of lateral view of elbow.
- (xi) Write basic projection for X-ray clavicle.
- (xii) Write basic projection for lateral view of X-ray scapula.
- (xiii) Write names of carpal bones.
- (xiv) How centring is done for X-ray projection of ankle joint?
- (xv) How X-ray hip joint is taken in young girls?
- (xvi) Write centring point for Lateral projection of X-ray pelvis.
- (xvii) Why is time important in developing X-ray film?
- (xviii) How unsharpness of X-ray images can be controlled?
- (xix) What is the difference between true and geometric magnification?
- (xx) What does frequency of sound mean?
- (xxi) What is rad?
- (xxii) What is the relation between rem and Sievert?
- (xxiii) Write about ultrasound transducer.
- (xxiv) Write note on X-ray tube.
- (xxv) What is attenuation of CT X-ray beam?
- (xxvi) How characteristic radiation is produced?
- (xxvii) How X-rays of CT machines are produced?
- (xxviii) Write about MKS system of measurement.
- (xxix) What is the unit of power in SI system?
- (xxx) What is the unit of radioactivity in SI system?
- (xxxi) What is grid ratio?

SECTION – C (Marks 30)

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

(3 x 10 = 30)

- Q. 3** Write in detail the procedure to do contrast swallow test. Name the contrasts used. Mention patient preparation, technique, and after care of patient.
- Q. 4** Write in detail how CT urogram is done?
- Q. 5** How will one construct a room for CT scan?
- Q. 6** Where is scaphoid bone and how its X-rays are done?
- Q. 7** Write which bones take part in formation of elbow joint and write about X-rays of elbow joint?

