

# C.U.SHAH UNIVERSITY

## Summer Examination-2018

**Subject Name : Instrumentation in Radiology**

**Subject Code : 2SC02INR1**

**Branch: PGDMIRT**

**Semester : 2**

**Date : 23/04/2018**

**Time : 10:30 To 01:30**

**Marks : 70**

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
  - (2) Instructions written on main answer book are strictly to be obeyed.
  - (3) Draw neat diagrams and figures (if necessary) at right places.
  - (4) Assume suitable data if needed.
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**Q.1 Fill in the blanks: (14)**

1. The typical ct image s composed of \_\_\_\_ row, each of \_\_\_\_ piexel.
2. HU of AIR\_\_\_\_ and Compact bone \_\_\_\_
3. First generation type CT scanner Have \_\_\_\_like x- ray beam.
4. \_\_\_\_ technology made helical acquisition possible.
5. MRI is an \_\_\_\_ modality.
6. In MRI TR is\_\_\_\_
7. B0 is calculated from the \_\_\_\_
8. echocardiography can help detect the presence and assess the severity of\_\_\_\_
9. \_\_\_\_ is a dedicated radiographic technique for imaging the Brest.
10. length of \_\_\_\_ within one 1 cm in size on CC
11. \_\_\_\_ are not normally seen in an x-ray image, because of low tissue contrast.
12. The first contrast media used for intravascular injection were called \_\_\_\_.
13. Approx. \_\_\_\_ ml diluted contrast / injection given in DSA for each projection.
14. During angiography, patients may be sedated to reduce \_\_\_\_\_

**Attempt any four questions from Q-2 to Q-8**

**Q.2 Attempt all Questions: (14)**

1. Write a note on CT Scan
2. Write a note on CT Scanner evolution.

**Q.3 Attempt all Questions: (4+4+6) (14)**

1. Define different type of Artifact in CT Scan
2. Write Different types of CT Scan Examinations.
3. Describe Accute and delayed contrast reaction of iodinated contrast.



**Q.4 Attempt all Questions: (14)**

1. Write a note on MRI
2. Explain advantages and Disadvantages of MRI

**Q.5 Attempt all Questions: (14)**

1. Write a note on  $B_0$  and Magnetism.
2. Describe Larmor frequency.

**Q.6 Attempt all Questions: (14)**

1. Describe T1 and T2 weighted sequence
2. What are Advantages and disadvantages of Ultrasound?

**Q.7 Attempt all Questions: (14)**

1. Describe Ultrasound transducer with Diagram
2. Write a note on Colour doppler

**Q.8 Attempt all Questions: (14)**

1. What is Echo cardiography ?
2. What is mammography and its Criteria ?

