PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED TO BE UNIVERSITY)
Loni, Tal. Rahata, Dist. Ahmednagar 413736
NAAC Re-accrediated with 'A' Grade

SYLLABUS
PG Programme- MD (RADIODIGNOSIS)
(As per MCI Regulations Governing PG Programme 2000 Amended up to May, 2018)

I. PREAMBLE:

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

The Goal of this program is to impart training in conventional and modern radiology and imaging techniques so that the post graduate student becomes well versed and competent to practice, teach and conduct research in the discipline of radiology. The student should also acquire basic knowledge in the various sub-specialities of radiology. These Guidelines also would also help to standardize Radiodiagnosis teaching at post graduate diploma (DMRD) level throughout the country so that it will benefit in achieving competent radiologist with appropriate expertise.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies".

II. SPECIFIC LEARNING OBJECTIVES

The objective of the program is to train a student to become a skilled and competent radiologist to conduct and interpret various diagnostic/interventional imaging studies (both conventional and advanced imaging), to organize and conduct research and teaching activities and be well versed with medical ethics and legal aspects of imaging/ intervention.

III. SUBJECT SPECIFIC COMPETENCIES

A. Cognitive Domain

A post graduate student on completing MD (Radiodiagnosis) should acquire knowledge in the following areas, and be able to:

1. Acquire good basic knowledge in the various sub-specialties of radiology such as chest radiology, neuro-radiology, GI-radiology, uro-radiology, cardio-vascular-

radiology, musculoskeletal, interventional radiology, emergency radiology, pediatric radiology and women's imaging.

2. Independently conduct and interpret all routine and special radiologic and imaging investigations.
3. provide radiological services in acute emergency and trauma including its medico-legal aspects.
4. Elicit indications, diagnostic features and limitation of applications of ultrasonography, CT and MRI and should be able to describe proper cost-effective algorithm of various imaging techniques in a given problem setting.
5. Decide on the various image-guided interventional procedures to be done for diagnosis and therapeutic management.
6. Able to decide on further specialization to be undertaken in any of the branches in Radiodiagnosis such as gastrointestinal radiology, uro-radiology, neuro-radiology, vascular radiology, musculoskeletal radiology, interventional radiology etc.
7. Able to formulate basic research protocols and carry out research in the field of radiology- related clinical problems.
8. Acquire knowledge and teaching capabilities to work as a post graduate student /consultant in Radiodiagnosis and conduct teaching programmes for undergraduates, post graduates as well as paramedical and technical personnel.
9. interact with other specialists and super-specialists so that maximum benefit accrues to the patient.
10. Should be able to organize CME activities in the specialty utilizing modern methods of teaching and evaluation.
11. Acquire knowledge to impart training in both conventional radiology and modern imaging techniques so that the post graduate student is fully competent to practice, teach and do research in the broad discipline of radiology including ultrasound, Computed Tomography and Magnetic Resonance Imaging.
12. Acquire knowledge of interventional radiology.

B. Affective Domain:

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

C. Psychomotor domain

Practical Training will include two major aspects:

A) Interpretation of images, and
B) Skill in performing a procedure.

A) Interpretation of images:

The student should be able to interpret images on all imaging modalities of diseases of following organs :

1. **Musculo-skeletal System -** Interpretation of diseases of muscles, soft tissue, bones and joints including congenital, inflammatory, traumatic, endocrine and metabolic, neoplastic and miscellaneous conditions.
2. **Respiratory System -** Interpretation of diseases of the chest wall, diaphragm, pleura and airway; pulmonary infections, pulmonary vasculature; pulmonary neoplasm; diffuse lung disease; mediastinal disease, chest trauma; post-operative lung and X-ray in intensive care.
3. **Cardiovascular System** - Interpretation of diseases and disorders of cardiovascular system (congenital and acquired conditions) and the role of imaging by conventional radiology, ultrasound, colour Doppler, CT, MRI, Angiography and Isotopes Studies.
4. **Gastro-intestinal tract and hepato-biliary pancreatic system** - Interpretation of diseases and disorders of mouth, pharynx, salivary glands, esophagus, stomach, small intestine, large intestine, diseases of omentum, peritoneum and mesentery: acute abdomen, abdominal trauma. Diseases and disorders of liver, biliary system and pancreas**.**
5. **Urogenital System** - Interpretation of various diseases and disorders of genitor-urinary system. These include: congenital, inflammatory, traumatic, neoplastic, calculus disease and miscellaneous conditions.
6. **Central Nervous System (C.N.S.) -** Interpretation of diseases and disorders of the head, neck and spine covering, congenital, infective, vascular, traumatic neoplastic degeneration metabolic and miscellaneous condition.
7. Imaging in Emergency Medicine.
8. Imaging in Obstetrics and Gynecology.
9. Imaging of Breast and interventional procedures.
10. ENT, EYE and Dental Imaging**.**
11. Imaging of endocrine glands and those involved with metabolic diseases.
12. Clinical applied radionuclide imaging.
13. Interventional Radiology

B) Skills in performing a procedure
The student should be able to perform the following procedures:

1. **GIT contrast studies:** Barium studies (swallow, upper GI, Follow through, enema); fistulogram; sialogram; cologram/ileostogram,
2. **GU:** Excretory urography, MCU, RGU, nephrostogram, genitogram,
3. **Ultrasound:** Studies of whole body including neonatal transfontanell studies, Doppler studies,
4. **CT scan:** should be able to position a patient, plan study as per the clinical indication, do reconstruction of images, perform triple phase study, perform & interpret advanced applications like CT enterography, CT angiography etc.
5. **MRI:** plan and perform MRI studies of whole body
6. **DSA:** should be able to describe the techniques, do (if available to student) transfemoral puncture and insert catheter, help in angiographic procedures both diagnostic and interventional.
7. **Radiography:** should be able to independently do radiography of common and some important uncommon views of different body parts. This includes positioning, centering of X ray beam, setting of exposure parameters, exposing

and developing the films. The student should be familiar with not only conventional radiography but with CR and DR systems.

8. **Interventional radiology:** The student should be able to perform simple, common non- vascular procedures under ultrasound and fluoroscopy guidance e.g. abscess drainage, drainage catheter placement, nephrostomy, biliary drainage etc. The student should have knowledge of common vascular interventions e.g stricture dilatation using balloon catheters, embolization with gel foam and other agents, names of common catheters, handling of intravenous contrast reactions; techniques, indications and contraindications for various procedures;

IV. Syllabus

Course contents:

Anatomy
Gross and cross sectional anatomy of all the body systems.

Pathology
Gross morphology of pathological conditions of systemic diseases affecting all organ systems.

Radiology Course
This would cover imaging and interventions of diseases affecting all the body systems:

- Chest
- Cardiovascular system
- Musculoskeletal including soft tissue
- Gastrointestinal system
- Hepato-biliary-pancreatic system
- Urogenital (genito-urinary) system
- CNS including head and neck
- Obstetrics and gynaecology
- ENT, eye, dental, breast
- Endocrine and metabolic system
- Clinically applied radionuclide imaging

Radiological Physics

1. Introduction of general properties of radiation and matter: Fundamentals of nuclear physics and radioactivity
2. Interaction of x-rays and gamma rays with matter and their effects on irradiated materials
3. X-ray Generating Apparatus
4. Screen-film radiography
5. Film processing: Dark room, dry processing, laser /dry chemistry cameras, artifacts.
6. Fluoroscopy: Digital including flat panel units, fluoroscopy cum radiography units
7. Digital radiography: Computed Radiography, Flat panel radiography
8. Other equipments: Ultrasound including Doppler, CT, MRI and DSA
9. Contrast Media (Iodinated, MR & Ultrasound) - types, chemical composition, mechanism of action, dose schedule, route of administration, adverse reaction and their management
10. Nuclear Medicine: Equipments and isotopes in various organ systems and recent advances

11. Picture Archiving and Communication System (PACS) and Radiology Information System (RIS) to make a film-less department and for Teleradiology
12. Radiation protection, dosimetry and radiation biology
13. Image quality and Quality Assurance (QA)
14. Recent advances in radiology and imaging

The student should have knowledge of the following physics experiments:

- Check accuracy of kVp and timer of an X ray unit
- Check accuracy of congruence of optical radiation field
- Check perpendicularity of x ray beam
- Determine focal spot size
- Check linearity of timer of x ray unit
- Check linearity of mA
- Verification of inverse square law for radiation
- Check film screen contact
- Check film screen resolution
- Determine total filtration of an x ray unit
- Processor quality assurance test
- Radiological protection survey of an x ray unit
- Check compatibility of safe light
- Check performance of view box
- Effect of kVp on x ray output

Radiography and processing techniques

1. Processing techniques: includes dark room and dry processing.
2. Radiography of the musculo-skeletal system including extremities.
3. Radiography of the chest, spine, abdomen and pelvic girdle.
4. Radiography of the skull, orbit, sinuses.
5. Contrast techniques and interpretation of GI tract, hepato-biliary tract, pancreas etc.
6. Contrast techniques and interpretation of the Central Nervous system.
7. Contrast techniques and interpretation of the cardiovascular system including chest.
8. Contrast techniques and interpretation of the genito - urinary system including Obstetrics and Gynaecology.
9. Paediatric radiology including MCU, genitogram, bone age.
10. Dental, portable and emergency (casualty) radiography.

V. TEACHING AND LEARNING METHODS

The training is spread over 3 years and includes following components:

1. Physics related to imaging
2. Rotational posting in various sub-specialties.
3. Seminars, case discussion, journal club**.**
4. Research methodology and statistics.
5. A log book should be maintained by the student and will be checked and signed regularly by the faculty-in-charge during the training program.
6. The postgraduate students shall be required to participate in the teaching and training program of undergraduate students and interns.

7. The postgraduate student would be required to present one poster presentation, to read one paper at a national/state conference and to submit one research paper which should be published or accepted for publication or sent for publication to a peer reviewed journal, during the period of his/her postgraduate studies so as to make him/her eligible to appear at the postgraduate degree examination.
8. Department should encourage e-learning activities.

Rotations:

During the three-year course, suggested rotations are as follows:-

1	Conventional chest, abdomen, musculoskeletal including skull, spine, PNS and mammography etc	8 months
2	Contrast studies: G.U., GIT, Hepato-biliary, angiography etc including fluoroscopic guided interventions	8 months
3	US, Doppler and US guided interventions	8 months
4	CT and CT guided interventions	6 months
5	Emergency radiology	2 months
6	M.R.I.	2 months
7	Elective posting	2 months

During each posting, post graduate student should be able to perform the procedures and interpret the findings.

PROPOSED SCHEDULE FOR ROTATION

1ST Year (1/6)	Conventional Chest & abdomen	Conventional skull, spine, musculo-skeletal etc.	US	Contrast studies - GIT & other fluoroscopic investigations	Contrast studies - G.U. tract	US
(2/6)	US & interventions	Conventional skull, spine, musculo-skeletal etc.	CT	Contrast studies -- GIT & other fluoroscopic investigations	Contrast studies - G.U. tract	US & interve-ntions
2nd Year (3/6)	Conventional Chest & abdomen	Contrast studies - GIT & other fluoroscopic investigations including angiography	Contrast studies - G.U. tract	US & interventions	Emergency	CT
(4/6)	Conventional skull, spine, musculo-skeletal etc.	Contrast studies - G.U. tract including pediatric MCU/genito-gram	US & interven-tions	US & Doppler	Emergency	MRI

3rd year (5/6)	Conventional Chest & mammo-graphy	Contrast studies - GIT & other fluoroscopic investigations including angiography	US & Doppler	Emergency	CT & inter-ventions	Elective
(6/6)	Conventional musculo-skeletal & mammo-graphy	Contrast studies - G.U. tract including pediatric MCU/genito-gram	CT& inter-ventions	CT & inter-ventions	MRI	Elective

During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently. For this purpose, provision of skills laboratories in medical colleges is mandatory.

VI. ASSESSMENT

FORMATIVE ASSESSMENT, during the training programme

Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

General Principles
Internal Assessment should be frequent, cover all domains of learning and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and practical/clinical examination.

Quarterly assessment during the MD training should be based on:

1. **Journal based / recent advances learning**
2. **Patient based /Laboratory or Skill based learning**
3. **Self directed learning and teaching**
4. **Departmental and interdepartmental learning activity**
5. **External and Outreach Activities / CMEs**

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).

SUMMATIVE ASSESSMENT, i.e., assessment at the end of training

The summative examination would be carried out as per the Rules given in **POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.**

Postgraduate Examination

The Post Graduate Examination was conducted in three parts.

1. Thesis:

Every post graduate student shall carry out work on an assigned research project under the guidance of a recognized Post Graduate Teacher, the result of which shall be written up and submitted in the form of a Thesis (Dissertation). Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the post graduate student to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature.

Thesis shall be submitted at least six months before the Theory and Clinical /Practical examination. The thesis shall be examined by a minimum of two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. Theory Examination

The examinations shall be organized on the basis of 'Grading' or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D. shall be held at the end of 3rd academic year. An academic term shall mean six month's training period**.**

There shall be four theory papers:

Paper I: Basic sciences related to Radiology (consists of Anatomy, Pathology, Basic and Radiation Physics, Imaging Techniques, and Film processing).

Paper II: Chest, CVS, CNS including Head & Neck, Eye, ENT, musculo-skeletal, pediatric radiology and Mammography.

Paper III: Abdominal Imaging including GI, GU, Hepatobiliary, endocrine and metabolic, Obstetrics and Gynaecology and Interventional radiology

Paper IV: Recent advances, nuclear medicine; Radiology related to clinical specialties

All papers would consist of short answer questions (minimum 10) covering all aspects of the course.

3. Practical/clinical and oral Examination (will include cases, spots, ultrasound procedure, physics, implements etc)

Practical Examination will have:

- 3-4 Cases
- Film Quiz (50 – 60 Spots)
- To perform Ultrasound on a patient

Oral/Viva voce will include:

- Radiation Physics and quality assurance
- Implements, Catheters and contrast
- Cassettes, films, dark room, equipment
- Radiographic techniques, Radiological procedures,
- Gross pathology

VII. MANDATORY COMPLIANCE

1	The Model Weekly Time Table for Teaching learning activities is enclosed as	**:**	**Annexure – I**
2	Mandatory compliance of a PG student in T.L. process and CIA during the three year of study are given in	**:**	**Annexure – II**
3	The units for Quarterly assessment for CIA is given in	**:**	**Annexure – III**
4	Post Graduate student Quarterly Appraisal form for CIA is enclosed as	**:**	**Annexure – IV**
5	Mandatory Requirements to be eligible to appear for the University Summative Evaluation Examination is given in	**:**	**Annexure – V**
6	The Proforma of the Certificate on Attendance, Training Completion, Publication and Presentation Research / Poster / oral submission of Dissertation and present of all theory practical fee to be duly filled in and duly signed by PG Guide HOD, Finance Officer, Dean of faculty an HOI to be submitted to university COE before the issue of Hall Ticket for final exam is given us	**:**	**Annexure – VI**
7	The model QP pattern of paper I/II/III/IV, each of 100 marks and of 3 hours duration is enclosed as	**:**	**Annexure – VII**
8	The model Blue print for setting of Question papers and proper verbs/ phrases to be used in QP setting is given in	**:**	**Annexure – VIII**
9	The model marks list for practical and Vivavoce for PG medical MD/MS/ examination is enclosed as**.**	**:**	**Annexure – IX**

VIII. RECOMMENDED READING:

Books (latest edition)

1. Grainger & Allison's Text book of Diganostic Radiology (Churchill Livingstone)
2. Textbook of Gastrontestinal Radiology- Gore and Levine (Saunders)
3. MRI of Brain and Spine - Scott Atlas (LWW)
4. Diagnosis of Diseases of the Chest -Fraser
5. Diagnostic Imaging Series: (Amirsys, Elsevier)
6. Abdominal Imaging, Orthopedics, Head and Neck, Neuroradiology, Pediatric Radiology Chest, Obstetrics, Breast
7. MRI in Orthopedics and Sport Injuries - Stoller
8. Skeletal Radiology - Greenspan
9. Abdominal-Pelvic MRI - Semelka (lWW)
10. Caffey's Pediatric Radiology
11. CTI and MRI of the whole body- John R. Haaga
12. Text Book of Radiology and imaging - Davod sulton
13. Diagnostic ultrasound - Carol C. Rumack
14. AIIMS-MAMC-PGI's Comprehensive Textbook of Diagnostic Radiology, Volumes 1, 2, 3

Journals

03-05 international Journals and 02 national (all indexed) journals

1. ~~1.~~ American Journal of Roentgenology
2. ~~2.~~ Radiology
3. ~~3.~~ Seminars in Ultrasound, CT, MRI
4. ~~4.~~ Radiographics
5. ~~5.~~ Clinical Radiology
6. ~~6.~~ British Journal of Radiology
7. ~~7.~~ Radiological Clinics of North America
8. ~~8.~~ Pediatric Radiology
9. ~~9.~~ Australasian Radiology
10. ~~10.~~ Journal of Computerized Axial Tomography
11. ~~11.~~ Clinical Imaging
12. ~~12.~~ MR Clinics of North America
13. ~~13.~~ Seminars in Roentgenology

Annexure - I

P.G. Teaching Time Table – Model

Clinical postings (OPD – IPD Duties Ward Rounds, Casualty posting, ICU posting, posting to support Departments like Radiology, Anesthesia CCL , Pathology, FMT, Postings to field work and PHCs Camps and other postings as per provisions of MCI, are mandatory on all week Day as per posting.

Day of the week	Time 03 to 5 PM
Monday	Journal Club
Tuesday	Case presentation / Micro Clinic- Patient based Training
Wednesday	Seminar / GD / Panel Discussion
Thursday	Lecture by Faculty on select Topics
Friday	Clinical Meet / CPC / CME
Saturday	Guest Lecture by Experts / Skill Lab or Simulation Lab
Sunday (Select ones)	Medical Camps / Blood Donation Camp / Other types of Camps

Note

1. The Dept may select suitable days for a particular task assigned. But all of 7 tasks per week are a must
2. All the PG Teachers, PG students must attend these PG TLE Activities.

3. Attendance for these activities shall be maintained at the Department and Institutions. Implementation of the MCI Regulations, Syllabus and Time Table is the responsibility of HOD / HOI.

HOD HOI DEAN OF FACULTY REGISTRAR

Annexure – II

Mandatory Compliance of a PG student in Teaching – Learning Activities
As per MCI Regulations Syllabus and Advisory

Sr. No.		Activities to be carried at by a PG student	Number per Ist year (Minimum)	Number Per IInd Year (Minimum)	Number per IIIrd year (Minimum)	Total Number (Minimum) For 3 years
1		Presentation of Journal Articles in Journal club	12	12	6	30
2	a	Case Presentation / Clinic	4	8	8	20
	b	Skill Lab & Simulation	4	4	4	12
3	a	Presentation of Seminars	4	4	4	12
	b	Leading a Group Discussion on a select Topic	4	4	4	12
	c	Assignment submission	4	4	4	12
4	a	Lectures / Tutorials to UG students /panel Discussion	4	4	4	12
	b	Clinical meeting CMC/ CPC	12	12	12	36
	c	BLS	1	--	--	1
	d	ACLS	1	--	--	1
5		Medical Camps Health Checkup at Villages / Schools/ Blood Donation / etc.	6	6	6	18
6	a	Orientation Programme	1	1	1	3
	b	Research Methodology Workshop	1	--	--	1
	C	Presentation of synopsis of the Thesis / Dissertation	1	--	--	1
	d	Presentation of Mid Term work of Thesis / Dissertation	--	1	--	1
	e	Presentation of final Draft of Dissertation / Thesis	--	--	1	1
	f	Presentation of Research Article	--	0 or 1	0 or 1	1
	g	Publication of an Article	--	0 or 1	0 or 1	1 or 2
7		LOG Book	1 (a)	1 (b)	1 (c)	1 a+b+c
8		CIA	4	4	4	12
9		Any other Activity Specified by Dept.				

Note :- 1. The Department may conduct periodic preparatory tests in Theory / Practical/Clinicals and Vivavoce. Quiz and MCQ test may to be adopted

2. The 12th CIA may also include a preparation examination on the model of university examination as a training cum assessment

HOD HOI DEAN OF FACULTY REGISTRAR

Annexure – III

Units of Quarterly Assessment of Every student (Internal)

Formative Assessment – Quarterly Assessment (Total 12 CIAs)

As per Annexure III.

1. **Journal Based / Recent Advances learning**
   (Bases on Journal Clubs / Select Article Presentation , Review Article preparation and presentation)
2. **Patient Based and Laboratory Based and skill Based learning**
   (Based on clinical Posting – OPD / IPD Ward Rounds/ casualty/ Case Examination/ presentation /Diagnosis / Interpretation /of Clinical Diagnostics/ Differential Diagnosis, Prognosis/ Morbidity/ Mortality/ Community Medicine/ Promotion/ prevention/ Control/ Prophylaxis/ Epidemiology/ Simulation Studies/ Skill Based Studies and so on)
3. **Self Directed Learning and Teaching**
   (Seminars Panel Discussion Group Discussion, Assignments, Case studies, Preparation of Charts and Models etc. , Role Play, Debates, Moot courts, etc)
4. **Departmental and Inter Departmental Learning Activities.**
   (Participation in UG/PG teaching / Horizontal and Vertical Integrated Lectures, Clinical meeting / CPC / CME)
5. **External and out research Activities**
   (Participation in Camps, Posting and Visit to PHCs, Satellite clinics, Mobile Clinics, Health checkup Camps, Blood Donation Camps, Immunization Camps school Visits. Crisis / Disaster Management, Celebration of Commemorative Days and soon)
6. Thesis / Dissertation Research Work related to selected Topic
7. a) Log Book maintenance/ Portfolio management - To maintain LOG Book or portfolio management of all the TL Activities
   b) Presentation / Publications of Research Article

No.		Particulars	Minimum for 3 months
1		Journal based Recent Advance Learning- Presentation of select Article in Journal clubs	3
2	a	Patient Based laboratory or Skill based learning- Case presentation / Clinic	1 (1st year) 2 (2nd & 3rd year)
	b	Skill Lab / Simulation Lab Work	1
3	a	Self Directed Learning & Teaching- Presentation of Seminar	1
	b	Leading a Group Discussion on select Topic in GD	1
	c	Assignment Submission	1
4	a	Lecture / Tutorials / Panel Discussions with UG students	1
	b	Clinical Meetings (CME's) CPC/Dept. meeting	3
5		Medical Camps	1
6		Dissertation Work Research methodology workshop	Yes / No
7		Log Book & Attendance	Yes / No
8		Any other Activity Prescribed (T/P/Viva)	Yes / No

HOD HOI DEAN OF FACULTY REGISTRAR

Annexure IV

Postgraduate Students Appraisal Form
Pre / Para /Clinical Disciplines – MD/MS Degree

Name of the Department/Unit : Roll No.:
Name of the PG Student :
Period of Training : FROM……TO……
Quarterly Assessment (1/2/3/4/5/6/7/8/9/10/11/12)

Sr. No.	PARTICULARS	Not Satisfactory			Satisfactory			More Than Satisfactory			Remarks
		1	2	3	4	5	6	7	8	9	
1.	Journal based / Recent advances learning										
2.	Patient based/Laboratory or Skill based learning										
3.	Self-directed learning and teaching										
4.	Departmental and interdepartmental learning activity										
5.	External and Outreach Activities / CMEs										
6.	Thesis / Research work										
7.	Log Book Maintenance										
8.	Performance in Theory/Practical/Viva voce Tests										
	Overall Assessment										

- **Publications of Research Article Yes/ No**
- **Presentation of Research Article**
- **The student has complied with mandatory requirement for quarterly assessment & presentation of Research Profile Yes/No**

Remarks*_____
_____
_____

***REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.**

SIGNATURE OF ASSESSEE **SIGNATURE OF HOD**

HEAD OF THE INSTITUTION

Annexure - V

Mandatory Requirements to be eligible to eligible to appear for university Summative Examination / Evaluation – As per MCI Regulations.

(As per MCI Medical Education Regulation 2000, amended from time to time till date)

1. Minimum percent of Attence as per MCI Regulations.
2. Satisfactory performance in 12 CIA conducted and certified by HOD HOI and PG Guide.
3. Certificate from F.O. stating that all the fees due from the student are paid and credited to PIMS-DU A/.c
4. Presentation of a Research Article / Poster in a national / state level conference /Seminar / Workshop.
5. Publication of a Research Articles as first – author in (indexed in supus or web of science or as fixe by MCI Regulations and visited by UGC (ARE list).
6. a) Thesis – Finalisation of Topic and Title – submission of Synopsis following IEC clearance within 6 months of Adm. Topics
   b) After II year of a Admission or 3 terms Midterm Review .
   c) Thesis to be submitted at least 6 months before final examination.
   d)Thesis to be examined by 3 Examiners. (1 Internal and 2 External PG Examiners)
   e) Its Acceptance is a must for appearing for University T & P Exam

Note :- HOD & HOI shall ensure provisions of 1,2,3,4,5,6 a,b,c. The COE shall ensure provisions of 1,2,3,4,5,6 a,b,c ,d,e & e as per MCI Regulations

HEAD OF DEPARTMENT HEAD OF INSTITUTION DEAN OF FACULTY REGISTRAR

Annexure - VI

Ref. No. Date: _____

Complaince to MCI's Regulations Governing Post Graduate Programme in Medical Faculty

Department of _____ PG Programme: MD/ MS in _____

Name of Candidate: _____, JR-III

PRN No. _____ Date of Admission _____

Certification on
Attendance and Training Completion
Publication & Presentation of Research Articles (Poster/ Oral)
Submission of Dissertation & Payment of All types of prescribed fees

It is hereby certified that the said candidate JR-III in the Dept. of _____ at Rural Medical College has completed 6 academic terms/ 3 academic years and fulfilled the prevailing provisions of the MCI Regulations governing MD/MS PG programmes and the rules of PMT, PIMS-DU. Details are as under.

1.	**Attendance Fulfillment ***	**% Attendance**	**Remark – Eligibility**
	I Academic Term		
	II Academic Term		
	III Academic Term		
	IV Academic Term		
	V Academic Term		
	VI Academic Term		
	Overall fulfillment		Fulfilled / Not Fulfilled
	* Fulfillment of a minimum of 80% of attendance/ academic term, for 6 terms/ 3 years including imparted training, assignment, fulltime responsibilities and participation in all facets of PG education process including periodic assessment and so on as per MCI Regulations.		
2.	Log Book maintained as per MCI Regulations & Fulfilled the graded responsibilities in the management and treatment of patients entrusted for their care Verified by Dr. _____ Certified by Dr. _____		Yes/ No
3.	Successful participation in teaching and training programmes organized by the department for UG and Interns		
4.	Presented and Participated in Seminars, Journal Clubs, Case Presentations, Group Discussions, Clinical Meetings, CME Ward Round, CPC, Practicals organized by the Department as per the timetable.		
5.	Participated in training sessions in diagnostics, medical/ surgical training, in basic/ applied medical and allied clinical specialties and Medical Camps as per the timetable		
6.	The Performance of the PG students in 12 CIAs (Conducted quarterly) are		

	satisfactory as per appraisal proforma as per MCI Regulations.	
7.	Presented one research poster and one research article (oral) in a Seminar/ Symposia/ Workshop/ Conference (National/State). The certificates for presentation of paper/ poster are enclosed.	
8.	Published one research article in a scientific journal as per norms. The copy of the published research article is enclosed.	
9.	Submitted a Dissertation entitled _____ _____ _____ _____ under the guidance of Dr. _____	
10.	Paid all the fees (tution fees and other fees) vide receipt No._____ for all 3 years.	
11.	Produced NOC from all the sections of PMT PIMS-DU concerned about "NO DUES"	
12.	Paid Examination fees of Rs. _____ vide Challan/ Receipt No. _____ dated _____ issued by Finance Officer PIMS-DU.	

It is hereby declared that the all the duly certified and verified documents, related to the aspects mentioned above, are in the custody of department concerned and student section of Rural Medical College with due authentication and signature of concerned HOD/ Dean/ Principal/ Dean of Faculty) and will be made available for any MCI inspection as per norms and Regulations.
Accordingly He/She is eligible/ not eligible for appearing in final year PG examination as per the MCI Regulations governing PG Programmes.

PG Guide
Dr. _____

Seal

Head of the Department
Dr. _____

Verified and certified that all types of prescribed fees and fines PMT, PIMS-DU, College, Hostel & Others mentioned at sl.no. 10, 11, 12 are paid by the student and credited to the accounts of PMT & PIMS-DU.

Seal

Finance Officer
PIMS-DU

Verified the relevant documents and certify that the candidate is eligible to appear for final year PG Examination as per MCI Regulations and rules of PIMS-DU.

Dean
Faculty of Medicine

Seal

Dean
Rural Medical College

Ref_____ **For Officer Use Only** Date: _____

The HOD, HOI and Dean have certified that the

a. Candidate is eligible to appear for PG Theory and Practical/ Clinical Examination as per MCI Regulations. F.O. has certified that all the fees has been credited to PMT, PIMS-DU Accounts.
b. The Dissertation submitted has been evaluated by external examiners and then have approved the same for acceptance as per MCI Regulations.
c. Hence the candidate be permitted to appear for the PG examinations (Theory & Practical/ Clinical) scheduled in the month of _____ year _____.

Controller of Examinations

Seal

Submitted for perusal and approval

Vice Chancellor

Annexure – VII

PRAVARA INSTITUTE OF MEDICAL SCIENCES
(Deemed to be University)

Post Graduate Degree in Radiodignosis (MD)

Examination _____ 20__

Paper – I/ II/ II/ IV

Paper Title : _____ Date: / /20

Marks : 100 Time:

Instructions to candidate:

1) All questions are compulsory
2) Answer written in illegible handwriting will not be assessed.
3) Write answers on both sides of answer paper.
4) Neat diagrams must be drawn wherever necessary.
5) Write prescription where indicated, and in the use of drugs their doses should be given.

Que. 1 Marks 20

Que. 2 Marks 20

Que. 3 Write Short notes on Marks 60 (10x6)

a

b

c

d

e

f

Annexure – VIII

Table 1: Showing BLUEPRINTING for theory paper setting

The number of Questions & their distribution of marks shall be as per MCI model Question Paper [only Illustration]

LAQ/ SAQ and their Marks

LEVEL	Q Mark	Q Mark	Q Mark	Q Mark	Q Mark	Q Mark	Q Mark	Total
Knowledge								
Comprehension								
Application								
Analysis								
synthesis								
Evaluation								
TOTAL								**1000**

The Questions (Whether LAQ or SAQ) Must aim at assessing all the 6 domains

Note: This is only an illustration. Actual Number of Questions and their distribution of marks shall be as per model Question Paper of MCI. (i.e. regarding the number of LAQ / SAQ and their marks distribution)

Table 2: Showing appropriate verbs suitable to level of knowledge for theory paper setting

Level	Suggested Verbs
Knowledge	Define, Describe, Draw, Find, Enumerate, Cite, Name, Identify, List, label, Match, Sequence, Write, State
Comprehension	Discuss, Conclude, Articulate, Associate, Estimate, Rearrange, Demonstrate understanding, Explain, Generalize, Identify, Illustrate, Interpret, Review, Summarize
Application	Apply, Choose, Compute, Modify, Solve, Prepare, Produce, Select, Show, Transfer, Use
Analysis	Analyze, Characterize, Classify, Compare, Contrast, Debate, Diagram, Differentiate, Distinguish, Relate, Categorize
Synthesis	Compose, Construct, Create, Verify, Determine, Design, Develop, Integrate, Organize, Plan, Produce, Propose, rewrite
Evaluation	Appraise, Assess, Conclude, Critic, Decide, Evaluate, judge, Justify, Predict, Prioritize, Prove, Rank

Table 3: Showing examples of theory questions

Sr. No.	Type	Explanation	Examples
1	**Long essay question**	✓ Question should pose clinical problem that will require student to apply knowledge along with integration with disciplines ✓ Avoid one liner as question ✓ Question stem should be structured ✓ Marking distribution should be provided ✓ Use of proper verbs from higher domains as given in this document ✓ Avoid recall based questions	
2	**Short notes**	✓ Sample a wider content ✓ Questions should be task oriented ✓ Reasoning questions provide opportunity for testing integration, clinical reasoning and analytical ability of the student	

Table 4: Showing Objective structured clinical examination [OSCE] typical station

Sr. No.	Type of station	Time allotted	Example	Evaluation
1	Procedure			
2	Response			

Annexure – IX

University Examination
Model Marks Sheet
For Practical / Clinical Examination and Viva voce

Duration _____ **Max Mark – 400**

Illustration only

No.	Type of Examination	Marks Allotted	Scored
1	**Long Cases**		
2	**a) Short cases (No. of small cases and Marks for each cases) 1/2/3/4-------- b) Ward Round c) Any other**		
3	**Spotter / OSPE/ Oral / Vivavoce Sub Divisions i) iv) ii) v) iii) vi)**		
	Ground Total	**400**	

PG Examiners		Name	Signature
1	**Chairman Name**		
2	**Internal Examiner**		
3	**External Examiner**		
4	**External Examiner**		

Date:-
Place :-

Note:- 1) The Number of cases, type of cases and type of practical and orals / vivavoce and their distributions of marks shall be as per MCI Regulations / Syllabi.

2) The HOD / Chairman / Co Chairman BOS shall ensure at this proforma is prepared as per the MCI Regulations / Syllabi.

Annexure I

Postgraduate Students Appraisal Form
Pre / Para /Clinical Disciplines

Name of the Department/Unit :

Name of the PG Student:

Period of Training: FROM……TO……

Sr. No.	PARTICULARS	Not Satisfactory			Satisfactory			More Than Satisfactory			Remarks
		1	2	3	4	5	6	7	8	9	
1.	Journal based / recent advances learning										
2.	Patient based /Laboratory or Skill based learning										
3.	Self directed learning and teaching										
4.	Departmental and interdepartmental learning activity										
5.	External and Outreach Activities / CMEs										
6.	Thesis / Research work										
7.	Log Book Maintenance										

Publications Yes/ No

Remarks*_____

_____

_____

*REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE **SIGNATURE OF CONSULTANT** **SIGNATURE OF HOD**

PRAVARA INSTITUTE OF MEDICAL SCIENCES * (Deemed to be University) * Loni - 413736 Tal - Rahata Dist. Ahmednagar (M.S. India)

Registrar
Pravara Institute of Medical Sciences
(Deemed to be University)
Loni - 413736,Tal. Rahata
Dist. Ahmednagar (M.S. India)