Rajiv Gandhi University of Health Sciences, Karnataka

II Year M. Sc Medical Imaging Technology - 21-Dec-2022

[Time: 3 Hours] **[Max. Marks: 80]**

Advanced Technique and Instrumentation of MRI
Q.P. CODE: 9545

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

Answer All The Questions **08 X 10 = 80 Marks**

1. Black blood imaging in MRI and its uses.
2. Safety parameters in MRI.
3. Write a note on image weighting and significance of conventional inversion recovery.
4. Care and maintenance in MRI.
5. Explain how you acquire a double echo imaging using fast spin echo with labelled diagram.
6. What is the orientation of main magnetic field within an MR scanner?
7. What is the difference between T_2 and T_2*?
8. What are the three components of an MRI signal? Discuss briefly about them.

II Year M. Sc Medical Imaging Technology - 23-Dec-2022

[Time: 3 Hours] **[Max. Marks: 80]**

Interventional Radiology Techniques
Q.P. CODE: 9546

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

Answer All The Questions **08 X 10 = 80 Marks**

1. When is percutaneous transluminal angioplasty performed? Explain the procedure.
2. Explain the different approaches for performing angiography.
3. What procedure is done to control the internal bleeding due to trauma?
4. When and how cardiopulmonary resuscitation performed?
5. DSA for renal hypertension.
6. Coronary Angiography.
7. Image intensifier.
8. Check list for typical interventional cases. Explain in detail.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year M. Sc Medical Imaging Technology - 26-Dec-2022

Time: 3 Hours **Max. Marks: 80**

CARE OF PATIENTS IN DIAGNOSTIC RADIOLOGY
Q.P. CODE: 9547

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

Answer All The Questions **08 X 10 = 80 Marks**

1. Explain in detail care and safety for pediatric patients during radiological procedure.
2. Discuss briefly the Radiology department infection control procedures.
3. Emergency drugs used in radiology with their specific action and dosage.
4. Patient care for a patient undergoing Biliary tract procedures.
5. Oxygen administration techniques.
6. Professional behavior of an imaging technologist.
7. Check list and precaution taken before vascular interventions.
8. Precautions prior to IV contrast administration.

II Year M. Sc Medical Imaging Technology - 28-Dec-2022

Time: 3 Hours **Max. Marks: 80**

RADIATION EVALUATION AND PROTECTION IN DIAGNOSTIC RADIOLOGY
Q.P. CODE: 9548

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

Answer All The Questions **08 X 10 = 80 Marks**

1. Explain the various types of gas filled detectors – ionization chamber and Geiger Muller counter.
2. Discuss about the biological effect of radiation and protection in diagnostic radiology.
3. ICRP regulation for occupational workers and public.
4. Write about beam limiting devices used in radiography.
5. Write about the **Thermo-Luminescent** Dosimeter
6. Room design, shielding and protection of CT room.
7. ALARA – justification and optimization.
8. Primary barrier and secondary barrier of radiation.

Rajiv Gandhi University of Health Sciences, Karnataka

II Year M. Sc Medical Imaging Technology - 30-Dec-2022

Time: 3 Hours **Max. Marks: 80**

NUCLEAR MEDICINE IMAGING TECHNIQUES
Q.P. CODE: 9549

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

Answer All The Questions **08 X 10 = 80 Marks**

1. Write the working principle of Positron Emission Tomography.
2. Write the principle and construction of tc99m generator.
3. Explain the iodine uptake and iodine 131 thyroid whole body scan.
4. Write the various **COLLIMATORS** used in gamma camera.
5. Write principle of tracer technique.
6. Modes of administration of isotopes.
7. Radiation protection in nuclear medicine department.
8. Exponential decay.