Syllabus and Curriculum
of
Diploma in Radiological Intervention Technician course

Uttar Pradesh State Medical Faculty, Lucknow.

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Outline of Curriculum of Diploma in Radiological Intervention Technician course

FIRST YEAR

THEORY (Classes: 9 AM to 12 Noon)

First paper : **Syllabus covers -**
1. Anatomy & Radiological Anatomy.

Second paper : **Syllabus covers -**
2. Radiological Physics.

Outline of Curriculum of Diploma in Radiological Intervention Technician course

SECOND YEAR

THEORY (claases:9 AM to 12 Noon)

First paper : **Syllabus cover**s -
1. Conditions requiring intervention.

Second paper : **Syllabus cover**s -
1. CT, MRI, USG, DSA guided procedures.

ELIGIBILITY CRITERIA FOR ADMISSION & DURATION OF THE COURSE

COURSE DURATION:-

- It is 2 years, **full time** Diploma Course.

ELIGIBITY:-

- Candidate must have passed 12th with

  Physics, Chemistry, Biology

  Or

  Physics, Chemistry, Maths

  with 35% marks in Intermediate exams.

  (From UP board or any other recognised board).

- Candidate must have completed age of 17 years of age as on 31st December of admission year. There is no maximum age limit for the admission.

SCHEDULE OF EXAMINATION

FIRST YEAR

Paper	Subjects	Mark	Internal Assessment Marks	Total Marks	Pass Marks	Duration of Exam.
First Paper Theory	1. Anatomy & Radiological Anatomy.	75	25	100	50	3 Hours
Second Paper Theory	1. Radiological Physics.	75	25	100	50	3 Hours
Practical	Oral & Practical	75	25	100	50	3 Hours

SCHEDULE OF EXAMINATION

SECOND YEAR

Paper	Subjects	Mark	Internal Assessment Marks	Total Marks	Pass Marks	Duration of Exam.
First Paper Theory	1. Conditions requiring intervention.	75	25	100	50	3 Hours
Second Paper Theory	1. CT, MRI, USG, DSA guided procedures.	75	25	100	50	3 Hours
Practical	Oral & Practical	75	25	100	50	3 Hours

SCHEDULE OF COURSE

(List of holidays, Total hours, Subject wise allottement of hours)

- **List of Holidays:-**

Sundays	- 52 days
Summer vacation	- 10 days
Winter vacation	- 10 days
Gazetted holidays	- 23 days
Preparatory holidays	- 10 days
Total Holidays	- 105 days

- **Total Hours :-**

Theory classes per day	- 3 Hours
Practical classes per day	- 3 Hours
Total hours per day	- 6 Hours
Total days & hours in One year (after deduction of holidays)	- 260 days or - 1560 Hours

SCHEDULE OF COURSE

Subject wise allottement of hours

FIRST YEAR

Theory (780 Hours) Practical (780 Hours)

First Paper Theory	1. Anatomy & Radiological Anatomy.	250 Hrs
Second Paper Theory	1. Radiological Physics.	250 Hrs
Third Paper Practical	As described in curriculum	780 Hrs
Theory: Other Subjects (These subjects must be taught; though there will not be any exam from these)	**1.** Basic Computer skills.	30 Hrs
	2. Basic English.	30 Hrs
	3. Soft skills like - Interpersonal relationship skills & moral education	10 Hrs

SCHEDULE OF COURSE

Subject wise allottement of hours

SECOND YEAR

Theory (780 Hours) Practical (780 Hours)

First Paper Theory	1. Conditions requiring intervention.	380 Hrs
Second Paper Theory	1. CT, MRI, USG, DSA guided procedures.	300 Hrs
Third Paper Practical	As described in curriculum.	780 Hrs

Details of Curriculum for First Year
Diploma in Radiological Intervention Technician course

PAPER 1st Theory	Topics	Hours.
1. Anatomy & Radiological Anatomy.	Introduction of Anatomy	5Hrs
	Introduction to Physiology	5Hrs
	Human body	5Hrs
	Anatomical Posture	2Hrs
	Descriptive Terms in Anatomy	10Hrs
	Planes of body	5Hrs
	Cells, Tissues, System, Membranes	5Hrs
	Glands- including endocrine, salivary	10Hrs
	Body fluids – CSF, lymph, blood etc.	10Hrs
	Myology- muscles of face, thorax, abdomen, limbs	30Hrs
	Bones and muscles of body	30Hrs
	Lymphatic system	10Hrs
	Skeletal system with Function of Skeleton	5Hrs
	Classification of Bones	5Hrs
	Descriptive terms used in osteology	2Hrs
	Joints of skeleton	5Hrs
	Bones of Appendicular / limbs	5Hrs
	Vertebrae	2Hrs
	Sacrum and coccyx	1Hr
	Pelvic bones and muscles	5Hrs
	Sternum and ribs	2Hrs
	Bones of orbit	2Hrs
	Temporal bone	1Hrs
	Bones of skull	1Hr
	Sutures of skull	1Hr
	Paranasal sinuses & face	2Hrs
	Abdominal regions	5Hrs
	Solid and visceral organs of abdomen	10Hrs
	Hepatobiliary system	5Hrs

Details of Curriculum for First Year
Diploma in Radiological Intervention Technician course

PAPER 1st Theory	Topics	Hours.
1. Anatomy & Radiological Anatomy.	Digestive system	5Hrs
	Mesentery and bowel	5Hrs
	The urinary system – KUB	5Hrs
	Mediastinum	5Hrs
	Heart and aorta	5Hrs
	Neck and larynx	5Hrs
	Respiratory system including pleura, bronchioles lung lobes & segment	5Hrs
	Reproductive system	5Hrs
	Nervous system with focus on brain cord Meanings, ventricles, gray/white matter	5Hrs
	Organs of Special senses – tongue, nose, eye ear	5Hrs
	Axial, coronal and sagittal sections of Abdomen	5Hrs
	Axial, coronal and sagittal sections of Orbit/Eye	5Hrs
	Axial, coronal and sagittal sections of Thorax	5Hrs
	Axial, coronal and sagittal sections of Pelvis	5Hrs
	Axial, coronal and sagittal sections of Neck	5Hrs
	Axial, coronal and sagittal sections of Scrotum	5Hrs
	Axial, coronal and sagittal sections of Breast	5Hrs
	Axial, coronal and sagittal sections of Foetus	5Hrs
	Axial, coronal and sagittal sections of HEPATOBILIARY SYSTEM	5Hrs
	Axial, coronal and sagittal sections of KUB	5Hrs
	Axial, coronal and sagittal sections of BRAIN	5Hrs
	Axial, coronal and sagittal sections of ORBIT	5Hrs
	Axial, coronal and sagittal sections of PELVIS	5Hrs
	Axial, coronal and sagittal sections of NECK	5Hrs
	Axial, coronal and sagittal sections of THORAX	5Hrs
	Axial, axial coronal and sagittal sections of ABDOMEN	5Hrs
	Axial, coronal and sagittal sections of BREAST	5Hrs
	Axial, coronal and sagittal sections of LIMBS	5Hrs
	Axial, coronal and sagittal sections of HEPATOBILIARY SYSTEM	5Hrs
	Axial, coronal and sagittal sections of KUB	5Hrs

Details of Curriculum for First Year
Diploma in Radiological Intervention Technician course

PAPER 2nd Theory	Topics	Hours.
1. Radiological Physics.	Introduction of physics	5Hrs
	Radiologic Physics	5Hrs
	Electromagnetic radiation	5Hrs
	Neil's Bohr Atomic Model	5Hrs
	Atomic number	5Hrs
	Mass number	5Hrs
	lostopes	5Hrs
	Valency	5Hrs
	lionization	5Hrs
	Discovery of X-ray	5Hrs
	Discovery of USG	5Hrs
	History of CT, MRI, USG and DSA	5Hrs
	Piezoelectric crystals	5Hrs
	Nature of Ultrasound and X ray beam	5Hrs
	Wave length and Frequency of sound	5Hrs
	Artifacts	5Hrs
	USG, CT, MRI & DSA machine, Parts, Controls.	5Hrs
	Medico legal Aspects	5Hrs
	Report generation	5Hrs
	Basics of USG Physics	5Hrs
	Basics of CT Physics	5Hrs
	Basics of MRI Physics	5Hrs
	Contrast Types	5Hrs
	Contrast Route	5Hrs
	Contrast Dose	5Hrs
	Indications for Contrast	5Hrs

Details of Curriculum for First Year
Diploma in Radiological Intervention Technician course

PAPER 2nd Theory	Topics	Hours.
1. Radiological Physics.	Biopsy needles	2Hrs
	Catheters	2Hrs
	Biopsy guns	2Hrs
	Drainage tubes	2Hrs
	Drugs	2Hrs
	Dressing materials	2Hrs
	Markers	2Hrs
	Measuring instruments	2Hrs
	Specimen collection vials	2Hrs
	Hazards	2Hrs
	Prevention	2Hrs
	Protection	2Hrs
	Indications and contraindications	2Hrs
	Types	2Hrs
	Routes	2Hrs
	Reaction and its management	2Hrs

Curriculum
for
Practical :- First Year
Diploma in Radiological Intervention Technician

	Topics
Practical	Patient prerequisites, previous reports
	Patient positioning
	Patient consent
	Part preparation
	History
	Indication &Contraindication of Procedure
	Contrast reaction management with IV fluid O_2, steroids etc
	Assisting in Procedure

Details of Curriculum for Second Year
Diploma in Radiological Intervention Technician course

PAPER 1st Theory	Topics	Hours.
1. Conditions requiring intervention.	Renal biopsy	10Hrs
	Abscess drainage	10Hrs
	FNAC	10Hrs
	Pleural tap	10Hrs
	Pericardiocentesis	10Hrs
	PCN (Per cutaneous Nephrostomy)/ PTBD (Percutaneous trans hepatic biliary drainage)	10Hrs
	Amniocentesis	10Hrs
	Ascitic tap	5Hrs
	Lung/Liver mass biopsy	10Hrs
	Retroperitoneal mass biopsy	5Hrs
	TRUS biopsy	5Hrs
	Image guided drainage of different Visceral abscess.	10Hrs
	Image guided biopsies.	10Hrs
	Image guided liver abscess drainage.	10Hrs
	Image guided sampling	10Hrs
	Image guided coiling of Aneurysms/AV malformations	20Hrs

Details of Curriculum for Second Year
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PAPER 1I[nd] Theory	Topics	Hours.
1. CT, MRI, USG, DSA guided procedures.	USG Guided pleural tap/ ascetic tap	10Hrs
	USG Guided FNAC / Biopsy	10Hrs
	Other special USGProcedures& common Interventions {PCN (Per cutaneous Nephrostomy)/ PTBD (Percutaneous trans hepatic biliary drainage)}	10Hrs
	USG guided Liver abscess drainage/pig tail insertion	10Hrs
	TRUS biopsy	10Hrs
	CT guided Biopsies	10Hrs
	CT guided FNAC	10Hrs
	CT guided Drill biopsy	10Hrs
	CT guided ascetic/pleural taps (Drainages)	10Hrs
	MRI compatible instruments (Non-magnetic/ Titanium)	10Hrs
	MRI guided biopsies	10Hrs
	MRI guided FNAC	10Hrs
	MRI guided drainage and endoluminal and vascular interventions	10Hrs
	DSA assisted Stent insertion	10Hrs
	DSA assisted thrombectomy	10Hrs
	DSA assisted angioplasty	10Hrs
	DSA assisted thrombolytic	10Hrs

Curriculum
for
Practical :- Second Year
Diploma in Radiological Intervention Technician

	Topics
Practical	Assisting USG Procedure
	Patient History Taking
	Consent
	Preparing Instruments
	Managing a case of contrast reaction
	Assisting MRI Procedure
	Assisting CT Procedure
	Assisting DSA Procedure