



KENYA MEDICAL TRAINING COLLEGE
FACULTY OF DIAGNOSTIC SCIENCES
DEPARTMENT OF RADIOGRAPHY AND IMAGING
DIPLOMA IN RADIOGRAPHY AND IMAGING
MARCH/SEPT 2020
END OF SEMESTER TWO EXAMINATION
PAPER: IMAGING AND THERAPUETIC MODALITIES II(ITM 1209)

DATE: 3rd August 2021

TIME:3hrs (2-5pm)

INSTRUCTIONS

1. Attempt all questions.
2. Write your registration number on all the answer sheets provided and on the question paper
3. Ensure all examination scripts are handed in at the end of the examination.
4. Ensure you sign the examination register provided.
5. Any examination malpractices will be handled as per the college examination policy

REGISTRATION NUMBER:.....

SECTION 1: MULTIPLE CHOICE QUESTIONS (40 MARKS)

1. Which of the following is not a ALARA principle component?
 - a. Time
 - b. 10-day rule ✓
 - c. Distance
 - d. Shielding
2. Which of the following is not a basic view of the skull?
 - a. Lateral projection
 - b. Occipito-frontal projection
 - c. Townes view
 - d. Fronto-occipital projection ✓
3. The following are planes in the skull except
 - a. Infra-orbital plane
 - b. Median saggital plane ✓
 - c. Anthropological plane
 - d. Auricular plane
4. Which of the following dental procedures demonstrate clearly and conclusively unilateral crowns of the teeth
 - a. Bitewing ✓
 - b. IOPA
 - c. Lower standard occlusal
 - d. Upper standard occlusal
5. Which of the following dental labelling identification is correct
 - a. 18, 17 47=upper right
 - b. 26,27,28 =upper left ✓
 - c. 41,42,31-lower right
 - d. 33,41,28 - lower left
6. All of the following are factors affecting quality of computed radiography image except
 - a. Age of patient ~~image processing selection~~ -
 - b. Exposure techniques
 - c. Positioning and collimation
 - d. Image processing selection ✓
 technique
7. Which of the following statements is correct in relation to right anterior oblique
 - a. The right anterior aspect is closest to the film ✓
 - b. The left side of the patient is in contact with the film .
 - c. The posterior aspect is close to the film
 - d. The right side of the patient is elevated
8. All of the following are reasons for performing post micturition radiography in IVU except
 - a. To assess bladder emptying
 - b. To aid in diagnosis of bladder tumor
 - c. To demonstrate the anatomy of the kidney ✓
 - d. To demonstrate urethral diverticulum females

9. All of the following are facial bones except
- Maxilla
 - Palatine
 - Nasal
 - Sella turcica ✓
10. Which of the following is most effective position of a patient who cannot stand for free air evaluation in abdominal suspected to be having perforate hollow organ
- Vertical
 - Lateral
 - Prone
 - Decubitus horizontal
11. The following are imaging equipment used in ward radiography except
- Fluoroscopic machine
 - Portable ultrasound machine
 - Mobile x-ray equipment
 - Portable x-ray equipment
12. Which of the following is the sub-speciality of pathology that focuses on the medico-legal investigation of sudden or unexpected death
- Legal medicine
 - Forensic medicine
 - Medical jurisprudence
 - Forensic pathology
13. What is the angulation for IOPA 27 and 45
- 0, 30
 - 30, 0
 - 30, 10
 - 25, 15
- Handwritten calculations for question 13:
- $$\begin{array}{r} 27 \\ 45 \\ \hline 72 \\ 225 \\ \hline 297 \end{array}$$
14. All of the following are reasons for performing foreign body radiography except
- Cosmetology purpose
 - Establish foreign body
 - Assess organ damage
 - Position of intra-uterine copper device
15. All of the following are challenges of portable ward radiography except?
- Motional blurr
 - Maneuverability
 - Space limitation
 - Technical expertise
16. Which of the following is the recommended range of dental equipment KV?
- 20-30 Kv
 - 10-15 Kv
 - 60-70 kv
 - 150-200 kv

17. The following are advantages of solid state and storage phosphor image receptors except
- cheap to acquire
 - instant image
 - image manipulation
 - very wide exposure latitude
18. The following are principles of optimal geometry except
- the central ray should be perpendicular to both the object and the image receptor
 - the object to image receptor distance should be small as possible
 - the focal spot should be as large as possible
 - the focal spot to object distance (FOD) should be as great as possible
19. All of the following are cancer risk factors except?
- Late menarche
 - Obesity
 - Old age
 - Many chest x-rays
20. Proper patient preparation of the procedures prior to ct abdomen with contrast is key in that
- Reduces repeats to radiation exposure ✓
 - Ensure best images of diagnostic value
 - Reduces patient anxiety
 - All of the above.
21. Which of the following are trauma series examination in a radiology department
- FAST
 - Chest xray
 - Pelvic xray
 - All of the above
22. Which the following is the best suited projection for fluid levels examination of the chest?
- Anterior posterior erect
 - Posterior anterior prone
 - Lateral decubitus chest xray
 - Dorsal decubitus.
23. Computed tomography x-ray technique allows the test component to be?
- Viewed in various cross-sectional slices
 - Viewed from different angles
 - Analysed for chemical composition
 - None of the above
24. In relation to film collimation, choose the correct effect of increasing collimation
- Patient dose increases
 - Scatter increases
 - Contrast increases
 - Density increases

25. Ward radiography of plain abdomen may be done for the following indications except?
- Free gas in peritoneal cavity
 - Localisation of radio-opaque foreign body
 - Ectopic pregnancy.
 - Gaseous-distension of any part of GIT
26. Naso-gastric tube has all of the following uses, except?
- Allow drainage of stomach contents
 - Allow removal of air
 - Provide a safe access route to the GIT administration of fluid and medicine
 - None of the above
27. Which of the following is correct concerning scatter radiation in high kilovoltage technique?
- Scatter radiation increases by use of grids
 - Air-gap technique can be used instead of grids
 - Decrease object film distance to minimise magnification in air gap technique
 - Reduce exposure factors in property to change
28. in relation to skull landmarks ,which of the following statements is correct?
- ~~Anthropological~~ line runs from the external auditory meatus to the intra-orbital line
 - Anthropological line run from external auditory meatus to supraorbital line
 - Interpupillary line runs below the eye
 - Radiographic baseline runs from external auditory meatus to inner canthus of the eye
29. All of the the following are correct statements on occipito-mental radiographic examination of the facial bones except OMT
- Patient sits /lies prone in the couch
 - Patient lie supine on the couch
 - Chin and nose are in contact with the table
 - The median sargital plane is perpendicular to the film
30. Which of the following statements best describes situs inversus?
- Congenital condition in which the major visceral organs are reversed or mirrored from their normal positions
 - Absence of visceral structures
 - Ectopic kidney
 - Congenital anomaly of the skull
31. Which of following is an indication for waters ^{of sac} view projection
- Trauma
 - Pagets disease
 - Investigation of frontal sinuses
 - All of the above

32. A female patient of reproductive age is presented to the imaging department for an xray examination. Which of the following radiation measures should you employ?
- Shielding
 - Enquiring about her LMP ✓
 - Collimation of beam to area of interest
 - All of the above
33. All of the following are types of fractures except?
- Torres fractures
 - Compressed fracture
 - Incomplete fracture
 - Lucy's fracture
34. Which of the statements best describes the use of short exposure time in paediatric radiography?
- Reduce blurring ✓
 - Safe radiographers time
 - Immobilises the patient
 - To reduce scatter radiation
35. A patient is presented to xray department for age assesment. Which of the examination is ideal for the age assesment
- OPG
 - Chest xray
 - Skull xray
 - Wrist xray
36. Craiosynostosis is?
- Absence of cranial sutures
 - Presence of cranial sutures
 - Premature closure of sutures,
 - Mature closure of sutures ✓
37. Which of following is the best examination for assessment of rickets in paediatrics
- Wrist xray?
 - Skull xray
 - Ultrasonography
 - Ankle joint x-ray ✓
38. All of the following are cranial sutures except?
- Coronal ✓
 - Lambdoid ✓
 - Saggital ✓
 - Zygomatic ✓
39. Intra-oral radiographs include all of the following except
- Bitewing ✓
 - Intra oral periapical ✓
 - Occlusal ✓
 - OPG

40. In anterior -posterior projection
- The xray beam passes through the posterior to anterior aspect of patient
 - The image receptor is adjacent to anterior aspect of patient
 - The mid-sagital plane is parallel to to the image receptor
 - The central beam is perpendicular to the image receptor

SECTION 2: SHORT ANSWER QUESTIONS (40 MARKS)

*Proforma. write down
Rad. desc.*

- Outline five (5) advantages of proper patient preparation in radiography (5 marks)
- State five (5) purposes of performing skull x-ray (5 marks)
- List five (5) challenges encountered in theatre radiography (5 marks)
- State five (5) radiation protection measures employed in paediatric radiography (5 marks)
- Outline advantages of high KV technique (5marks)
- State five (5) indications of dental radiography (5marks)
- Explain one basic view to demonstrate intestinal obstruction (5 marks)
- List five (5) procedures requiring theatre radiography (5 marks)

SECTION 3: LONG ANSWER QUESTIONS (20 MARKS)

- Discuss the basic views of the skull

(20 marks)

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