August, 2015

STATE MEDICAL FACULTY OF WEST BENGAL

Preliminary Examinations
for Diploma in Radiography (Diagnostic) : DRD (Tech) Course

Paper – I
Basic Anatomy

Time : 3 Hours | Full Marks : 80

Question 1 is Compulsory.
Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

Q-1) Mark (√) for the correct Answer: **10x1 = 10**

i) Number of lobes in right lung:
a) 2 c) 4
b) 3 d) 5

ii) Last bone to ossify in hand:
a) Scaphoid c) Pisiform
b) Lunate d) Capitate

iii) Number of cranial nerves:
a) 10 c) 12
b) 11 d) 13

iv) Paired organs of abdomen:
a) Adrenal c) Aorta
b) Liver d) Stomach

v) Sesamoid bone seen in:
a) Knee joint c) Elbow joint
b) Hip joint d) T.M. joint

vi) Trachea begins at the level of:
a) C2 c) C6
b) C4 d) D4

vii) Upper lobe of right lung contains the following segments, except:
a) Apical c) Posterior
b) Anterior d) Lateral

viii) All are contents of posterior mediastinum, except:
a) Thymus c) Vagus nerve
b) Oesophagus d) Thoracic duct

ix) In an adult the spinal cord ends at the vertebral level of:
a) D4 c) L1
b) D10 d) L5

x) Acromian process is part of:
a) Femur c) Scapula
b) Patella d) Vertebra

Contd.....P2/

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Basic Anatomy

Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

2x20 = 40

Q2. Name the different bones of vault of skull. Draw a labeled diagram of CSF pathway in the brain.

6+14 = 20

Q3. What are the different parts of the urinary system? Describe the anatomy of kidney with proper labeled diagram.

6+7+7 = 20

Q4. Describe with suitable labeled diagram the different parts of gallbladder and billary apparatus.

10+10 = 20

Q5. Draw and label the different parts of a typical cervical vertebra. Mention the characteristic features of atlas and axis with suitable labeled diagram.

8+6+6 = 20

Q6. Write short notes on (**Any Four**):- **4 x 7½ = 30**

a) Bronchopulmonary segments
b) Caecum
c) Patella
d) Thyroid gland
e) S.I. joint.

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Preliminary Examinations
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Paper – II
Radiological Physics, Radiation Protection

Time – 3 hours | Full Marks – 80

Question 1 is Compulsory.
Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

Q-1) Mark (√) for the correct Answer: **10x1 = 10**

i) In grids the spaces between lead strips are filled with:
- a) Air
- b) Aluminium
- c) Tungsten
- d) Molybdenum

ii) The main component of emulsion in X-ray film:
- a) Silver phosphate
- b) Silver carbonate
- c) Silver bromide
- d) Silver nitrate

iii) Atomic number of tungsten is:
- a) 57
- b) 70
- c) 74
- d) 78

iv) The focusing cup is made up of:
- a) Nickel
- b) Aluminium
- c) Copper
- d) Tungsten

v) Grid was invented by:
- a) Godfrey Hounsfield
- b) Gustave Bucky
- c) M. Curie
- d) Lauterbur

vi) All are members of electro magnetic radiation, except:
- a) X-ray
- b) Light
- c) Radiant heat
- d) USG

vii) Which is not an interaction between X-ray and matter?
- a) Compton scattering
- b) Photo electric effect
- c) Bremsstrahlung radiation
- d) Coherent scattering

viii) In CT scan, HU number of water is:
- a) - 1000
- b) – 20
- c) 0
- d) + 1000

ix) Standard thickness of lead apron used in Radiology:
- a) 0.5 mm
- b) 1 mm
- c) 1.5 mm
- d) 5 mm

x) All are rare earth phosphors, except:
- a) Barium lead sulfate
- b) Gadolinium oxysulfide
- c) Lanthanum oxybromide
- d) Barium sulfate

Contd……..P2/

Preliminary Examinations
for Diploma in Radiography (Diagnostic) : DRD (Tech) Course

Paper – II
Radiological Physics, Radiation Protection

Answer any Two from Question No. 2 to 5 and any Four from Question No. 6

2x20 = 40

Q2. What is X-ray and how is it produced? Draw and label an X-ray tube. State in brief the function of each part.

6+7+7 = 20

Q3. Enumerate different types of interaction of X-ray with matter. Briefly discuss about photo electric effect and Compton scattering with their clinical importance.

8+12 = 20

Q4. Describe with diagram the stricture of X-ray film. What are the types of X-ray film? What is film contrast? What do you mean by speed of film?

8+4+4+4 = 20

Q5. What are the advantages of D.R. over C.R.? Describe the function of each separately. What is PACS?

7+8+5 = 20

Q6. Write short notes on (**Any Four**):- **4 x 7½ = 30**

a) Inverse square law
b) Rectifiers
c) Laws of Transformers
d) TLD
e) Grid cut off.

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Answers to Q1 [MCQ Type of questions]:-

i)	**b**
ii)	**c**
iii)	**c**
iv)	**a**
v)	**a**
vi)	**c**
vii)	**d**
viii)	**a**
ix)	**c**
x)	**c**

Paper – II
Radiological Physics, Radiation Protection

Answers to Q1 [MCQ Type of questions]:-

i)	**b**
ii)	**c**
iii)	**b**
iv)	**a**
v)	**b**
vi)	**d**
vii)	**c**
viii)	**c**
ix)	**a**
x)	**d**

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