<table>
<thead>
<tr>
<th>SUBJECT: DIAGNOSTIC RADIOLOGY</th>
<th>PAPER: I</th>
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</thead>
<tbody>
<tr>
<td>• ANSWER ALL QUESTIONS (TOTAL QUESTIONS: 10)</td>
<td>TIME ALLOWED</td>
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<tr>
<td>• USE SEPARATE ANSWER BOOK FOR EACH QUESTION</td>
<td>3 HOURS</td>
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Q.1 A middle aged man presented with headache and vomiting. CT brain shows a ring enhancing lesion in the left fronto-parietal region.

a) What is the differential diagnosis of a solitary ring enhancing lesion in the brain?
b) What next investigation will you advise?

Q.2 A child with recurrent respiratory tract infections and chronic constipation shows multiple stippled calcifications in the pancreatic outline. What is the most likely diagnosis and other differential diagnoses?

Q.3 A patient with history of peptic reflux is referred for barium study for evaluation of hiatus hernia.

a) Which radiologic technique would be most appropriate?
b) What are the confirmatory features of hiatus hernia on barium study?

Q.4 A diabetic patient with raised SGPT and normal TLC is sent for USG evaluation of liver.

a) Which condition is suspected by the clinician?
b) What are U/S findings that will confirm this condition?

Q.5 A 3 months child presented with constipation since birth and abdominal distension. On x-ray of abdomen, distended loops of bowel are seen with mottled densities.

a) What would be the diagnosis?
b) What will be the gold standard investigation for this diagnosis?
| Q.6  | a) What is meant by filters in radiology?  
    | b) What is the main function of filters?  
    | c) Which filters are used for low and high energy radiation?  |
| Q.7  | a) What are the two major classes of contrast media in radiography?  
    | b) What are the types of contrast media reaction?  |
| Q.8  | a) Why is the left lateral decubitus x-ray of abdomen considered the most sensitive radiographic technique for small pneumoperitoneum?  
    | b) What is the optimal technique of performing this radiograph?  |
| Q.9  | A 19 years patient with previous history of rheumatic fever and mid diastolic murmur undergoes a chest x-ray examination.  
    | What are the expected findings on CXR?  |
| Q.10 | A 23 years lactating woman develops fever and severe pain in right breast.  
    | On examination the lower outer quadrant is red and indurated with severe tenderness.  
    | a) Give the possible diagnosis.  
    | b) Which is the imaging modality of choice?  
    | c) What are the features on this modality?  |
Q.11 A young man undergoes chest x-ray for pre-employment screening. The examination shows a solitary rounded 1.5 cm opacity in the left mid zone.

   a) How will you radiologically investigate this patient?
   b) What will be the criteria of malignancy in a nodule on CXR?

Q.12 A patient with past history of tuberculosis shows a cavity in the right upper lobe with a density surrounded by air.

   a) What is the name of this sign?
   b) What is the most likely diagnosis and differential diagnoses?

Q.13 A lady with mastectomy shows ipsilateral interstitial thickening on CXR.

   a) What is the investigation of choice for confirming lymphangitis carcinomatosa?
   b) Give radiological features on this investigation.

Q.14 On doing ultrasound of a middle aged man, there is a renal cyst of 4 cm with thin internal septae and minimal calcification in its walls.

   a) How do you classify renal cysts?
   b) What is the most probable category of this cyst and how will you proceed?
Q.15 A patient with prolonged fever and cough, not responding to multiple antibiotic courses, is having dysuria. On urine D/R, he has pyuria and hematuria. Concomitant CXR shows bilateral miliary mottling.

a) What is the most probable diagnosis?
b) What are its IVU features?

Q.16 A 33 years male is being investigated for sub-fertility and soft scrotal mass. On examination the left scrotum shows swelling which is palpable as a bag of worms.

a) What is the most likely diagnosis?
b) What are the sonographic features?
c) How will you confirm your diagnosis?

Q.17 What is hydrops fetalis? What are the sonographic features of this condition?

Q.18 A six-month infant has widened wrists and bilateral swellings over rib cage.

a) What is the most likely diagnosis?
b) What are its radiographic features at this age?
Q.19 A 17 years active male presented with pain in ankle joint with restricted movements. X-ray shows small subchondral density on talus.

   a) What is the diagnosis?
   b) What are its other common locations?
   c) What is the next investigation of choice?

Q.20 A middle aged lady had a fall on outstretched hand with forearm pronated in dorsiflexion.

   a) What type of fracture she may have?
   b) Give its radiographic features.
   c) What can be the complications?

The End