Total No. of Pages : 2]

Code No.: RC-2939

I YEAR B.Sc. RADIOGRAPHY EXAMINATION OF NOVEMBER - 2003
PHYSIOLOGY - THEORY PAPER (RS)

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

N.B :-

1) *Your answers shall be specific to the Questions asked.*
2) *Draw neat labelled diagrams wherever necessary.*

❖ ❖ ❖

I. ***Long Essays : (Answer any Two)*** **[2 x 10 = 20]**

1) Describe briefly the Mechanism of coagulation of Blood.
2) Describe briefly the Regulation of arterial Blood pressure.
3) Describe briefly the Regulation and Functions of Thyroxine.

II. ***Short Essays :***
(Write a brief relevant notes on any Eight) **[8 x 5 = 40]**

4) Functions of Plasma proteins.
5) Functions of gastric Juice.
6) Transport of Oxygen in the blood.
7) Hypoxia - Causes and Types.
8) Functions of oestrogens and Progesterone.
9) Normal ECG. (Electro Cardio Gram)
10) Heart sounds
11) Visual Pathway
12) Composition and Functions of CSF. (Cerebro spinal fluid)
13) Synapse

P.T.O.

III. Short Answers : [10 x 2 = 20]

14) What is GFR? What is its normal value?

15) Mention two functions of the Kidney.

16) Mention two functions of the skin.

17) Mention two Ascending Tracts and the sensation carried by each.

18) Mention two functions of Hypothalamus.

19) Mention two functions of the Middle ear.

20) What are the Receptors of Taste and Smell?

21) What are the Permanent Family Planning Methods in Males and Females?

22) Mention two functions of Placenta.

23) Mention two physiological actions of Insulin.

* * * * *

CENTRAL LIBRARY

Total No. of Pages : 2]

Code No.: RC-3070

I YEAR B.Sc. RADIOGRAPHY EXAMINATION OF NOVEMBER - 2003
ANATOMY - THEORY PAPER (RS)

Time : 3 Hours] [Max. Marks : 80

N.B :-

1) *Your answers shall be specific to the Questions asked.*
2) *Draw neat and labelled diagrams wherever necessary.*

❖ ❖ ❖

I. ***Long Essays : (Answer any Two) :*** **[2 x 10 = 20]**

1) Name different parts of digestive system. Describe stomach giving its lymphatic drainage?
2) Name different parts of female reproductive system. Describe uterus.
3) Name different parts of brain. Describe medulla oblongata.

II. ***Short Essays : (Answer Any Eight):*** **[8 x 5 = 40]**

4) Interior of right atrium.
5) Scapula
6) Radial artery
7) Lateral wall of nose.
8) Name all the bones of lower limb.
9) Pancreas
10) Spinal Cord
11) Histology of liver
12) Diaphysis
13) Structure of Nephron.

CENTRAL LIBRARY

P.T.O.

III. Short Answers : **[10 x 2 = 20]**

14) Name four extra ocular muscles.

15) Histology of Kidney (Diagram only)

16) Name four cartilages of Larynx

17) Name branches of ascending Aorta.

18) Name four Epithelium

19) Mention four synovial joints

20) Name inter costal muscles

21) Name four classification of long bones.

22) Name Two muscles commonly used for giving intra muscular injections.

23) Name coverings of Brain.

* * * * *

CENTRAL LIBRARY

(Pages : 2)

RC—2606

FIRST YEAR B.Sc. (RADIOGRAPHY) DEGREE EXAMINATION, 2003

RADIOLOGICAL PHYSICS

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* questions :

1 Give an explanation of exponential law as applied to radioactive decay.

Using the decay equation, obtain the relationship between half life and decay constant.

The activity of an 131_I source is 64 mCi as on today. Assuming the half life of 131_I to be 8 days, calculate the activity after a period of six half lives.

(6 + 2 + 2 + 10 marks)

2 Give a list of electromagnetic waves in the decreasing order of their wavelengths.

Derive the relationship between the intensity and distance for a point source emitting electromagnetic radiation isotropically in all directions.

Obtain the relationship between the frequency and wavelength for an electromagnetic wave.

(3 + 5 + 2 = 10 marks)

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

(10 marks)

(2 × 10 = 20 marks)

CENTRAL LIBRARY

II. Short Essays. Answer any *ten* questions :

4 Artificial radioactivity.

5 Atomic structure.

6 P-type and N-type semiconductors.

7 Transformer losses.

8 Concept of similar triangles and their application in finding focal spot size.

9 Photoelectric effect and Diagnostic Radiology.

10 Bridge rectifier.

11 Cooling of the target in an X-ray tube.

12 Absolute dose and Dose equivalent.

13 Resistance, Inductance and Capacitance.

14 Factors affecting the quality and quantity of X-ray intensity produced by an X-ray tube.

15 Ammeter and Voltmeter.

(10 × 5 = 50 marks)

Turn over

III. Short Answers :

16 A collimated radiation beam from a point source has an area of cross-section of 7 cm. (length) × 10 cm. (width) at a distance of 40 cm. from the source. Calculate the dimensions of the beam cross-section at a distance of 30 cm. from the source.

17 Convert 1eV into Joules.

18 Calculate one Roentgen in units of Coulomb/kg.

19 An X-ray beam is filtered by 2 mm. of Aluminium and the transmitted beam quality is given as "HVL of x cm. Aluminium". If the filter thickness is increased to 4 mm. Aluminium, state whether the quality of the transmitted beam will be

(a) $> x$, OR (b) $< x$ OR (c) $= x$.

Give reason for your answer in *one* sentence.

20 Calculate the wavelength of 124 keV Photon in units of Nanometers.

(5 × 2 = 10 marks)

CENTRAL LIBRARY

RC—2605

FIRST YEAR B.Sc. (RADIOGRAPHY) DEGREE EXAMINATION, 2003

PHYSIOLOGY

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* questions :

1 Describe briefly the Regulation of arterial blood pressure.

2 Describe briefly the functions of plasma proteins.

3 Describe briefly Nervous regulation of Respiration.

(2 × 10 = 20 marks)

II. Short Essays. Answer any *eight* questions :

4 Haemostasis.
5 Functions of Gastric Juice.
6 Composition and Functions of Bile.
7 Functions of Growth Hormone.
8 Transport of oxygen in the blood.
9 Write different types of Hypoxia and their causes.
10 Functions of Hypothalamus.
11 Trace the visual pathway and label its parts.
12 Functions of placenta.
13 Spermatogenesis.

RR. MUELLER CENTRAL LIBRARY

(8 × 5 = 40 marks)

III. Short Answers :

14 What is GFR ? and What is its normal value ?
15 Mention *two* functions of the kidney.
16 Mention *two* functions of thyroxine.
17 Name the contractile proteins of the muscle.
18 Name the Permanent Family Planning Method in Males and Females.
19 Name any *two* Refractive errors of the eye and their correction by glasses.
20 Which is the Primary Centre for hearing in Broadman's number ? Where is it located ?
21 Name *two* Ascending Tracts and the sensation carried by each.
22 Mention *two* Functions of Skin.
23 Name *two* Anticogulents and its action.

(10 × 2 = 20 marks)