

Pokhara University Teaching Hospital
Curriculum for Radiography Technician (Head Assistant) Level Examination
For Written Examination
Full Marks: 65

There shall be 3 hrs. Written examination based on the following syllabus

Group A: Written Examination

65 Marks

1. Anatomy and Physiology (10)

General pathology, Surface and regional anatomy of: The skeleton, The skull, The vertebral column, ribs and sternum, The bones of the upper limb, The bones of the lower limb, The joints & muscles, The circulatory system, The lymphatic system, The respiratory system, The digestive system, The urinary system, The nervous system, The endocrine system, The reproductive system, The skin and the organs of special sense.

2. Radiographic Technique (10)

Routine Radiography Technique for upper limb and lower limb, thoracic cage and its contents, abdomen (Abdomen and KUB), the spine (Cervical, thoracic, lumbar, sacrum and coccyx and sacroiliac joint), skull and radiographical anatomical landmarks of the skull. The supplementary views of the Upper & Lower, chest and abdomen, the spine and pelvis (soft tissue), the skull. Registration process- The steps of registration of patients. The importance of a monthly and annual record, filing system and preparing the Proforma invoices. Filing of radiographs and reports.

3. Radiological Procedure (20)

Contrast media: Definition of the contrast media, Types, Methods of introducing the contrast media Reactions of contrast media, Name of the emergency equipment and drugs needed to cope with reactions. Radiographic investigations of Gastro-intestinal tract using contrast media Barium swallow and role of a radiographer during fluoroscopy, Radiographic Investigation of Urogenital tract, Radiographic procedure of the biliary tract and Vascular system. Ward and Theatre Radiography: the uses of mobile machine, techniques of using ward radiography, the technique of using operating theatre radiography Technique to help in hip pinning. Other Special examinations: Myelogram, Arthrogram, Dacryocystogram, Sinogram/Fistulogra, Sailogram, Mammogram, Macro-radiography and Soft tissue radiography.

4. Radiographic Photography (5)

X-ray Film, Intensifying screen, Radiographic Image, Film processing, dark room planning Identification of films, methods and Importance of Silver recovery. General introduction with different method of recovery.

5. Radiographic equipment (10)

Historical background of x-ray and its production, Control panel, x-ray table and tube column, Type of x-ray table, Different metering equipment and X-ray tube support, Fluoroscopic equipment, Conventional fluoroscopy, image intensifier tube, Construction and uses, Control of scatter radiation & beam restricting devices, Portable and mobile x-ray units, Types and use of portable and mobile unit, Construction, Capacitor discharge and c-arm Conventional tomography and Introduction to modern modalities (CR, DR, CT, MRI, mammography).

6. Radiation Physics (5)

Atomic structure (The Nucleus, Electron orbits and energy levels), Production of x-ray, properties of x-rays General radiation (Bremsstrahlung), Characteristic Radiation Intensity of x-rays beams, Target material and voltage (kVp) applied, Basic interactions between x-rays and matter, Radiation measurement and units. Construction & working of the free air ionization chamber Thimble ionization chamber & condenser ionization chamber, Radiation protection and Personnel monitoring.

7. Patient Care and Management (2.5)

The hospital, the patient and the radiographer: Clinical responsibility, Legal responsibility of radiographer with patient and hospital. Features of general patient, the anaesthetized patient and Hygiene in the x-ray department. reassurance for the patient. Drugs in the x-ray department Poisons and dangerous drugs Units of measurement of drugs, Drugs used in preparation of the patient Drugs used in resuscitation, Preparation of the patient (General abdominal preparation & Clothing of the patient). First aid in the x-ray department (Radiological emergencies, Shock, Haemorrhage, Burns, scalds, Loss of Consciousness, Asphyxia, Fractures and Electric shock). Medico-legal aspects of the radiographer's work (Breach of professional confidence, Negligence and Procedure in the event of an accident and importance of records.

8. Ethics, code of practices, law and regulations (2.5)

Ethics and code of practices of radiographer, Nepal Health Professional Council, Nepal Health Service Act, 2053 and Regulation.

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For Practical Examination
Full Marks: 35

Practical examination based on the following syllabus

Group B: Practical Examination

35 Marks

- 1. Assessment of vital signs and severity of patients coming to department.**
- 2. History taking**
- 3. First aid management and Triage system**
- 4. Contrast reaction and its management**
- 5. Basic knowledge of x-ray production that is utilized in Radiology.**
- 6. Knowledge of different types of X-ray Tubes and its uses.**
- 7. Knowledge to use different types of grids use in the x-ray department.**
- 8. Various X-rays Procedure (Routine and Special Views) to be carried out in Radiology department**
- 9. Various special Procedures to be carried out in Radiology department.**
