



**PRAVARA INSTITUTE OF MEDICAL SCIENCES  
(DEEMED TO BE UNIVERSITY)**

**Loni, Tal. Rahata, Dist. Ahmednagar 413736  
NAAC Re-accredited with 'A' Grade**

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**SYLLABUS**

**Title: FELLOWSHIP IN NEONATOLOGY**

**Department of Pediatrics, Rural Medical College, Loni**

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**1. Title:- "Fellowship in Neonatology"**

**2. Objectives:**

To Provide basic and advanced training in Neonatology.

To improve competency level of candidates so as to provide clinical care of highest order to sick neonates

**3. Year & Date of Implementation:** 1<sup>st</sup> Sept. 2019.

**4. Eligibility Criteria:**Diploma in Child Health, MD, DNB (Pediatrics).

**5. Intake:** 1 per batch

**6. Fee:** Tuition fee Rs. 1, 00,000/- (Rs. One Lakh)

**7. Academic calendar –** Sept. – August

**8. Duration of programme:**

**i. For full Time Students:**

a. One year for MD, DNB (Pediatrics) candidates.

b. One and half year for DCH candidates.

**ii. For Part Timers:** (i.e. Employees at PIMS (DU)/Constituents College): Same duration as mentioned above, provided they work at RMC/ PRH for extra two hours on all working days and full day on Saturday, apart from regular duty hours. Otherwise the Duration for Staff with PG Degree holders, the duration shall be one and half Year & for P.G. Diploma holders, it will be 2 Years.

## **9. Admission Process:-**

- University will issue the Notification.
- Eligible students will apply for the fellowship programme.
- The HoI shall process the applications as per eligibility and recommend to University for approval.
- The University will announce the list of selected candidates.
- Accordingly, HOI shall admit the applicant after verifying all the necessary documents & records by accepting payment of fees prescribed & other aspects as per normal procedure.

## **10. Attendance:**

Minimum of 80% and above calculated for academic term of 6 months. The leave policy of PG student is applicable.

## **11. Teaching:**

The Time Table and Academic Schedule followed for learning process of PG student will be applicable. It shall include clinical postings/field postings/OPD-IPD-Casualty, ICU Posting/Posting to Allied support & Diagnostic Departments/Wards Round/UG-PG teaching schedule/CM/CPC/and so on.

The weekly teaching schedule also includes Journal club, Case presentations, Seminars, Group Discussions, PBL, CBL, CAL, SDL, Faculty lecture, Guest lecture, Medical Campus inter departmental teaching activities, H/V integrated teaching, panel discussions and so on.

## **12. Content/syllabus of the Programme:**

### **i) Basic Sciences**

- Applied anatomy, embryology, physiology
- Feto-placental physiology and Fetal growth
- Neonatal adaptation
- Fluid and Electrolyte balance
- Metabolic pathway pertaining to glucose, calcium and magnesium
- Blood gas and acid base disorders
- Biochemical basis of inborn errors of metabolism

### **ii) Fetal Medicine**

- Perinatal and neonatal morbidity and mortality
- Fetal and neonatal consequences of high risk pregnancy
- Fetal monitoring: clinical, electronic, invasive and non-invasive
- Intrapartum monitoring and procedure

- Medical diseases affecting pregnancy and fetus
- Genetic counseling

**iii) General Neonatology**

- Neonatal resuscitation
- Birth injury and asphyxia
- Normal newborn
- LBW, VLBW, ELBW neonates
- Management of sick Neonates
- Emergency Neonatal care
- Thermoregulation
- Neonatal transport
- Biomedical equipment's, use & maintenance

**iv) Systemic Neonatology**

- Respiratory system
- Cardiovascular system
- Gastrointestinal and hepato-biliary system
- Neurology
- Renal system
- Endocrine & Metabolism
- Hematology
- Nutrition
- Surgery & Orthopedics
- Neonatal Ophthalmology
- Neonatal Dermatology

**v) Neonatal Surgical Conditions**

Diagnosis, work up and Stabilization

Pre-op and Post-op care of Neonatal Surgical Emergencies.

**vi) Imaging**

Interpretation of X-rays, USG and Contrast studies.

Exposure to basic Neonatal Neurosonography and 2D-Echo studies.

**vii) Clinical skills:**

- Neonatal Examination & anthropometry
- Developmental assessment

- Neonatal Resuscitation
- Neonatal Ventilation: CPAP, mechanical ventilation
- Blood sampling: capillary, venous, arterial
- Insertion of peripheral venous, umbilical venous and arterial catheters
- Monitoring: invasive, non-invasive
- Enteral feeding (katori-spoon, gavage, breast feeding)
- 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
- Infection control and universal precautions
- Handling, effective utilization and trouble shooting of neonatal equipment
- Decision making, clinical diagnosis and investigations
- Management of neonatal problems

**viii) Communication**

- Communication with parents, families and communities
- Interdepartmental communication
- Good interpersonal skills

**ix) Education/training**

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

**x) Self-directed learning**

- Learning needs assessment, literature search, evaluating evidence



### 13. Contents:

Hours	Teaching Strategies	Credits
50 hours	Lectures on Important Topics	6 credits
50 hours	Guest Lectures by Expert Faculties	6 credits
100 hours	Teaching Clinical Rounds (Routine/Grand)	6 credits
100 hours	Quarterly Assignments, Seminar/Journal Club/Case Presentations – once weekly	8 credits
300 hours	Hands on Experience	10 credits
300 hours	Clinical Work / Research Activities	5 credits

### 14. Curriculum Delivery / Transaction

- i) **Lectures:**  
These will be held once a week and will be delivered either by a faculty member or by a specialist/Guest Faculty in the field of Intensive/Critical care.
- ii) **Seminars and journal clubs:**  
Candidates are required to present I seminar and I journal club every alternate month.
- iii) **Case presentations:**  
This will be held every month. Experts from other specialties may be called for these discussions. Each student is expected to maintain a journal.
- iv) **Administrative responsibilities:**  
The candidate is expected to actively participate in maintenance of NICU equipment/s.
- v) **Patient care, teaching and research:**  
The candidate is expected to attend indoor calls for referrals made to the NICU from wards and emergency medical services. It is expected that the fellowship candidates will contribute to patient care in the Neonatal critical care unit and emergency services, develop SOPs or protocols for diagnosis and management, make ethics committee submissions, interact/liaison with ethics committees and any agency involved in research projects undertaken in the NICU as and when needed, fill case record forms, and participate in audits and inspections.  
They are also required to give lectures on selected topics to the IIIrd year undergraduate medial students and postgraduate pediatric students.

Candidates are expected to contribute substantially in Neonatal care services with improvement in outcomes

vi) **Attending conferences:**

The Candidate will attend: Annual National/State conferences of National Neonatology forum (NNF), and relevant Regional CMEs, Workshops and Conferences.

**15. Programme outcome (Expected):**

Fellowship program is a step towards training Pediatric Post graduates in advanced Neonatal care. The candidate will be able to work as Intensivist in Neonatal Care Unit of Healthcare establishments.

**16. Mandatory Fulfillment:**

- i.** Presentation of Journal Articles in Journal club- 6 Articles per year.
- ii.** Presentation of Cases- 6 per Year and Medical skill lab/ Simulation Centre-6 sessions per Year(Patient Laboratory/skill lab/simulation based learning as applicable to PG Students)
- iii.** Presentation of Seminars- (6 per Year),Group Discussion (6 Per Year),
- iv.** Mandatory Participation in the UG PG Teaching.(6 per Year),Presentation of Assignment -6 per Year. Research Methodology workshop (One)
- v.** Medical Camps/CME/CPE/CM.
- vi.** Participation & presentation of an Research article in Seminars/Conferences /Workshops etc.& Publication of a Research Paper. (Acceptance for publications or Published).

**17. Maintenance of Log Book duly signed by HOD:**

Note- Each day, PG teaching activity or presentations as mentioned above shall include any one of the six schedules-1) Journal club,2) Case presentation, 3) Seminar-Group Discussion, 4) Lecture by faculty, 5) CM/CME/CPE , 6)Guest lecture.

(Teaching – Learning Activity: - Similar to PG student of the Dept.)

**18. Assessment and Evaluation:**

- i. Evaluation:** At the end of one year for MD & DNB candidates.  
At the end of one and half year for DCH candidates
- ii.** Internal Assessment- At the Department Level
  - Once in 3 months/ Quarterly

- Internal Evaluation be done by the PG Teacher of the Dept, HoD being the Chairman for CIA.
  - Log Book shall be maintained.
- iii. University Level Examination (Rules as per PG Examination), to be conducted by COE.**
- Eligibility 80 % Attendance is compulsory and must have satisfactory progress Report of CIA (Continues Internal Assessment) duly signed and certified by HoD & other PG teacher.
  - There shall be Board of Examination – HOD as Chairman & PG Guides as Internal Examiners & External Examiners as members, Normally the External Examiners shall set the papers. They are moderated by the HoD/Chairman BoE. The Examinations shall be conducted by the COE PIMS (DU) as per Examination manual.

**iv. Scheme of University Examination:**

Theory (200 Marks) + Practical (200 Marks) Total = 400 Marks.

Theory Examination- 200 Marks.

(Each of 100 Marks and 3 Hours Duration

2 Long Answer Questions of 20 Marks each = 40 Marks.

6 Short Answer Questions of 10 Marks each = 60 Marks.

**v. Paper wise distribution of Syllabus/Topics:**

Paper I- Basic Sciences Applied to Neonatology, Perinatology, General Neonatology and Community neonatology

Paper II- Advanced Neonatology, Systemic Neonatology Perinatology including Neonatal Surgery and Critical Care

**vi. Title of Paper's:**

Paper -I: Exit Theory Examination for Fellowship in Neonatology

Paper -II: Exit Theory Examination for Fellowship in Neonatology

**vii. Practical's /Clinical Examination: 200 marks.**

i) One long Case/ long experiment -50 Marks

ii) Three Short Cases (3x30) -90 Marks

iii) Viva Voce/ Orals/ OSPE/ Spotteset -60 Marks

**viii. Number of Evaluators / Examiners:**

A. Theory- Double Evaluation. (One internal & One External) and the average of the two evaluations shall be awarded. If the



difference is more than 15%, then to follow third valuation & average of nearest two scores has to be taken.

B. Practical's/Clinical Examination :- Two Examiners

Internal Examiner-(PG Teacher In the said specialization)

External Examiner - (PG Teacher In the said specialization of Other University, Preferably of other States)

**ix. Minimum for Passing:**

A. Min 50% in Theory papers (Each paper minimum is 40%)

B. Min 50% in Practical /Clinical & Viva Voce

C. Overall is 50% of Theory & Practical/Clinical.

D. Award of class:- Min 50% to 59.5% - Second class

60 to 74.5% - I Class.

Above 75% - I Class with Distinction

**19. Grievance Redressal and Appeals  
mechanitary/Mechanism:**

HOD, Dept. of Pediatrics and Dean, Rural Medical College  
Appellate Authority – Registrar, PIMS –DU

**20. Saving clause:**

In case of difficulty, the decision of the authorities of PIMS (DU) shall be final.



# PRAVARA INSTITUTE OF MEDICAL SCIENCES

(DEEMED TO BE UNIVERSITY)

(University Established under Section 3 of the UGC Act 1956)

Re- accredited by N.A.A.C. with 'A' Grade

## Application form for Admission

Academic Year: - 20\_\_\_\_/ 20\_\_\_\_

**Constituent College:** Rural Medical College  
Department of Pediatrics

Photo of  
candidate  
with  
Signature of  
HOI

To

The Competent Authority,  
Pravara Institute of Medical Sciences  
Deemed to be University

Sir,

I wish to apply for admission to \_\_\_\_\_.

The information submitted below by me, is true to the best of my knowledge and belief.

### PERSONNEL INFORMATION

1. Name (In Block Letters) \_\_\_\_\_  
(First name) (Middle name) (Surname name)
2. Address for Correspondence (with Pin Code) \_\_\_\_\_
3. Contact Number: (Mob.) \_\_\_\_\_ (Telephone \_\_\_\_\_ No.)
4. E-mail \_\_\_\_\_ Sex : Male/Female
5. Date of Birth \_\_\_\_\_, Marital Status : Single / Married
6. Religion : \_\_\_\_\_, Caste : \_\_\_\_\_, Nationality \_\_\_\_\_
7. Whether belongs to reserved Category : YES/NO, Category \_\_\_\_\_

### ACCADEMIC INFORMATION

1. UG Degree:- \_\_\_\_\_
2. Year of Passing:- \_\_\_\_\_
3. Name of Institute : \_\_\_\_\_

4. PG Degree:- \_\_\_\_\_  
 5. Year of Passing:- \_\_\_\_\_  
 6. Name of Institute : \_\_\_\_\_

**EXPERIENCE**

Sr. No.	Name of Institute	Designation	Period

(Signature of Candidate)

**UNDERTAKING**

I \_\_\_\_\_ D/S/O \_\_\_\_\_  
 Resident of \_\_\_\_\_ State of \_\_\_\_\_  
 duly do hereby covenant that: I have carefully read the concepts and rules regarding admission to \_\_\_\_\_  
 and I am eligible for the admission.

I fully understand that my admission is provisional and is subjected to final approval and enrolment by the University.

I hereby agree to abide by the terms and conditions or the rules pertaining to admission as prescribed by the competent authorities and admit that they are binding upon me legally and legitimately.

I undertake to pay the Tuition and other fees fixed by the University. I undertake to observe and maintain a strict discipline as the student, and otherwise, in the college premises including hostel and campus.

I have paid the application fee of Rs. 1000/-. Receipt No: \_\_\_\_\_ dated \_\_\_/\_\_\_/20

(Signature of Candidate)

**Document to be attached:**

1. UG PassingMarks hit and Certificate
2. PG PassingMarks hit and Certificate
3. Professional Registration Certificate
4. Experience Certificate's
5. Date of Birth Proof
6. ID Proof
7. Cast Certificate if applicable



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