Library 29

SC—1159

FIRST YEAR B.Sc. (M.L.T. AND RADIOGRAPHY) DEGREE EXAMINATION, 2000

ANATOMY

Time : Three Hours Maximum : 80 Marks

Your answers shall be specific to the questions asked.
Draw neat and labelled diagrams wherever necessary.

I. Long Essays : (Answer any *two*)

1 Describe mitosis cell division with suitable diagrams.
2 Name the main parts of central nervous system. Explain briefly location, coverings and applied anatomy of spinal cord.
3 Name the female reproductive organs. Describe the uterus in detail.

(2 × 10 = 20 marks)

II. Short Essays : (Answer any *eight*)

4 Typical vertebra.
5 Facial nerve.
6 Coronary arteries.
7 Biceps brachii.
8 Supra renal glands.
9 Pleura.
10 Temporomandibular joint.
11 Myelin sheath.
12 Ureter.
13 Vas deferens.

FR. MULLER CENTRAL LIBRARY

(8 × 5 = 40 marks)

III. Short Answers :

14 Name the paranasal air sinuses.
15 Name the four sensory nerves supplying tongue.
16 Name the parts of biliary apparatus.
17 Name any *four* anatomical planes.
18 Name any *four* organelles of cell.
19 Name any *four* tarsal bones.
20 Name the muscles of mastication.
21 Name any *four* structures whose length is ten inches.
22 Mention any *four* functions of bones.
23 Name any *four* appendages of skin.

(10 × 2 = 20 marks)

31

SC—0884

FIRST YEAR B.Sc. (M.L.T. AND RADIOGRAPHY) DEGREE EXAMINATION, 2000

ANATOMY—Paper I

(Common for B.Sc., M.L.T. and Radiography)

Time : Three Hours

Maximum : 80 Marks

Your answers shall be specific and to the questions asked.
Draw neat and labelled diagrams wherever necessary.
Answer the question completely in one place only.

I. Long Essays. (Answer any *two*) :

1 Name the different parts of female reproductive system. Describe the uterus in detail.

2 Classify the bones. Name all the bones of the lower limb with different joints.

3 Name the different parts of urinary stem. Describe the kidney in detail.

(2 × 10 = 20 marks)

II. Short Essays. (Any *eight*) :

1 Plantar arch.
2 Small intestine.
3 Eye ball.
4 Sternocleidomastoid muscle.
5 Sternum.
6 Spleen.
7 Scalp.
8 Superficial palmar arch.
9 Vertebra.
10 Parathyroid.

(8 × 5 = 40 marks)

III. Short Answers :

1 Name the branches of Femoral nerve.
2 Name any *four* muscles of anterior compartment of forearm.
3 Name any *four* branches of axillary artery.
4 Name the opening in middle meatus.
5 Name the different group of axillary lymph nodes.
6 Name *two* pluerae and its nerve supply.
7 Name different parts of CNS.
8 Name any *four* torsal bone.
9 Name any *four* muscles supplied by radial nerve.
10 Name any *four* cartilages of larynx.

(10 × 2 = 20 marks)

CENTRAL LIBRARY

30

SC—0895

FIRST YEAR B.Sc. (RADIOGRAPHY) DEGREE EXAMINATION, 2000

(Revised Scheme)

RADIOLOGICAL PHYSICS

Time : Three Hours

Maximum : 80 Marks

Your answer shall be specific to the question asked.
Draw neat and labelled diagrams wherever necessary.

I. Long Essays : (Answer any *two*)

1 With a neat and accurate circuit diagram, explain full-wave rectification showing the direction of electron current through the load in both the half cycles.

(10 marks)

2 Describe the construction of an Auto Transformer. What is the physical principle behind its working ? Is it possible to have different currents flowing through its primary and secondary parts ? Give reasons for your answer.

(10 marks)

3 Draw the figure of a rotating anode X-ray tube and label the parts. Explain why the X-ray beam is received in a direction which is at 90° to the direction of electrons. Even though X-rays are emitted in all directions. Explain Apparent focus and Real focus.

(5 + 2 + 3 = 10 marks)

[2 × 10 = 20 marks]

II. Short Essays : (Answer any *ten*)

4 Cooling of the target in a fixed anode tube.

5 Attenuation of a homogeneous beam of X-ray photons through matter.

6 Transformer losses.

7 Artificial radioactivity.

8 Hardening of an X-ray beam.

9 Fluorescence and Phosphorescence.

10 Ray proofing and Shock proofing of an X-ray tube.

11 Definition of exposure and how is it measured.

12 Electromagnetic spectrum.

13 Inverse square law.

14 Photoelectric effect and Diagnostic radiology.

15 Conductors, Semiconductors and Insulators.

FR. MULLER CENTRAL LIBRARY

(10 × 5 = 50 marks)

Turn over

32

SC—1170

FIRST YEAR B.Sc. (RADIOGRAPHY) DEGREE EXAMINATION, 2000

RADIOLOGICAL PHYSICS

(R.S.)

Time : Three Hours | Maximum : 80 Marks

Your answers shall be specific to the questions asked.
Draw neat and labelled diagrams wherever necessary.

I. Long Essays : (Answer any *two*)

1 Explain self induction and mutual induction. Describe how these physical principles are adopted in the construction of an a.c. transformer. What is the function of the soft iron core in the transformer ?

2 What transformations takes place in the nucleus following ?

(a) Alpha decay ; (b) Three types of beta decay ; and (c) Gamma emission.

How radioactivity can be produced artificially ?

3 With a neat diagram, explain briefly the construction and working of a fixed anode X-ray tube.

(2 × 10 = 20 marks)

II. Short Essays : (Answer any *ten*)

4 Cooling of the target in a rotating anode tube.
5 Continuous and characteristic X-ray spectrum.
6 Hysteresis in transformers.
7 P type and N type semiconductors.
8 Electromagnetic spectrum.
9 Attenuation of monoenergetic photons through a medium.
10 Inverse square law and usefulness of this knowledge in radiation protection.
11 Exposure and its measurement.
12 Hardening of X-rays.
13 Ammeter and voltmeter.
14 Isotopes used in medicine.
15 Exponential decay of radioactivity.

DR. MULLER * CENTRAL LIBRARY *

(10 × 5 = 50 marks)

III. Short Answers :

16 Define Half life and Mean life.
17 What do you understand by the term "Copper losses" as applied to transformers ?
18 The half-life of ^{131}I is 8 days. If the activity decays to 100 mu after 40 days, what is the present activity ?
19 What is the difference between "Exposure" and "Absorbed dose" ?
20 If the radiation exposure from a source of radiation is 100 R/hour at a distance *d* cms., what is the exposure rate at a distance of 2 *d* cms. from the source of radiation ?

(5 × 2 = 10 marks)