

1. WRITE YOUR REGISTRATION NUMBER (NOT YOUR NAME) ON TOP OF EVERY PAGE.
2. CIRCLE SINGLE BEST ANSWER USING A PENCIL.
3. PLEASE NOTE THAT EACH QUESTION HAS ONLY ONE ANSWER.
4. MARKING WILL NOT BE DONE WHILE MORE THAN ONE ANSWER HAS BEEN GIVEN.

INSTRUCTIONS:

DATE: Friday 23 June 2017
 TIME: 8.00A.M - 9.00A.M

MULTIPLE CHOICE QUESTIONS PAPER

CONTINUOUS ASSESSMENT TEST

UNDERGRADUATE PROGRAMME (MECHB V)

DEPARTMENT OF DIAGNOSTIC IMAGING AND RADIATION MEDICINE

UNIVERSITY OF NAIROBI



REG. NO.

1. When performing cerebral angiography, the following is the preferred route:

- a) Direct carotid puncture
- b) Transbrachial route
- c) Transaxillary route
- d) Transfemoral route ✓
- e) Intravenous route

2. A young male is brought unconscious to the hospital with external injuries. CT scan brain shows no midline shift. The basal cisterns are compressed with multiple small haemorrhages. What is the likely diagnosis?

- a) Cerebral contusion
- b) Diffuse axonal injury (DAI) ✓
- c) Cerebral laceration
- d) Multiple infarcts
- e) Chronic subdural haematoma X

3. The first and most important sign of raised intracranial pressure in skull x-ray of infants is:

- a) Erosion of the sellaturcica ✓
- b) Pineal gland displacement ✓
- c) Increased convolutional marking with craniosostenosis ✓
- d) Sutural diastasis
- e) Scapocephaly

4. Raised intracranial pressure in adults is seen on lateral views of skull as:

- a) Pineal displacement
- b) Intracranial calcification
- c) Sutural diastasis
- d) Increased convolutional markings ✓
- e) Erosion of the sellaturcica

5. A patient who is being followed up for a malignant tumour is suspected to have metastases to the cranium. The best investigation for the detection of bone metastases is:

- a) Cranial ultrasound
- b) Skull x-ray
- c) MRI of the Head
- d) Radionuclide bone scan ✓
- e) CT scan of the head

6. The following imaging modalities are non-ionising exposure except:

- a) Ultrasonography
- b) Thermography
- c) Magnetic resonance imaging
- d) Radiography ✓
- e) Doppler vascular studies

7. Intracranial calcifications may be considered normal if they occur in the following structures except:

- a) Basal ganglia
- b) Cerebral cortex
- c) Petroclinoid ligament
- d) Pineal gland
- e) Choroid plexus

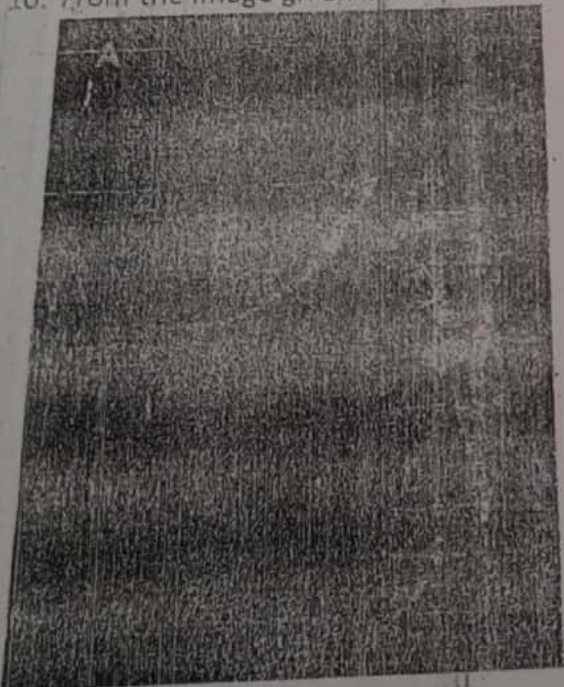
8. Which one of the following is not an indication for interventional radiology in the hepatobiliary system?

- a) Biliary drainage
- b) Abscess and cyst drainage
- c) Tumour ablation
- d) Tumour chemoembolization
- e) None of the above

9. Plain radiography of the liver can show:

- a) Hepatomegaly
- b) Calcific lesions
- c) Air within the portal veins
- d) All of the above
- e) None of the above

10. From the image given below, what is your most likely diagnosis?



- a) Normal pregnancy
- b) Hydatid cyst
- c) Uterine fibroid
- d) Hydronephrosis
- e) Splenomegaly

11. Portal venous gas is associated with following except:

- a) Necrosis of bowel wall
- b) Bowel wall distension

- d) Chronic obstructive airway disease
- ~~a) None of the above~~

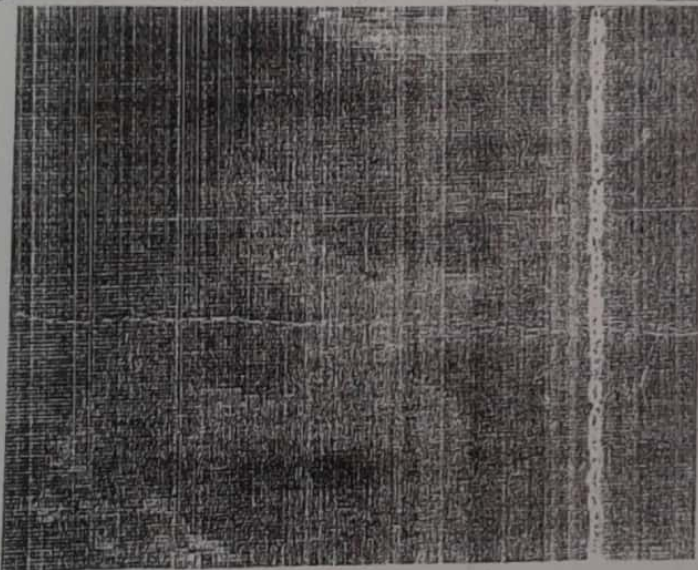
12. Which one of the following is not an advantage of liver ultrasound:

- a) Non-ionising radiation
- b) Widely available
- ~~c) Operator dependent~~
- d) Cheap
- e) Widely available

13. In screening and follow up of cirrhotic patients the first choice imaging modality is:

- a) Plain radiography
- b) PTC
- ~~c) Ultrasound~~
- d) Triple-phase CT scan
- e) MRI

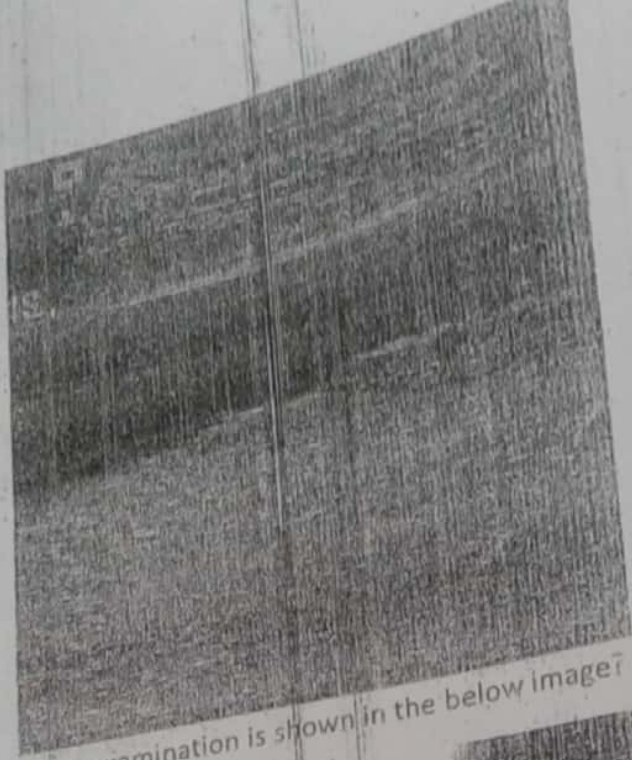
14. From the image given below, what is your most likely diagnosis?



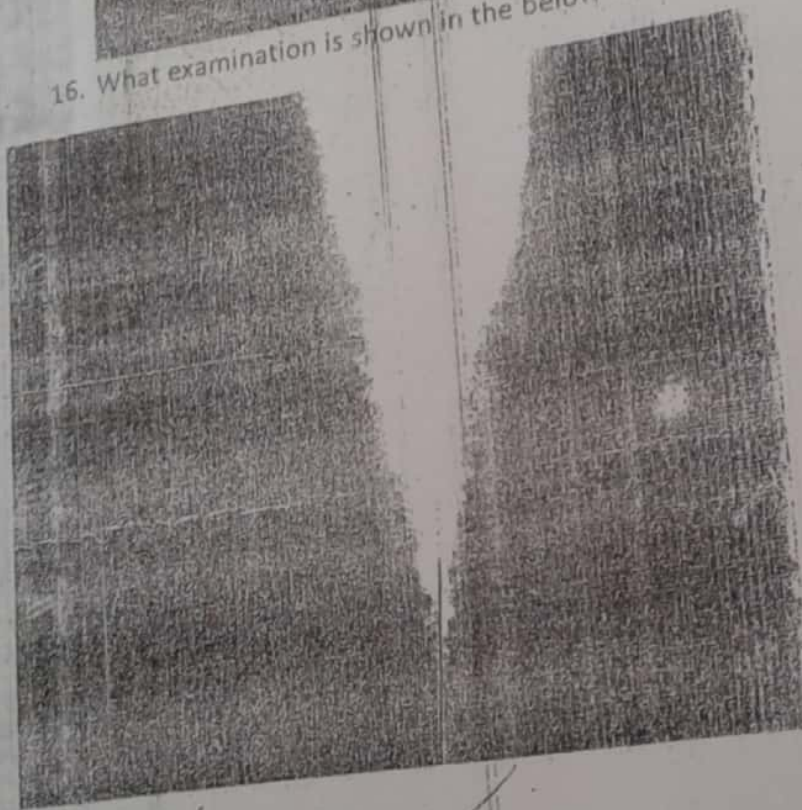
- a) Biliary obstruction
- ~~b) Liver metastases~~
- ~~c) Liver abscess~~
- d) TB
- e) Hepatitis

5. Study the image given below and give your spot diagnosis:

- a) Intestinal obstruction
- b) Intussusception
- c) Lymphoma
- ~~d) Traumatic hemoperitoneum~~
- ~~e) Liver cirrhosis~~



16. What examination is shown in the below image?



- a) Mammogram
- b) CT breast
- c) Ultrasound of the breast
- d) Scintimammography
- e) MRI

17. The modality of first choice in evaluation of scrotal pathology is:

- a) MRI
- b) CT scan
- c) Ultrasound
- d) Radionuclide imaging
- e) None of the above

18. A 20 year old presents to the outpatient department with history of a breast mass. Which imaging modality is appropriate first line after thorough physical examination?

- a) Mammography
- b) Ultrasonography
- c) MRI
- d) CT
- e) Plain x-ray of the breast

19. A mother has just noticed her 5 year old has only one testis. An ultrasound examination done has not identified the missing testis. Which is the next imaging modality?

- a) Colour Doppler ultrasound
- b) MRI
- c) CT
- d) Radionuclide imaging
- e) Contrast studies

20. What pathology is demonstrated in the image?



- a) Consolidation
- b) Retrosternal mass deviating the trachea
- c) Enlarged heart
- d) Pulmonary TB
- e) Metastases

1. The commonest indication for fouroscopy in infants and young children is:

- a) Eventration of diaphragm
- b) Diaphragmatic hernia
- c) Vesicoureteric reflux
- d) Anorectal anomalies
- e) Intussusception

22. Pelvic kidney is at increased risk of all of the following except:

- a) Trauma ✓
- b) Vesicoureteric reflux ✓
- c) Pyelonephritis ✓
- d) Obstruction ✓
- e) Tumour

congenital cystic kidneys

23. Spider leg deformity of the pelvicalyceal system on intravenous urogram is seen in:

- a) Autosomal recessive polycystic kidney disease ✓
- b) Autosomal dominant polycystic kidney disease ✓
- c) Multicystic kidney disease ✗
- d) Hydronephrosis ✗
- e) Duplex kidney ✗

24. Vesicoureteric reflux can be diagnosed on all of the following modalities except:

- a) Radionuclide cystography ✓
- b) Ultrasound cystography ✓
- c) Micturating cystourethrogram ✓
- d) MR urography ✓
- e) Doppler ultrasound

Thrombosis → MUG
Hydronephrosis
Nuclear medicine studies → rad-43
Ultrasound
MRI urology cystography

25. Endovaginal ultrasound is the method of choice for all of the following except:

- a) Monitoring infertility disorder ✓
- b) Abruption placenta ✓
- c) Diagnosing ectopic pregnancy ✓
- d) Evaluating first trimester pregnancy ✓
- e) Measuring cervical length ✓

26. Which one of the following is true concerning sub-intimal angioplasty as regards endovascular management of the occluded vessel:

- a) Embolization of distal vessel is done
- b) Stents may be used
- c) Balloon angioplasty is contraindicated
- d) Is done only for occluded central veins
- e) Is done under MR guidance.

Advantage

27. A 33 year old female patient has severe per vaginal bleeding secondary to fibroids and is referred for uterine fibroid embolization (UFE). Which of the following is an appropriate vascular access route for UFE?

- a) Transjugular
- b) Left femoral vein puncture
- c) Direct uterine artery puncture under ultrasound guidance
- d) Left brachial artery puncture
- e) Right femoral arterial puncture

28. An appropriate needle size for ultrasound guided biopsy of the prostate is:

- a) Gauge 4
- b) Gauge 8.

- c) Gauge 12
- d) Gauge 14
- e) Gauge 18

29. All of the following are radiation protection measures while in the interventional radiology suite except:

- a) Use of sterile gowns
- b) Lead lined eye spectacles
- c) Lead lined aprons
- d) Out of the room DSA acquisition of images
- e) Radiation offs for workers

30. The interventional radiology clinic at the national referral hospital was set to review and schedule patients for minimally invasive procedures. Which of the following is true of the clinic?

- a) Run by 20 interventional radiologists, every day of the week
- b) Only schedules patients for angiographic procedures
- c) Runs on Wednesday and domiciled in SDC no 24
- d) Medical students are not required to attend the clinic
- e) All of the above

31. On a normal chest radiograph:

- a. The right hilum is higher than the left
- b. The right hemidiaphragm is higher than the left
- c. The cardiac shadow lies in the middle of the thoracic cavity
- d. The superior angle of the scapula is at the level of T3
- e. The apices are more radiolucent than the base

32. Regarding the right atrium:

- a. Lies to the left and anterior to the right ventricle and forms the anterior heart border
- b. In tetralogy of Fallot it enlarges anteriorly and to the left giving a boot shaped heart
- c. When enlarged in left to right heart shunts gives a double heart shadow
- d. In dextrocardia it forms the left heart border
- e. It is commonly involved in ischemic heart disease

33. The following are features of congestive heart failure except:

- a. Cardiomegaly
- b. Dilatation of the central pulmonary vessels with peripheral pruning
- c. Cephalisation of pulmonary vessels
- d. Pleural effusion
- e. Phantom masses commonly seen along fissures

34. The following is not a feature of pulmonary oedema seen on chest radiographs:

- a. Interstitial Kerly B lines
- b. Indistinct pulmonary vasculature
- c. Bilateral cotton wool opacities with bat wing appearance
- d. Increased pulmonary vascular markings extending to the periphery of the lung fields
- e. Masking of the hila

35. A 32 year old woman presented to the cardiologist with complaints of dyspnoea. Radiographs done at the University of Nairobi Radiology department showed cardiomegaly with features of left to right cardiac shunt. Which of the following cardiac lesions is likely to be seen at echocardiography?

- a. TOF
- b. Ebstein anomaly
- c. ASD
- d. Right sided aortic arch
- e. Truncus arteriosus

36. The following is an imaging feature of myocardial infarction on Thallium 201 scintiscan:

- a. Anterior myocardial defect on exercise images that reversed on rest images
- b. Inferior wall and septal defects that are seen on exercise images but on rest images
- c. Apical defect on exercise but reverse on rest images
- d. Anterior and septal wall defects seen on exercise as well as rest images
- e. Inferior wall defect seen on exercise images but reverse on rest images

37. The most current radiological modality of screening for rickets is:

- a. Plain radiography
- b. Radionuclide imaging
- c. CT Scan
- d. MRI
- e. Ultrasound

38. Hip fractures are best evaluated on which imaging modality?

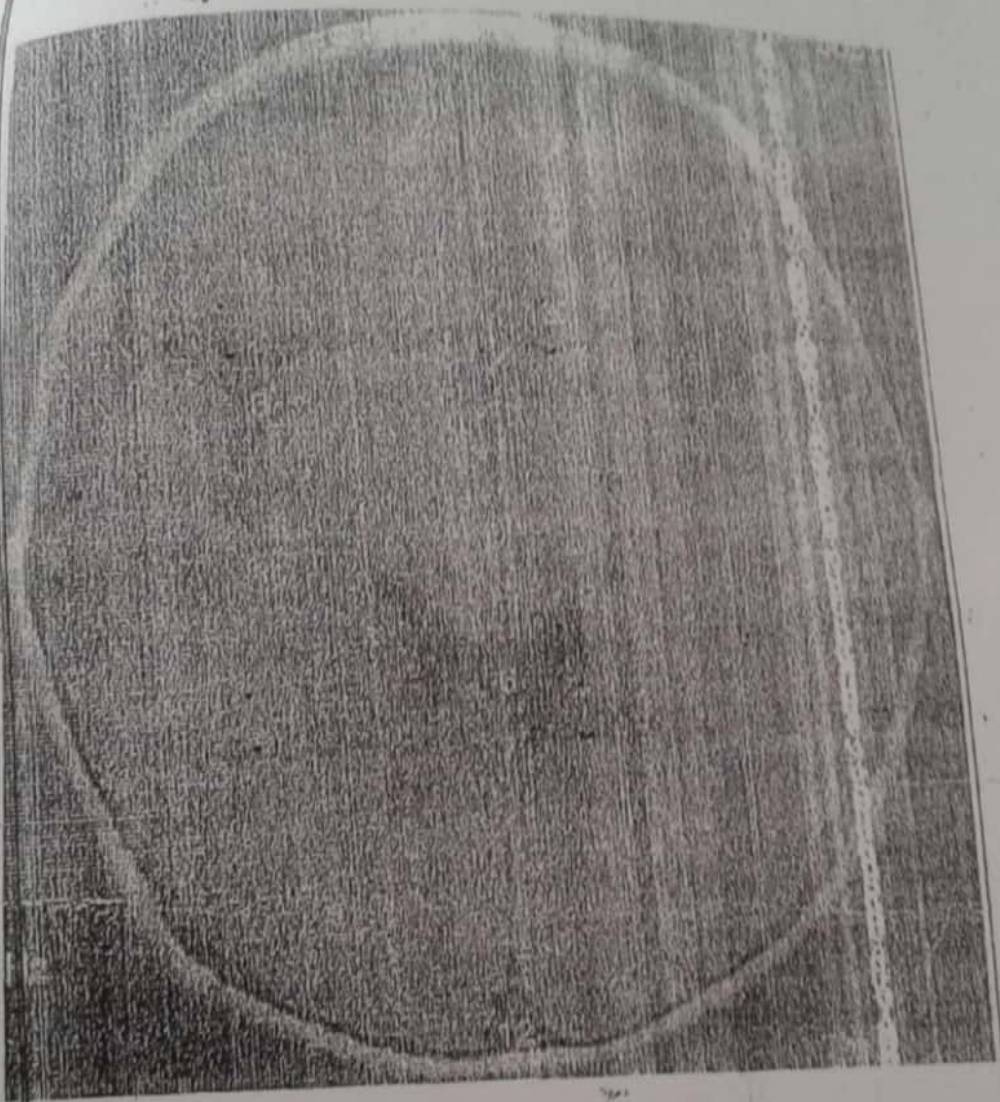
- a. MRI
- b. CT Scan
- c. Plain radiography
- d. Ultrasound
- e. Contrast arthrography

39. A 23 year old rugby player sustains a left knee injury. Plain radiograph reveals soft tissue swelling with no fracture or dislocation demonstrated. What is the next most appropriate imaging modality to further evaluate this patient?

- a. Ultrasound
- b. CT scan
- c. MRI
- d. Arthrography
- e. Digital subtraction angiography (DSA)

Soft tissue

40. The image demonstrated below is:



- a. CT scan of the brain
- b. T1W brain
- c. T2W brain
- d. Cranial ultrasound
- e. None of the above