

CURRICULUM FOR DM COURSE

IN

NEONATOLOGY

**MAHARASHTRA UNIVERSITY OF HEALTH
SCIENCES
NASHIK**

CURRICULUM FOR DM COURSE IN NEONATOLOGY

Components of curriculum

- Section I. Statement of goals & specification of objectives.
- Section II. Selection & description of course contents (Syllabus)
- Section III. Recommended teaching learning methods and activities
- Section IV. Organization and scheduling of course
- Section V. Evaluation scheme
- Section VI. Recommended books and other learning resource materials.

SECTION I.

STATEMENT OF GOALS & SPECIFICATION OF OBJECTIVES

A. Goal

The goal of DM Neonatology program is to provide specialized training in Neonatology to produce competent super specialists. These specialists will be capable of providing care of the highest order to the newborn infants in the community as well as clinical tertiary care centers. They would subsequently serve as teachers, trainers, researchers and leaders in the field of Neonatology. They shall recognize the health needs of the community and carry out professional obligations ethically and in keeping with the objectives of the National Health Policy.

B. Objectives

After completing the DM Neonatology course the student will be able to recognize the importance of Neonatology in the context of health needs of the community & the national priorities in the health sector. Thus the trainee will be able to

1. Provide primary, secondary, and tertiary care to all newborn infants including intensive care of
the highest standard to the critically sick neonates and very low birth weight infants using advanced therapeutic and supportive modalities and skills. Effectively plan therapeutic, rehabilitative, preventive & promotive measures or strategies.
2. Take rationale decision in the face of ethical dilemmas in perinatal –neonatal diseases.
Demonstrate empathy & humane approach towards patients & their families & exhibit Interpersonal behavior in accordance with social norms & expectations.
3. Exhibit communication skills of high order and demonstrate compassionate attributes in the field of Neonatology.

4. Implement a comprehensive follow up and early intervention program for the “At risk” newborn infants, and plan, counsel and advise rehabilitation of the neurodevelopmentally and physically challenged infants.

5. Analyze neonatal health problem scientifically, taking into account behavioral epidemiology of the perinatal –neonatal morbidity and mortality.
6. Use and maintain the essential neonatal equipment and keep abreast with advances in neonatal care technology.
7. Teach newborn care to medical and nursing students as well as grass root health functionaries and develop learning resource materials for them.
8. Plan and carry out research in neonatal health in clinical, community and laboratory settings. Seek analyze new literature and information on Neonatology, update the concepts, and practice evidence based Neonatology. Demonstrate adequate managerial skills.
9. Have the ability to set up level II and level III Neonatal units independently.
10. Participate in the community programs and at the secondary level of health system and play the assigned role in the national programmes aimed at the health of mothers and their infants.

These super specialists would work as a productive member of the interdisciplinary team consisting of obstetricians, neonatologists, pediatric surgeons, other doctors, nurses and grassroots functionaries providing care to the pregnant mother, the fetus and newborn in any setting of health care system & function as an effective leader of a “Health Team” engaged in Health Care, Research & Training.

SECTION II.

COURSE CONTENT

Since the students are trained with the aim of practicing as independent specialists, this course content will be mainly a guideline. They have to manage all types of cases and situations and seek and provide consultation. The emphasis shall therefore be on the practical management of the problem of the individual cases and the community within the available resources.

A. Basic Sciences

- Basic genetics
- Fetal and neonatal immunology
- Applied anatomy and embryology
- Feto-placental physiology
- Fetal growth
- Neonatal adaptation
- Physiology and Development of Respiratory system
- Physiology and development of Cardiovascular system, developmental defects, physiology and hemodynamics of congenital heart disease.
- Physiology and Development Nervous system
- Physiology and Development of gastrointestinal system
- Physiology and Development of Renal system
- Physiology and Development of Hematopoietic system
- Physiology and Development of Endocrinal system
- Metabolic pathways pertaining to glucose, calcium and magnesium
- Biochemical basis of inborn errors of metabolism
- Electrolyte balance
- Development pharmacology
- Mechanism of disease

B. General Topics

- Research methodology
- Teaching methodology
- Biostatistics
- Epidemiology
- Health economics
- Health Information System
- Ethics in Perinatology / Neonatology
- Medical education
- Computer & Information technology

C. Perinatology

- Perinatal outreach services
- Perinatal and neonatal mortality, morbidity, epidemiology (Perinatal Audit)
- High risk pregnancy & impact on the fetus
- Fetal monitoring
- Intrapartum monitoring and procedures
- Genetic counseling
- Diagnosis and management of fetal diseases
- Fetal intervention
- Fetal origin of adult disease

D. Neonatology

Neonatal resuscitation

Management of normal newborn

Management of LBW, VLBW, ELBW infants

Management of sick neonate

Emergency neonatal care

Thermoregulation

Neonatal transport

Fluid & electrolyte management

Neonatal ventilation

Blood gas and acid base disorders

Neonatal assessment

- Assessment of gestation, neonatal behavior, neonatal reflexes
- Developmental assessment, detection of neuromotor delay, stimulation techniques

Respiratory system

- Neonatal airways: physiology, pathology; management
- Pulmonary diseases: hyaline membrane disease, transient tachypnea, aspiration
Pneumonia, pulmonary air leak syndromes, pulmonary hemorrhage, developmental defects
- Oxygen therapy and its monitoring
- Pulmonary infections
- Miscellaneous pulmonary disorders

Cardiovascular system

- Fetal circulation, transition from fetal to neonatal physiology
- Examination and interpretation of cardiovascular signs and symptoms
- Special tests and procedure (Echocardiography, angiography)
- Diagnosis and management of congenital heart diseases
- Rhythm disturbances
- Hypertension in neonates
- Shock: pathophysiology, monitoring, management

Gastrointestinal system

- Disorders of liver and biliary system
- Bilirubin metabolism
- Neonatal jaundice, Prolonged hyperbilirubinemia, Kernicterus
- Congenital malformations

- Necrotising enterocolitis

Neurology

- Clinical neurological assessment
- EEG, ultrasonography, CT scan
- Neonatal seizures
- Intracranial hemorrhage
- Brain imaging
- Hypoxic ischemic encephalopathy
- Neuro-muscular disorder
- Degenerative diseases
- CNS malformation

Renal system

- Development disorders
- Renal functions
- Fluid and electrolyte management
- Acute renal failure (diagnosis, monitoring, management).

Endocrine and metabolism

- Glucose metabolism, hypoglycemia, hyperglycemia
- Calcium disorders
- Magnesium disorders
- Thyroid disorders
- Adrenal disorders
- Ambiguous genitalia
- Inborn errors of metabolism

Hematology

- Physiology
- Anemia
- Polycythemia
- Bleeding and coagulation disorders
- Rh hemolytic disease
- Blood Component therapy

Nutrition

- Fetal nutrition
- Physiology of lactation
- Lactation management
- Parenteral nutrition
- Vitamins and micronutrients in newborn health
- Human Milk Banking

Surgery and orthopedics

- Diagnosis of neonatal surgical conditions
- Pre and post operative care
- Neonatal anesthesia
- Metabolic changes during anesthesia and surgery
- Orthopedic problems

Neonatal infections

- Intrauterine infections

- Superficial infections
- Diarrhea
- Septicemia
- Meningitis
- Osteomyelitis and arthritis
- Pneumonias
- Perinatal HIV
- Miscellaneous infective disorders & fungal infections

Neonatal ophthalmology

- Development aspects
- Retinopathy of prematurity
- Sequelae of perinatal infections

Neonatal Hearing assessment

Community neonatology

- Vital statistics
- Health system
- Neonatal care priorities
- Care at primary, secondary & tertiary level of care
- Role of different health functionaries
- National programmes
- National Neonatology Forum

Neonatal dermatology

Neonatal Imaging

Developmental assessment and follow up

Organization of neonatal care

Adoption

Recent Advances

Laboratory Medicine

Neonatal procedures

Therapeutic agents

Biomedical equipments, use & maintenance

E. List of Skills

Clinical

- Neonatal examination & anthropometry
- Developmental assessment
- Neonatal resuscitation
- Neonatal ventilation: CPAP, Mechanical ventilation
- Blood sampling: Capillary, venous, arterial
- Insertion of peripheral venous, umbilical venous and umbilical arterial catheters
- Monitoring: invasive, non-invasive
- Enteral feeding (katori-spoon, gavage, breastfeeding)
- Lactation management
- Parenteral nutrition

- Endotracheal Intubation
- Lumbar puncture and ventricular tap
- Placing of 'chest tube'
- Exchange transfusion
- Bed side tests: shake test, sepsis screen, hematocrit, glucose estimation, urine examination, CSF examination, Kleihauer technique, Apt test etc.
- Neonatal drug therapy
- Nursery house keeping routines
- Infection control & Universal precautions
- Handling, effective utilization and trouble shooting of neonatal equipment.
- Decision making, clinical diagnosis, planning & interpretation of investigations
- Management of Neonatal problems

Communication

- Communication with parents, families and communities
- Interdepartmental communication
- Human behavior studies

Education / Training

- Teaching skills
- Learning skills
- Participatory and small group learning skills
- Preparing learning resource material

Self-Directed Learning

- Learning needs assessment, literature search, evaluating evidence

Research Method

- Framing of research question
- Designing and conducting study
- Analyzing and interpreting data
- Publication & writing a paper
- Review & presentation of research findings

SECTION III

TEACHING LEARNING METHODS AND ACTIVITIES

Learning in post graduate program shall be essentially “Autonomous & Self directed”.

PG students are encouraged to largely carry out self learning. They are expected to seek knowledge & skill on their own initiative. Sound knowledge of Neonatology is to be acquired entirely by self study & by participating in various teaching activities of the department.

The following organized learning experiences should be provided to the students. Time table for these programs will be drawn every six months

1. Case presentation & case management in OPD & Indoor wards: The PG student will present cases daily on clinical rounds to the faculty members of the department. The students shall be provided facilities to manage cases of higher and greater complexity by allowing them graded responsibility as the course program

PG students shall be allowed to perform procedures under supervision and /or delegated authority depending on the experience and proficiency gained. The Heads of units and other consultants and guides shall be in-charge of the supervision and delegation of authority and responsibility to work.

2. PG lectures, Seminars, symposia, panel discussions of suitable topics: These will be held once a week. Topics of common interest to PGs will be covered in the program. Each PG student should present minimum 6 seminars every year.

3. Journal clubs: These will be held once a week. Each PG student should present minimum 6 journal clubs every year.

4. Clinico- Pathological Correlation meetings will be held monthly with Pathology department

5. Medical audit / fatality case discussions: This will be done once in 15 days. PG student is expected to analyze & discuss the cases allotted to him/her.

6. Intramural and extramural training programs.

7. Interdepartmental meetings will be organized with Obstetrics, Pediatrics, Pathology, PSM, Microbiology, Radiology, Cardiology & Pediatric surgery departments as required. PG student should actively participate in the meetings & discuss the cases or topics allotted.

8. Preparation and presentation of a dissertation: Every PG student will be required to carry out the research work under the supervision of his guide in the field of Neonatology. The thesis work can be carried out by student jointly with other departments & the faculty from other departments can be opted as co-guides.

9. Participation in conferences, workshops, field visits, camps, etc. and share knowledge and experience with others.

10. Departmental clinical work: Research

The PG student will be also involved in various clinical research work being undertaken in the department by the faculty members. Each student is required to participate in at least one research project every year.

11. Intradepartmental postings

Every PG student will be posted by rotation in different sections of the Neonatology department like Delivery room, postnatal wards, Neonatal Intensive Care Unit - Inborn babies section, Outborn babies section, Ventilatory section, Intermediate care nursery, Kangaroo Mother Care clinic, Follow up clinic, & Human Milk Bank. A record of the observation made & lessons learnt should be maintained by the students.

12. Teaching experience:

The PG students will participate in all aspects of teaching specially practicals, demonstration & tutorials. During their tenure, they will be working under faculty members on rotation basis as per the allotment of the teaching schedule. The candidate will be regularly involved in teaching of undergraduate medical, paramedical, & nursing

students as well as pediatrics postgraduates students. Their teaching skill will be assessed & shall form part of the internal assessment.

13. Community neonatology

The training of PG students will involve learning experience “Derived from” or “Targeted to” the needs of the community. It shall therefore be necessary to expose the students to community based activities.

Throughout the course of training the emphasis shall be on acquiring knowledge, skill and attitudes through first hand experiences as far as possible. The emphasis will be on self learning rather than on didactic lectures.

The entire period shall be ‘in service’ training programme based on the concept of ‘learn as you work’ principle.

SECTION IV

ORGANIZATION OF COURSE:

Admission

Admission to the course will be through All India Common Entrance Test conducted under the aegis of DMER Maharashtra.

Number of students

Each year students will be enrolled maintaining a teacher/students ratio of 1:1

Eligibility

M.D. or D.N.B. (Pediatrics)

Duration

The duration of course shall be of 3 completed years including the period of examination.

Attendance

All the candidates joining the PG training program shall work as Full Time Residents during the period of training. It is desirable that candidates should have 100% attendance to enable this objective to be achieved. However a minimum of at least 80% attendance and achievement of satisfactory standards in both theoretical and clinical Neonatology would be required before they are allowed to appear for the university examination.

Leave

Residents would be entitled to 30 days leave in the first year and 36 days each in the second and third years of residency.

Training program

There will be structured training program. The students are expected to learn in phasic manner starting with basic care progressing to advanced care management.

First year: Neonatal resuscitation protocol

Care of normal newborn, low birth weight, preterm & sick neonates

Neonatal ventilation

Communication skills

Research methodology

- Second year: All of above plus
- Neonatal surgery
 - Total parenteral nutrition
 - High frequency ventilation
 - Neonatal autopsy
 - Neonatal radiology including imaging techniques
 - Perinatology
 - Community neonatology
 - Teaching methodology
 - Analytical & managerial skills
- Third year: All of above plus
- Recent advances
 - Fetal medicine
 - National programs

Rotation

Total period of DM course is 36 months. Of this, at least 27 – 30 months will be spent in the newborn services, 3 - 6 months will be meant for essential rotations in related specialties and the rest up to three months will be for either optional rotations, extramural rotation or for the new born services as deemed necessary.

Essential rotation:

❖ Perinatology : Obstetrics	1 month
❖ Neonatal surgery	15 days
❖ Community neonatology	1 month
❖ Extramural	2 months

Optional Rotations

The department will have flexibility of additional rotations for up to 3 months in the above mentioned areas or in other relevant areas such as (neonatal cardiology, cardiac surgery, rehabilitation services, genetics, perinatal pathology, imaging, neonatal ophthalmology, epidemiology & biostatistics, information & educational technologies etc.) depending upon the strength of the disciplines and functional requirements at the concerned institutions.

Extramural rotation

Extramural rotations or elective rotations for a maximum period of 2 months will be possible during end of the 2nd year of training.

The candidates can undertake up to 2 months elective rotation at parent or other institutions in the country centers approved by the Department.

There will be a continuous interaction between the Neonatology department and the allied departments to ensure that the students achieve these skills during their peripheral postings.

Under no circumstances however, would the training in neonatal services be of less than 27 months (3/4 of total course)

Research

i. The candidates will be required to submit a thesis during the course of DM programme. A subject for dissertation would be allotted to the P.G. within the first 6 months after joining. The emphasis on dissertation work would be on review of literature, maintaining a record of references, preparation of a plan of study, documentation of aims, planning the methodology, collection, documentation and analysis of data, comparison of data obtained with others in literature, drawing conclusions and writing a summary. The subject of dissertation should be preferably prospective. Analysis of less than 25 cases would not be permitted unless it is a rare disease. Progress on dissertation will be reviewed every semester and feedback given to the candidates. The candidates will make at least three formal presentations to the department i) protocol ii) midcourse progress and iii) final report. The thesis should be submitted to the university 6 months before the final examination. 4 copies of completed dissertation after appropriate certifications by the guide and co-guide should be submitted at the end of the 2½ years. At least 24 months should be spent in the research project undertaken.

ii. Two papers (pertaining to the thesis or other wise) for publication in Indexed journal before appearing for the final DM exam is desirable. The credit will be awarded in the internal assessment of the candidate.

Log book

The post graduate students shall maintain a Record Book (Log Book) of the work carried out by them on day to day basis & training program undergone during the period of training including details of procedures carried out independently or assisted by the candidate. The log book will be checked by the faculty members imparting the training. Candidates will be required to produce log book duly certified by the guide at the time of practical examination.

Development of attitude is a very important aspect of management of newborns. It would be the constant endeavor of the faculty to develop desirable attitudes in the PG trainees during the course by personal examples, interaction and group discussion. Constant watch will be maintained during their work in the wards to ensure that this objective is being met. Although there will be no formal evaluation of attitude, some aspects of this domain would be covered during the formative evaluation as per the enclosed proforma for continued internal assessment.

SECTION V.

EVALUATION SHALL CONSIST OF FORMATIVE AND SUMMATIVE ASSESSMENT.

A. Formative

Ward work
Case presentation
PG lecture
Journal Club
Internal assessment
General assessment of attitude

B. Summative

Thesis
Final examination

A. Formative assessment.

The purpose of continuous course assessment is mainly

1. To ensure the habits of regularity, punctuality and disciplined working amongst PG students.
2. To give periodic feedback regarding their performance during the medical course & to enable them to take corrective steps to enhance their learning in various areas mentioned. E.g. Patient care, research, teaching, administration etc.
3. To monitor attainment of clinical and technical skills to ensure adequacy of training.
4. To make it available to the internal examiner at the time of final examination to discount the possibility of a single adverse performance influencing the pass or fail situation of the candidate. This would give an idea of the continued performance of the candidate during the three years of training to the external examiners, so that candidates who have otherwise been rated as satisfactory in their internal evaluation can be given more chances in the final examinations to more questions and overcome the adverse effects of doing badly in any one case.

Formative evaluation will be carried out over 5 activities of the P.G. resident.

(See Annexure)

- 1) Ward work.
- 2) Case presentation
- 3) P.G. Lecture
- 4) Journal club
- 5) Internal Assessment: Continuous assessment will be done on an ongoing basis using

a

logbook covering day to day performance of the candidate.

Candidates can appear for theory examination only after being certified on the basis of internal assessment.

However, internal evaluation marks cannot directly be used for influencing the outcome of the summative assessment. It can not be used to fail a candidate who has otherwise done well in the final examination or to pass a candidate who has done consistently bad in summative assessment.

- 6) General assessment of affective function attitude by medical & paramedical staff.

B. Summative Assessment

Summative assessment consists of two parts:

1. Evaluation of thesis/dissertation prepared by the candidates
2. Final examination

1. Thesis / dissertation

All candidates on admission will be allotted one of the department faculty who has fulfilled the requirement to be guide for purposes of guiding Dissertation / thesis. The topic for dissertation shall be finalized and discussed in the departmental faculty meeting and allotted to the individual candidates before the completion of 6 months after admission. The purpose of dissertation is to develop in the candidate, the ability to perform an independent study keeping the principles and research methodology in mind. The candidate will therefore work on the prospective problem either within the department or in collaboration with other departments. There will be continuous monitoring of the dissertation work by the guides and co-guides and by the other department staff throughout the course. The candidate will present the progress of the dissertation to the faculty on the completion of 1½ years for monitoring and feed back. The completed dissertation should be submitted 6 months before

the final examination. The dissertation shall be evaluated independently by the internal examiners and two external examiners under the following heading:

- 1) Approved
- 2) Not approved

In all cases the approval shall be given before 3 months of the date of appearing for the examination and this will be essential before the candidate is allowed to appear for the written examination.

2. Final Examination

Eligibility

1. Attendance: minimum 80%
2. Satisfactory internal assessment
3. Approval of dissertation submitted

Candidates can appear for theory examination only after being certified on the basis of internal assessment.

a). Theory examination

(As per Direction No. 01/2008 dtd. 26/05/2008 & practical scheme is as per revised practical marksheet.)

SECTION VI.

RECOMMENDED BOOKS FOR READING &

OTHER RESOURCE MATERIAL

List of Textbooks (latest editions available)

<i>Sn</i>	<i>Name of the Book</i>	<i>Author</i>
1	Neonatal –Perinatal Medicine Diseases of the fetus and infant	Avroy A Fanaroff Richard J Martin
2	Neonatology Pathophysiology & Management of the Newborn	Gordon Avery Mary Ann Fletcher M.G. MacDonald
3	Avery Diseases of Newborn	S. Avery Taeusch Ballard
4	Polin & Fox Fetal and Neonatal Physiology	Richard A Polin William W Fox
5	Roberton’s Textbook of Neonatology	Janet M Rennie N.R.C Roberton
6	Neonatology Principles and Practice	Dipak K. Guha
7	Manual of Neonatal Care	John P. Cloherty
8	Neonatology Management, Procedures, On call problems Diseases And Drugs	Tricia Lacy Gomella
9	Breastfeeding A Guide to the Medical Profession	Ruth A. Lawrence Robert M. Lawrence
10	Physical Diagnosis in Neonatology	Mary Ann Fletcher
11	Nelson’s Textbook of Neonatology	Behrman Kleigman Arvin
12	Assisted Ventilation of the Neonate	Jay P. Goldsmith Edward H. Karotkin
13	Infectious Diseases of the Fetus & Newborn Infant	Remington & Klein
14	Neurology of Newborn	Joseph J. Volpe
15	Smith’s Recognizable Patterns of Human Malformations	Kenneth Lyons Jones
16	Moss and Adams Heart Disease in Infants, Children, & Adolescents Including the Fetus & Young Adult	Emmanouilides Riemenschneider Allen & Gutgesell
17	The Clinical Recognition of Congenital Heart Disease	Joseph K. Perloff
18	Pediatric Cardiology	Myung Park
19	Pediatric Hematology	Nathan , Oski
20	Medical disorders In Obstetric Practice	Michel Deswite
21	Neonatal drug formulary	
22	Textbook of Preventive & Social Medicine	Park

List of Journals (Previous three years)

<i><u>Sn</u></i>	<i><u>List of Journals</u></i>
1	Archives Diseases of Childhood: Fetal & Neonatal edition
2	The Journal of Pediatrics
3	Pediatrics (English Edition)
4	Indian Journal of Pediatrics
5	Indian Pediatrics
6	Clinics in Perinatology
7	Journal of Neonatology
8	Journal of Perinatology
9	Pediatrics Today
10	Archives of Pediatrics and Adolescent Medicine
11	Pediatric Clinics of North America
12	Pediatric Clinics of India
13	Recent Advances in Paediatrics
14	Seminars in Neonatology
15	Seminars in Perinatology
16	The Year Book of Pediatrics
17	Acta Paediatrica: an international journal of Paediatrics

Websites

No.	Website
1	www.cochrane.mcmaster.ca/neonatal /
2	www.nichd.nih.gov/cochrane
3	www.neonatology.org
4	www.emedicine.com/ped/neonatology.htm
5	www.nnfi.org

Proforma for Internal Evaluation

Evaluation form for Postgraduates: Clinical Work

(To be completed once in 6 months by respective Unit Heads)

Name:

Date:

Points to be considered:

1. Punctuality
2. Regularity of attendance
3. Quality of Ward Work
4. Maintenance of case records
5. Presentation of cases during rounds
6. Investigations work-up
7. Bedside manners

8. Rapport with patients
9. Undergraduate teaching (if applicable)
10. Others:

Guidance for Scoring: 1 2 3 4 5
 Poor Below Average Above Very Good
 Avg. Avg.

Score : ()

Signature :

Proforma for Internal Evaluation

Evaluation form for Postgraduates: Seminar

Name :

Date :

Signature :

1. Presentation
2. Completeness of preparation
3. Cogency of presentation
4. Use of audiovisual aids
5. Understanding of subject
6. Ability to answer questions
7. Time scheduling
8. Consulted all relevant literature
9. Overall performance
10. Others:

Guidance for Scoring: 1 2 3 4 5
 Poor Below Average Above Very Good
 Avg. Avg.

Score : ()

Signature :

Proforma for Internal Evaluation

Evaluation form for Postgraduates: Clinical Meeting

Name :

Date :

Points to be considered:

1. Completeness of history
2. Whether all relevant points elicited
3. Cogency of presentation
4. Logical order
5. Mentioned all positive and negative points of importance
6. Accuracy of general physical examination
7. Whether all physical signs missed or misinterpreted
8. Whether any major signs missed or misinterpreted
9. Diagnosis: whether it follows logically from history and findings.
10. Investigations required - Complete list -
Relevant order
Interpretation of investigations

11. Overall

Ability to react to questioning - Whether answers relevant and complete

Ability to defend diagnosis

Ability to justify differential; diagnosis

Confidence

Others

Guidance for Scoring: 1 2 3 4 5
 Poor Below Average Above Very Good
 Avg. Avg.

Score : ()

Signature :

Proforma for Internal Evaluation

Evaluation form for Postgraduates: Dissertation Work

Name :

Date :

Points to be considered:

1. Interest shown in selecting a topic
2. Appropriate review
3. Discussion with guide and other faculty
4. Quality of protocol
5. Preparation of proforma
6. Regular collection of case material
7. Depth of analysis/discussion
8. Departmental presentation of findings
9. Quality of final output
10. Defense in Viva
11. Others:

Guidance for Scoring:	1	2	3	4	5
	Poor	Below	Average	Above	Very Good
		Avg.		Avg.	

Score : ()

Signature :

Proforma for Internal Evaluation

Evaluation form for Postgraduates: Journal Club

Name :

Date :

Points to be considered:

1. Choice of articles
2. Cogency of presentation
3. Whether he has understood the purpose of the article
4. How well did he defend the article?
5. Whether cross references have been consulted
6. Whether other relevant publications have been consulted
7. His Overall impression of articles

If good - reasons:

If poor - reasons:

8. Audiovisual aids
9. Response to questioning
10. Overall presentation
11. Others:

Guidance for Scoring:	1	2	3	4	5
	Poor	Below	Average	Above	Very Good
		Avg.		Avg.	

Score : ()

Signature :

Log (Performance record book)

Maintenance of performance record Log book is mandatory. Certified and assessed copy should be made available at the time of practical examination for review by examiners

Log Book should contain:

- 1) Certificate duly signed by teacher, head of department, head of institute - stating -
Dr..... has worked in department from ---- to ---- for a period of 3 years. This performance record book contain authentic record of work done and assessment for last 3 years.
- 2) Record of training
Name of the trainee
Name of the Hospital
Training period
Name of teacher
- 3) Posting
- 4) Working schedule
- 5) Teaching programme
- 6) Presentation at Journal club: Date, Article Name, Assessment
 - 7) Seminars / Lectures: Date, Topic/ Subject, Assessment
- 8) Case presentations: Date, Case, Teacher's signature
- 9) Death Audit / C P C: Date, Case discussed, Assessment & Signature
- 10) Procedures: Date, Name of patient, Type, Complications observed
- 11) Teaching activity: Date, Topic, Class
- 12) Participation in Research Activity: Name of project, Duration
- 13) Conferences / Workshop attended / Paper presentation
- 14) Publications
- 15) Other activities