Time : 3 Hrs.   [Max. Marks : 80]

Paper-1
Physics of Radiology & Radiation Physics
Q.P Code : AHS-110

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

LONG ESSAY   2 X 10 = 20 Marks

1   Write in detail the process of X-ray generation with a neat diagram of X-ray tube.

2   What is radiographic contrast? Discuss the factors that affect contrast.

SHORT ESSAY (Answer any Six)   6 X 5 = 30 Marks

3   Transformers.

4   Write briefly about Ionization and excitation.

5   Photo electric effect.

6   Explain about electromagnetic waves.

7   Intensity of radiation.

8   P-N junction diode.

9   Give a brief account of heel effect

10   Alleniation and absorption.

SHORT ANSWERS (Answer any Ten)   10 X 3 = 30 Marks

11   Thermionic emission.

12   Methods of cooling of X-ray tube.

13   Compton scattering.

14   Stochiastic effects of radiation.

15   Radioactive materials.

16   Derivation of the equation of radioactive decay.

17   Factors that effect the quality and intencity of X-rays.

18   Note of characteristic spectrum. what is the component characteristic spectrum in X- ray tube that changes.

19   Define electric current. What is its unit?

20   What is the main advantage of rotating anode over the stationary anode.

21   Define half life of a radioactive substance. Write the equation to caluclate the halflife.

22   Fluoroscence.

* * *

B.Sc. Allied Health Sciences Second Year (Semester-III)
March-2015 Examination
B.Sc Imaging Technology (IMT)

Time : 3 Hrs.   [Max. Marks : 80]

Paper-II

Medical Physics

Q.P Code : AHS-111

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

LONG ESSAY   2 X 10 = 20 Marks

1   What are grids? Name the type of grids. Write about crossed grids.

2   What is rectifiers and semiconductors. Write about N-type semiconductors.

SHORT ESSAY (Answer any Six)   6 X 5 = 30 Marks

3   Mammography.

4   Tomography.

5   DSA.

6   Write about general principles of cleaning routines.

7   Switches.

8   Control of tube current.

9   Collimators.

10   Intensifying screens.

SHORT ANSWERS (Answer any Ten)   10 X 3 = 30 Marks

11   Casette

12   Cones.

13   Block diagram.

14   Potter Bucky diaphragons.

15   Spot film devices.

16   Direct fluoroscopy.

17   Circuit breakers.

18   Biplane radiography.

19   Cordless mobile xray

20   Luminercenes.

21   Procesing faulte.

22   Auto timers.

* * *