

सूचना/ NOTICE

(सं./ No. 02)

विज्ञापन संदर्भ सं. 03/2022

Ref. Advt. No. 03/2022

श्यामा प्रसाद मुखर्जी पोर्ट – कोलकाता
SYAMA PRASAD MOOKERJEE PORT – KOLKATA
हल्दिया गोदी परिसर
HALDIA DOCK COMPLEX
जवाहर टावर कम्प्लेक्स, हल्दिया टाउनशिप,
पूर्व मेदिनीपुर, पश्चिम बंगाल, पिन- 721607)
(Jawahar Tower Complex, Haldia Township,
Purba Medinipur, West Bengal, Pin – 721607)

हल्दिया गोदी परिसर के चिकित्सा प्रभाग के अंतर्गत रेडियोग्राफर
(संविदागत) और प्रयोगशाला सहायक (संविदागत) के चयन हेतु
लिखित परीक्षा

Written Examination for selection of Radiographer (on
contract) and Laboratory Assistant (on contract) under
Medical Division of Haldia Dock Complex

लिखित परीक्षा का स्थान/
Written Test Venue

: प्रशिक्षण संस्थान,
प्रथम तल, ऑपरेशनल बिल्डिंग,
चिरंजीबपुर, हल्दिया गोदी परिसर,
पोस्ट - हल्दिया
जिला - पूर्व मेदिनीपुर
पिन - 721604, पश्चिम बंगाल ।

Training Institute,
1st Floor, Operational Building,
Chiranjibpur, Haldia Dock Complex,
P.O. – Haldia
Dist. – Purba Medinipur
Pin – 721604, West Bengal.

परीक्षा की तिथि/
Date of Test

: 28/09/2022

रिपोर्टिंग समय/
Reporting Time

: 1030 hrs.

लिखित परीक्षा की पद्धति/
Methodology of Written Test

: लिखित परीक्षा में 50 अंकों के (एमसीक्यू) प्रश्न होंगे एवं उत्तीर्णांक 25 होगा । तथापि, चयन पद्धति में बदलाव/ संशोधन का पूर्ण अधिकार प्रबंधन रखता है।

Written Test will comprise of 50 marks (MCQ type) and pass marks being 25. However, management reserves the right to change/modify the selection methodology.

पाठ्यक्रम और मॉडल प्रश्न पत्र/
Syllabus and Model Question Paper

: अनुलग्नक -I और अनुलग्नक -II में संदर्भित ।
Refer to ‘Annexure-I’ and ‘Annexure-II’

उम्मीदवारों के लिए सामान्य निर्देश: General Instructions to the candidates:

- प्रवेश पत्र, प्रथम दृष्टया योग्य उम्मीदवारों को स्पीड पोस्ट एवं ईमेल द्वारा जारी किया गया है। यदि किसी उम्मीदवार को डाक द्वारा प्रवेश पत्र प्राप्त नहीं होता है, तो वह ई-मेल (सॉफ्ट कॉपी) किए गए प्रवेश पत्र का प्रिंट आउट भी ले सकता है।/ Admit card have been issued to the prima-facie eligible candidates both by speed posts and also by email. If the candidate does not receive admit card by post, he/she may also take a print out of the e-mail (soft copy) of the admit card.
- लिखित परीक्षा के समय उम्मीदवार को हाल ही में खींची हुई अपनी पासपोर्ट आकार का फोटो लगा हुआ (निर्धारित स्थान पर) प्रवेश पत्र लाना होगा। किसी भी उम्मीदवार को प्रवेश पत्र के बिना परीक्षा केंद्र में प्रवेश करने की अनुमति नहीं दी जाएगी।/ The candidate must bring the admit card with recent passport size photograph affixed in the space provided at the time of appearing for the written examination. No candidate will be permitted to enter the examination Centre without the admit card.
- पासपोर्ट आकार का फोटो लगा हुआ प्रवेश पत्र परीक्षा हॉल में जमा ले लिया जाएगा। अतः उम्मीदवार को सलाह दी जाती है कि वह अपने प्रवेश पत्र की एक फोटोकॉपी अपने पास रखें।/ The admit card along with affixed passport size photograph will be collected in the examination hall and therefore the candidate is advised to keep one photocopy of the Admit Card for his/ her own reference.
- उम्मीदवारों को फोटो लगा हुआ पहचान प्रमाण जैसे पासपोर्ट, ड्राइविंग लाइसेंस, वोटर कार्ड, आधार कार्ड, विश्वविद्यालय / कॉलेज द्वारा जारी पहचान पत्र, पैन कार्ड **के साथ उसकी एक स्व-प्रमाणित फोटोकॉपी** परीक्षा केंद्र में लाना होगा, ऐसा न करने पर उसे परीक्षा में बैठने की अनुमति नहीं दी जाएगी/ Candidate must carry at least one photo bearing IDENTITY PROOF in original such as Passport, Driving License, Voter Card, Aadhaar Card, Identity Card issued by University / College, Pan Card **along with a self-certified photocopy** of the same, to the examination Centre, failing which, HE/SHE SHALL NOT BE ALLOWED TO APPEAR FOR THE EXAMINATION.
- उम्मीदवारों को निर्धारित रिपोर्टिंग समय पर परीक्षा केंद्र/ स्थान पर पहुंचना होगा। देर से आने वाले उम्मीदवारों को परीक्षा में बैठने की अनुमति नहीं दी जाएगी। **प्रश्नों के उत्तर देने हेतु उम्मीदवारों को अच्छी गुणवत्ता वाली 2 काली/नीली बॉल प्वाइंट पेन लानी होगी। प्रश्नों के उत्तर देने हेतु पेंसिल का उपयोग पूर्णतः निषिद्ध है।** / The candidate should reach the examination Centre/ Venue at the reporting time. Late comers will not be permitted to appear in the test. **They should bring 2 good quality BLACK/BLUE ball point pen for answering the test questions. Use of Pencils is strictly prohibited for answering questions.**
- उम्मीदवारी हेतु परीक्षा अनंतिम है एवं बशर्ते विज्ञापन में दर्शाई गई सभी पात्रता शर्तों को पूरा करता हो। उम्मीदवार द्वारा प्रवेश पत्र की प्राप्ति मात्र को उम्मीदवार के चयन हेतु उसकी पात्रता न समझी जाए। यदि किसी भी चरण में यह पाया जाता है कि उम्मीदवार लिखित परीक्षा में बैठने या अनुगामी चरण हेतु योग्य नहीं है तो उसकी उम्मीदवारी तत्काल खारिज कर दी जाएगी।/ Candidature for the test is provisional and subject to fulfilling all the eligibility conditions as indicated in the advertisement. Receipt of Admit card by the candidate is not to be construed as acceptance of the candidate's eligibility for selection. If, at any stage, it is found that the candidate is ineligible for sitting in the written examination or at any subsequent stage her candidature will be rejected.

- उम्मीदवारों को परीक्षा हॉल में कोई भी पेपर, नोट, किताब, कैलकुलेटर, पेजर या मोबाइल फोन या इलेक्ट्रॉनिक उपकरण आदि ले जाने की अनुमति नहीं है। किसी भी उम्मीदवार को ऐसी अनधिकृत सामग्री का उपयोग करते हुए या उसके पास से पाया जाता है या नकल करते या कोई भी अनुचित तरीके को अपनाते हुए पाया जाता है तो उसे उसी समय अयोग्य घोषित कर दिया जाएगा।/ Candidates are not allowed to carry any papers, notes, books, calculators, pagers or mobile phone or electronic devices etc., in the examination hall. Any candidate found using or in possession of such unauthorised material or indulging in copying or adopting unfair means, is liable to be summarily disqualified.
- परीक्षा केंद्र/ स्थान बदलने के अनुरोध पर विचार नहीं किया जाएगा।/ Request for change of centre / venue will not be entertained under any circumstances.
- लिखित परीक्षा में उपस्थिति हेतु किसी प्रकार के यात्रा भत्ते की प्रतिपूर्ति नहीं की जाएगी।/ No Travelling allowance will be reimbursed for appearing in the Written Test.
- परीक्षा में उम्मीदवारों को सरकार द्वारा निर्धारित कोविड-19 संबंधित सुरक्षा प्रोटोकॉल का आवश्यक रूप से पालन करना होगा।/ Candidates are required to comply with the Government COVID-19 related safety protocols for the examination as prescribed therein.
- परीक्षा हॉल के अंदर उम्मीदवारों को फेसमास्क पहनना होगा एवं पानी की बोतल, हैंड सैनिटाइज़र आदि स्वयं लाना होगा।/ Candidates are required to wear Facemask and carry their own water bottle, Hand Sanitizer etc.inside the examination hall.
- फेस मास्क/ फेस कवर का उपयोग करने वाले उम्मीदवारों को ही परीक्षा केंद्र के अंदर प्रवेश की अनुमति दी जाएगी एवं उन्हें फेस मास्क / फेस कवर को हर समय ठीक से पहने रहना होगा।/ Candidates shall be allowed entry only if using Face Mask / Face Cover and the Face Mask / Face Cover has to be worn properly all times inside the examination center.
- परीक्षा केंद्र में प्रवेश के समय उम्मीदवारों को शारीरिक दूरी बनाते हुए कतार में खड़ा होना पड़ेगा।/ Candidates are required to maintain physical distance when queuing up for entry.
- परीक्षा हॉल में बैग/किताब/मोबाइल आदि ले जाने की अनुमति नहीं होगी। उक्त वस्तुओं को रखने के लिए एचडीसी द्वारा निर्दिष्ट स्थान प्रदान किया जाएगा।/ Bags/Books/Mobiles etc. shall not be allowed in the Examination hall. Designated space would be provided by HDC for keeping such items.
- परीक्षा केंद्र के अंदर एवं आसपास थूकना सख्त मना है। प्रश्न पत्र / उत्तर पत्र गिनने/ पलटने के लिए थूक/ लार का उपयोग सख्त वर्जित है।/ Spitting in and around is strictly prohibited. Use of spit/saliva for counting /turning question paper/Answer Sheet is also strictly prohibited.
- व्यक्तिगत सामान/ स्टेशनरी को साझा करने की अनुमति नहीं होगी/ Sharing of personal belongings / stationary shall not be allowed.

SYLLABUS FOR MEDICAL LABORATORY TECHNOLOGY

Section-A (Anatomy)

1. Introduction to the subject - Anatomical position, common planes & Anatomical terms. -Different branches of Anatomy.
2. Histology -Typical animal cell (Structure & Function) -4 primary tissues (Classification & function)
3. Skeletal System - Axial and appendicular bones -Joints &movements
4. Skin, Fascia and Muscles & Tendons
5. Circulatory System –Heart & R.E.System -Spleen, Thymus & Tonsils
6. Respiratory System- Nose, Pharynx, Bronchi Lungs and Pleura
7. Digestive System- Alimentary canal (different parts)-Liver, Gall Bladder, Pancreases
8. Urogenital System- Different parts of urinary system -Different parts of Male & Female genital - System (Internal & External Genitalia)
9. Special Senses& General Sensibilities- Eye & Vision-Ears, Hearing & Equilibrium, -Taste.
10. Central & Peripheral nervous system- Brain & Spinal Cord. - Cranial & Spinal Nervous.- Autonomic Nervous System.
11. Regional Anatomy (Only Demonstration) – Extremities, Head & Neck, Thorax, Abdomen & Pelvis.

Section-B (Physiology)

- 1- Blood- Composition and general function of blood. Description of blood cells - normal counts & function. Steps of coagulation, Anticoagulants. Cerebrospinal Fluid, Formation, Composition & Function. Importance of blood groups composition & function of lymph.
- 2- Respiratory System -Name of structures involved in respirations and their function. External and internal respiration. How inspiration, expiration are brought about Transport of O₂ and CO₂ in the blood. Definition of respiratory rate, Tidal volume, vital capacity, Hypoxia.
- 3- Excretory System-Functions of Kidney, Nephron - Functions of Glomerulus and tubules, compositions of Urine, normal& abnormal. Skin Function of Skin.
- 4- Digestive System-Composition and functions of saliva, mastication and deglutition. Functions of stomach, composition of gastric juice. Pancreatic Juice, Bile and Digestion of food by different Enzymes, Absorption and Defecation.
- 5- Endocrine-glands-Definition of endocrine gland, Names of the endocrine gland and the hormone secreted by them. Major actions of such Hormones.

- 6- Reproductive System-Name of primary and accessory organs in male and female. Name of secondary sexual characters in male and female. Function of ovary-formation of ova, actions of ovarian hormone, menstrual cycle. Functions of Testes-Spermatogenesis and secretions of testosterone. Fertilization Vasectomy and tubectomy.

Section – C (Community Medicine & Statistics)

1. Identification and Public Health Importance of arthropods (Entomology): Mosquitoes, Lice, Fleas, Flies, Rats & Rodents.
2. Water Sources: Types, Purification Bio-Medical Waste Management Sanitation in Public Health
3. Food and Nutrition: Collection of different food samples :Cereals, Pulses, Vegetables, Roots and tubers, Fats and oils, Animal foods including milk Food-borne diseases of Public Health importance, Assessment of Nutritional status.

Section-D (Pharmacology) General Pharmacology

1. Drug, Drug nomenclature, Route of administration, concept of Pharmacokinetics, Pharmacodynamics and Adverse during action.
2. Drugs for the diseases of fundamental System GI System. Respiratory System. Cardiovascular System. Blood, Blood Coagulation, Thrombosis, different types of anti-coagula (Special emphasis).Drugs affecting the Urine and renal functions, excretion of drugs in stool, bile and other body fluids (Special emphasis).
3. Drugs for diseases of integrating systems of body Central Nervous System. Autonomic System. Endocrine System and autacoids.
4. Chemotherapeutic Agents Anti-Viral including AIDs, Hepatitis. Anti-Bacterial Drugs. Anti-Fungal Drugs. Anti-Protozoan Drugs. Anti helminthics. Anti-Cancer Drugs.
5. Antiseptic, disinfectants.
6. Drugs interfering in different Pathological tests.
7. Measurement of Drug levels in different body fluids and significance

BIOCHEMISTRY

1. Chemistry of a) Carbohydrates b) Fat c) Protein & Amino acid
2. Water & Fat soluble Vitamin.
3. Enzymes (Classification, factors regulating, inhibitors 2 clinical application)
4. Buffers, Molarity, indicators, Radioisotopes, Radiation hazard, RA.

5. Overview of Iron, Calcium, Iodine, Fluorine.

6. Overview of Nucleic Acids & Uric Acid.

PATHOLOGY General Pathology Cell injury, inflammation & repair adaptation, hemodynamics, infectious diseases, nutritional diseases, genetic diseases, neoplasia and occupational diseases.
Hematology

1. Hemoglobin estimation, anemia classification.

2. Blood group ABO/Rh typing, cross matching, complications of mismatch transfusion, selection of donor, mandatory tests, comb's test, component separation, preservation and uses.

3. Transfusion transmitted diseases. **HISTOTECHNOLOGY, CYTOLOGY STUDY** Methods of examination of tissues and cells, Fixation of tissue: Classification of fixatives, Simple Fixatives and their properties, Tissue processing, Collection of specimen, Labeling and fixation, Dehydration, Clearing, Impregnation, Embedding, Paraffin block making, Section Cutting, Microtomes and microtome knives – sharpening of knife, Microtome use – Honing, Stropping, Techniques of section cutting, Mounting of sections, Frozen section.

(a) Staining: Dyes and their properties, Theory of staining, staining technique with haematoxylin and eosin, Mounting of sections, Common special stains, Routine H & E, Meason Trichrome, Men – Geison, Reticulin, PAS, Fe, Lipid, Mucicamine, Vencos for calcium, Special staining, Decalcification, Fixation, Decalcification, Detection of end point, Neutralization and processing. (a) Exfoliative Cytology and Fine needle aspiration cytology Types of specimens and preservation, Preparation and fixation of smears, Papanicolaous staining technique/MCC staining/HE staining/, Sex chromatin staining, Nuscum Techniques, Reception of specimen., Preparation of fixation , Preservation , Presentation

1. Waste disposal and safety in laboratory. Histotechnology and Cytology, Fixation, processing, embedding and section and, reparation of slides., Sharpening of the knife. , Preparation of fixatives and, decalcifying fluid. , Preparation of adhesives to fix the section to the slide. , Preparation and fixation of cytology smears and Papanicolaou's staining techniques., MOG staining /HE staining. , Mounting.

IMMUNOLOGY AND SEROLOGY Emphasis on principal and uses/application ,Immunity –Basic principles and classification, Antigen, Antibody (Immunoglobulin's), Complement system, Antigen – Antibody reactions, Hypersensitivity- classification & different skin tests used for diagnosis., Immunodeficiency diseases including AIDS – in brief, Autoimmunity – Basic concept, Immuno-prophylaxis & Immunization schedule, Vaccines-classification & uses. **PARASITOLOGY** - Introduction & classification of medically important parasites, Intestinal & Tissue protozoa (E.histolytica, Giardia Primary Amoebic meningoencephalitis) - Malaria parasite, Leishmanial parasites, Tapeworms, Flukes of liver and , Intestine, Intestinal nematodes, Filarial worms and other tissue nematodes **VIROLOGY** - General Characters of viruses, Classification in brief and name of the diseases they produce.,

Hepatitis viruses, HIV, (Polio, Rabies, Rata, Measles, Dengue) - Oncogenic viruses in brief, Collection and transport of virological specimens - Laboratory diagnosis of viral infections (various methods of virus culture, serology etc.)

BIOCHEMISTRY

1. Glucose Homeostasis, overview DM, HGAIC.
2. Lipoprotein & Hyper Lipoprotein.
3. Liver function test.
4. Renal function test.
5. Thyroid function test.
6. Alimentary function test.
7. Water & Electrolytic Balance.

ORGAN FUNCTION TESTS

1. Thyroid Function Tests
2. Renal Function Tests 24 hr collection, preservation Physical characteristics, clearance tests.
3. Liver function tests
4. Gastric Function Tests
5. Pancreatic Function Tests Serum Amylase, Serum Trypsin, Serum Lipase,
6. Biochemical tests of CSF.
7. Instrumentation

Specimen Question Paper- Lab Technician Selection Examination

The questions are of multiple choice types.

You are to choose the single best response by ticking from the choices given below each question.

Ticking more than one answer will be disqualified.

1. By volume, the red blood cells constitute about _____% of whole blood.

- (A) 15
- (B) 25
- (C) 35
- (D) 45

2. What is the recommended cleaner for removing all oil from objective lens?

- (A) 70% alcohol or lens cleaner
- (B) Xylene
- (C) Water
- (D) Benzene

3. Serum differs from blood as it lacks

- (A) Antibodies
- (B) Clotting factors
- (C) Albumin
- (D) Globulin

4. The pH value of blood is normally between _____ and _____.

- (A) 6.0, 6.5
- (B) 7.0, 7.35
- (C) 7.35, 7.45
- (D) 7.45, 7.98

5. ESR equipment is known as

- (A) sahli's tube
- (B) centrifuge
- (C) vacutainer
- (D) westgren's tube

Rh typing is based on the D-antigen present in:

- (A) platelet
- (B) RBC
- (C) lymphocyte
- (D) Eosinophils

7. Sample used for Platelet counting is :

- (A) Serum
- (B) Plasma
- (C) EDTA blood
- (D) Citrate blood

8. What mordant is used in Gram staining?

- (A) Crystal violet
- (B) Safranin
- (C) Acid-alcohol
- (D) Iodine

9. RFT Includes:

- (A) Electrolytes
- (B) Total protein
- (C) AST
- (D) ALT

10. The reagent used in estimation of Glucose is:

- (A) Urease
 - (B) Hexokinase
 - (C) Jaffe
 - (D) None of the above
-

Syllabus for Diploma in Radiology Imaging Techniques

Human Anatomy & Physiology –

Definitions and Terms in Anatomy and Physiology-

Structure and function of human cell - Elementary tissues of human body- Brief account on Composition of Blood - functions of blood elements - Blood Group and coagulation of blood.

Cardio Vascular System (Structure and functions of various parts of the heart, arterial and venous system, brief account on common cardiovascular disorders).

Respiratory System (various parts of respiratory system and their functions, Physiology of Respiration).

Digestive System (names and various parts of digestive system-Liver, Spleen, Gall Bladder, Pancreas, Buccal Cavity, Pharynx, Oesophagus, Stomach, intestine etc.-physiology of digestion and absorption)

Urinary System (various parts of urinary system and its function-structure and function of kidneys-physiology of urine formation - pathophysiology of renal disease and edema.)

Reproductive System (physiology and anatomy of Male & Female reproductive system-Prostate & Uterus & Ovaries etc.)

Musculoskeletal System (Classification of bones & joints, structure of skeleton –structure of skeletal muscle – physiology of muscle contraction)

Nervous System (various parts of nervous system- Brain and its parts –functions of nervous system - Spinal Cord & Nerves).

Ear, Nose, Throat and Eye (Elementary knowledge of structure and functions of organs of taste, smell, hearing, vision.)

Endocrine System (Endocrine glands ,their hormones and functions-Thyroid, Parathyroid, Suprarenal, Pituitary, pituitary and Thymus)

Haemopoietic and Lymphatic System (Name of the blood vessels & lymph gland locations).

Surface Anatomy & Surface Markings of Human Body.

Radiology Physics, Radiation Physics & Physics of Diagnostic Radiology –

Basic concepts of power, work, force, energy, electricity, magnetism and their units and measurements- einstein's formula – electromagnetic induction – Atomic structure – radioactivity- ionization and excitation - electromagnetic waves – X-rays production and properties – X-ray tube - quality of x-rays – factors affecting quality and intensity of x-rays. X-ray circuits - interaction of X and gamma rays - X- radiation measurements etc. Principles of Radiation detection and measurements – TLD, Pocket Dosimeter, Radiation Survey meter and radiation zone monitor.

X-Ray Machines & Accessories and their Maintenance –

X-ray machines – Anode & Cathode - Thermionic diode – X-ray valves and tubes – principle and practical aspects – semiconductors – triode valves – cathode ray oscilloscopes – X-ray circuits – self rectifying circuits – half wave pulsating voltage circuits – full valve pulsating voltage circuits - measurement of high voltage – control of KV circuit – mA circuit. X-ray beam quality

X-ray Film / Image processing Techniques –

X-ray Films- X-ray cassettes - Intensifying screens X-ray films types – basic film structure & quality – choosing films for different studies - basics on hard copies of radiographic images – dry & wet processing – Fixer – Developer – film processing methods - manual and automatic processing – conventional & modern image processing rooms – image processing equipments – types & maintenance – day light systems advantages & disadvantages – processing faults – glossy prints, paper prints etc – production of best quality images. Intensifying screen- Fluorescence - structure of Intensifying screens – Casette types – screen un-sharpness etc.

Clinical Radiography-Positioning –

Radiological Equipments – X-ray machine - transformers, x-ray units, fluoroscopy, grids and filters - Positional Radiography - Radiographic views of different parts of the body – Chest, Abdomen, Upper Limb, Cervical & Thoracic Spine, Lumbar Spine, Sacrum & Coccyx, Bony thorax - Sternum & Ribs, Skull and cranial bones, facial bones, paranasal sinuses, Mastoids & Temporal bones etc. Upper & Lower GIT, Gall Bladder & Biliary duct, GUT etc.

Equipments, basic Techniques of modern Imaging Modalities –

C.R (principle, equipment & imaging) Digital Radiography (principle, equipment & imaging) Mammography (basic principle, equipment & image acquisition) CT (Basic physics – Tomography principle - basics of plain studies, contrast studies, special procedures) MRI (basic principle – imaging methods - slice section- plain & contrast studies – image contrast – factors affecting image quality) USG (Basic acoustics - ultrasound terminologies – Interaction of US with matter – Ultrasound display modes etc)

Contrast & Special Radiography procedures. –

Barium swallow - barium meal - barium enema (single and double contrast), PTBD, Sinograms, Fistulograms, IVU, AUG, MCU, HSG, Sialogram, T-tube Cholangiography – Fluoroscopy, Image intensifiers - Tomography basics, etc

Quality Control in Radiology & Radiation Safety –

Quality control procedure in Radiology as per NABH. Biological effects of Radiation – Radiation dose – Effects of time, distance and shielding – personnel and area monitoring – Planning of X-ray rooms, dark rooms – Evaluation of workload versus radiation factors – Radiation safety instruments - ICRP / AERB recommendations.

Specimen Question Paper- Radiographer Selection examination.

The questions are of multiple choice types.

You are to choose the single best response by ticking from the choices given below each question.

Ticking more than one answer will be disqualified.

1. Who discovered X- Rays?

- a. Thomas Alva Edison. b. Henri Becquerel.
c. Wilhelm Conrad Rontgen. d. Marie Curie.

Answer: c.

2. Coating of X-ray films is:

- a. AgBr. b. HgCl₂. c. CuCl₂.
d. none of the above.

Ans: a.

3. Which of the following is not part of an AC Generator?

- a. Armature. b. Slip rings. c. Carbon brush.
d. Commutator.

Ans: d.

4. The Ideal film focus distance for CXR is:

- a. 180 cms. b. 100 cms. c. 200 cms.
d. 80 cms.

Ans: a.

5. Atomic nucleus is composed of:

- a. Only protons.
- b. only neutrons.
- c. protons & electrons.
- d. protons & neutrons.

Ans: d.

6. The fundamental characteristic of X rays is:

- a. Sonic boom.
- b. neutrons.
- c. Neutrinos.
- d. EM radiation.

Ans: d.

7. X- Rays were discovered in the year:

- a. 1886.
- b. 1895.
- c. 1902.
- d. 1896.

Ans: b

8. SI unit for radioactivity is:

- a. Sievert.
- b. Curie.
- c. Gray.
- d. Becquerel.

Ans: d.

9. The most common view in CXR is:

- a. Anteroposterior.
- b. Right anterior oblique.
- c. Left anterior oblique.
- d. Posteroanterior.

Ans: d.

10. Centering point in standard CXR PA view (adults) is:

- a. T9 vertebra.
- b. T5 vertebra.
- c. T7 vertebra.
- d. T5 vertebra.

Ans: c.