

NATIONAL POSTGRADUATE MEDICAL COLLEGE OF  
NIGERIA



CURRICULUM FOR SUBSPECIALTY TRAINING IN  
NEONATOLOGY

FACULTY OF PAEDIATRICS

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**FACULTY OF PAEDIATRICS**  
**NATIONAL POSTGRADUATE MEDICAL COLLEGE OF NIGERIA**  
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**I. PREAMBLE**

Whereas

An important function of the National Postgraduate Medical College of Nigeria (NPMCN) is to set standards for postgraduate medical training in Nigeria

And

The Faculty of Paediatrics of the NPMCN has been charged with the responsibility of overseeing training paediatricians, as well as accrediting training centres and certifying qualified paediatricians

And

Paediatricians in Nigeria are increasingly called upon to render expert care to newborn babies with varied health concerns

And

There is an increasing rate of birth of high-risk newborn babies worldwide, including Nigeria

And

There are peculiar demands in precision and delicateness for the care of the newborn

And

Technology available for neonatal care has witnessed and is witnessing profound advancement

And

The contribution of neonatal illnesses to infant, under-5 and childhood morbidity and mortality in Nigeria is unacceptably high

There is a definite demand for services of trained and certified neonatologists and paediatric perinatologists in the country. This demand calls for the setting of minimum standards for training and for accreditation of training centres in Neonatology.

These minimum standards are set forth in this curriculum.

## Introduction and Philosophy:

Perinatology, also known as Maternal-fetal medicine, is the management of health concerns of the mother and fetus prior to, during, and shortly after pregnancy. Neonatology is a subspecialty of Paediatrics that deals with the holistic care of the newborn, especially the ill or preterm newborn. Newborn morbidity and mortality remain significant contributors (30-40%) to infant morbidity and mortality rates. While there is significant improvement in the under-five rates the neonatal health burden remains virtually unchanged. The consequences of poor neonatal care contribute significantly to the poor health indices in Nigeria specifically, and continental Africa in general.

### Aim:

The broad purpose of the programme is to train Paediatricians in the art of prevention and effective management of neonatal conditions, including high-risk pregnancies and babies, critically ill newborn babies and their complications.

## Learning Objectives

### A. Cognitive

It is expected that a trainee at the end of prescribed exposure should be able to:

1. Accurately apply the knowledge of embryology, physiology and pathophysiology of adaptation to extra-uterine life.
  2. Describe the anatomy and pathophysiology of congenital defects, including malformations, dysgenesis, sequences and aplasias.
  3. Understands the unique aspects of the physical examination of the preterm and newborn full term infant, including gestational age determination, and assessment and management of LGA and SGA infants
  4. Understand the broad medical, social and economic consequences of congenital defects including factors related to, or influencing its incidence.
  5. Describe and differentiate the different types of low birth weight babies: small-for-gestation, appropriate-for-gestation, preterm newborn babies; and their consequences.
  6. Understand the physiology, pathophysiology, diagnosis, and treatment of acute and chronic respiratory disorders of the premature and full term infant, including hyaline membrane disease, apnoea, meconium aspiration, PPHN, congenital pulmonary disorders, respiratory distress in the newborn.
  7. Understand basics of newborn respiratory support, oxygen delivery and monitoring in the newborn, intermittent positive pressure ventilation, non invasive respiratory support (CPAP), basics of mechanical ventilation
  8. Detail the normal development and growth in the fetus and the newborn.
  9. Detail the mechanisms involved in abnormal growth and development in the foetus and the newborn.
  10. Describe in details the anatomy, pathophysiology, knowledge of clinical, laboratory and treatment of diseases affecting the major body organ systems in the fetus and newborn viz.:
    - a) Infections: Neonatal sepsis (bacterial, viral, fungal); congenitally acquired TORCHES infections, localized infections, and understand the peculiarities of host defence mechanisms in the newborn. Prevention of mother to child transmission of HIV
    - b) Hyperbilirubinaemia (physiologic, haemolytic, obstructive), bilirubin encephalopathy/kernicterus
    - c) Neurologic disorders (perinatal asphyxia and hypoxic ischaemic encephalopathy, neonatal seizures, hydrocephalus, meningitis, neural tube defects, intraventricular haemorrhage and hydrocephalus, and outcome
    - d) Neonatal thermoregulation and peculiarities, kangaroo mother care for small newborn babies
- Metabolic disorders (hypoglycaemia, hyperglycaemia, infant of diabetic mother, electrolyte disorders, inborn errors of metabolism (protein, organic acid and amino acid metabolism)

- e) Gastrointestinal disorders: necrotizing enterocolitis, gastrointestinal obstruction, GIT bleeding, abdominal wall defects; Parenteral and enteral feeding of the newborn;
  - f) Cardiovascular disorders: presentation of congenital heart defects in the neonatal period, cyanotic/acyanotic, patent ductus arteriosus, understand pathologies and routine evaluation, critical congenital heart disease
  - g) Haematologic disorders: the bleeding newborn, neonatal coagulopathy, anaemia in the newborn, polycythaemia
  - h) Renal disorders: congenital malformations of the urogenital tract, obstructive uropathies, acute renal failure
  - i) Endocrine disorders: ambiguous genitalia, adrenogenital syndrome, congenital hypo and hyperthyroidism
11. Be familiar with birth weight and gestational age related neonatal morbidity and mortality statistics; and comparisons of perinatal, neonatal and infant mortality rates regionally, nationally and internationally.

## **B. Performance (Skills)**

It is expected that a trainee at the end of his posting, should be able to:

1. Take an appropriate history regarding the pregnancy, perinatal events related to the newborn, and the immediate newborn period.
2. Be competent in the assessment and management of the newborn in the delivery room, with a background knowledge of transitional physiology (cardiopulmonary, metabolic and temperature changes)
3. Be adept in neonatal resuscitation procedures (NRT and HBB modules), and obtain relevant professional certification in neonatal resuscitation
4. Determine the gestational age of the newborn using clinical methods and appropriate charts.
5. Carry out a complete and thorough neonatal physical examination. This will include examination for critical congenital heart diseases, congenital hip dysplasias and congenital anomalies.
6. Recognize the clinical presentation, and provide appropriate management of emergencies presenting in the first month of life including respiratory distress with/without cyanosis, shock, bleeding, or life threatening neurological abnormalities.
7. Carry out relevant procedures like phlebotomy, lumbar puncture, central line placement, exchange blood transfusion, blood film staining, make blood smears, urine sample collection and transfontanelle cranial ultrasound., umbilical catheterisation, endotracheal tube insertion, administration of surfactant, transfusion of blood and blood products in the newborn.
8. Correctly interpret results of common procedures and laboratory, including radiological imaging tests, blood gas analysis results, partographs
9. Be able to holistically manage a sick or high-risk new-born.
10. Carry out resuscitation of a critically ill newborn, including respiratory and circulatory support.
11. Carry out a counselling session on the problems identified or diagnosis made in the new-born, including the ability to break bad news to the parents. The trainee should be able to justify the treatment option and the prognosis of the condition to the family.
12. Correctly write and administer a detailed management plan.
13. Write a referral to another specialist.

## **Behaviour (Attitude)**

It is expected that a trainee at the end of his posting, should be able to:

1. Demonstrate the ability to harmoniously work in a multi-disciplinary team in the special care baby unit and the intensive care unit.
2. Show adequate empathy towards family of the new-born.

The training will take place in the paediatric outpatient clinics, the in-born and out-born neonatal ward and the special care baby unit (neonatal intensive care unit). Training will be carried out by supervising neonatologist/perinatologist. Teaching methods will include: Didactic lectures, Chart Rounds, Clinico-pathologic conferences, Post graduate seminars/ Grand rounds and teaching rounds, Neonatal morbidity/mortality seminars, maternal-perinatal medicine seminars, Simulations, Laboratory, Tutorials and Journal club.

Training will be monitored in a supportive way by the afore-mentioned specialists utilising logbooks, direct observation of interaction and procedures, and periodic evaluations. Formative assessments will include graded seminars and other assignments as determined by the supervising trainers. Summative assessments at the training centres will include Multiple Choice Question examinations and Clinical examinations including Performance and Cognition Skills Examination and Objective Structured Pictorial Examination.

## II. ELIGIBILITY FOR SUB-SPECIALTY TRAINING IN NEONATOLOGY

To be eligible for sub-specialty training in neonatology, a potential trainee must:

1. Be fully registered to practice medicine in the sub-region, by the National Medical Council
2. Have completed an approved training programme in general paediatrics and obtained a recognized postgraduate qualification such as the Junior Residency of the NPMCN.

## III. REQUIREMENTS FOR SUB-SPECIALITY CERTIFICATION IN NEONATOLOGY

1. The trainee must receive at least thirty (30) months training in neonatology after satisfactory completion of training in general paediatrics (as defined above).
2. Training must be in centres duly accredited for the desired level of exposure.
3. Portions of the training may be embarked upon at more than one centre in order to cover and satisfy all aspects of neonatology or other training requirements.
4. The trainee must keep adequate records of all postings and procedures performed, including a logbook and supervisors reports to substantiate the training.
5. A trainee must have spent at least nine (09) months of training in his/her primary centre before embarking on exposure in other centres.
6. The trainee must have at least three (3) first author publications i.e. at least one publication per year of subspecialty training. The publications should be of neonatal interest and should not consist of more than one case report. Review papers are not acceptable. Abstracts of the publications should appear as appendices to the dissertation.
7. Evidence of satisfactory training must be supported by:
  - a. A Logbook (Appendix 1)
  - b. Satisfactory reports from supervisors/trainers at each posting/exposure (Appendix 2)
  - c. Two (2) satisfactory annual progress reports (Appendix 3)
  - d. Abstracts of Publications (Appendix 4)
  - e. Presentation and defense of a dissertation following a process of formative review of study proposal by experts in the field.
  - f. Success in the Viva voce examination in General Paediatrics
  - g. Current Paediatric Advanced Life Support (PALS) certification
  - h. Current Neonatal Advanced Life Support (NALS) certification
8. Success at the written and viva voce components of the Sub-specialty examination.

#### IV. COMPETENCE IS REQUIRED FOR ROUTINE/SPECIAL PROCEDURES:

- i. Endotracheal intubation – oral and nasal: Placement of a laryngeal mask airway
- ii. Umbilical catheterization – venous and arterial
- iii. Placental biopsy
- iv. Continuous Positive Airway Pressure Ventilation
- v. Intermittent Positive Pressure Ventilation
- vi. Various modalities of oxygen delivery
- vii. Venipuncture
- viii. Exchange Blood Transfusion
- ix. Partial exchange transfusion
- x. Insertion and management of central venous lines
- xi. Initiation and management of parenteral nutrition
- xii. Basic ultrasonography including Transfontanelle ultrasonography
- xiii. Neonatal electrocardiography

#### V. MINIMUM PERIODS REQUIRED FOR ROTATIONS / POSTINGS

Rotation	Duration
General neonatology	12 months
Neonatal Intensive Care	09 months
Paediatric Intensive Care	03 months
Obstetric Perinatology	03 months
Anaesthesiology	03 months

#### VI. TRAINING CENTRES

Centres for training in Neonatology should generally have the following facilities and training manpower

- i. Capacity/Space:
  - a. Space for inpatient care of at least fifteen (15) neonates.
- ii. Equipment (See appendix 4)
  - a. At least five (5) functional incubators
  - b. At least two resuscitaires in the unit: one each in the labour ward and labour ward theatre
  - c. At least ten (5) intensive phototherapy equipment
  - d. Irradiance meter
  - e. At least three (3) CPAP devices
  - f. At least two (2) Ventilators with neonatal adjustments
  - g. At least five (5) Pulse oximeters
  - h. At least three (3) continuous cardiopulmonary monitors
  - i. Resuscitation equipment: bag-and-mask, oxygen source (minimum of 6)
  - j. Point of care transcutaneous bilirubinometer
  - k. Point of care I-Stat Machine
  - l. Mobile x-ray machine
  - m. Endotracheal intubation kits

NB. Some equipment may be requirements for category A centers

- iii. A functional side laboratory with capacity for the following tests:
  - a. Packed Cell Volume and/or Haemoglobin concentration
  - b. Point-of-Care equipment for estimation of blood gases
  - c. Glucometer
  - d. Urine dipstick analysis
  - e. Microscope
  - f. Variety of haematological and microbiological stains
  - g. Transcutaneous bilirubinometer and Side lab serum bilirubinometer
- iv. Outpatient clinic with an enrolment of at least twenty (20) patients weekly

- v. Laboratory and other support
  - a. ABG analysis
  - b. Microbiology
  - c. Chemical Pathology
  - d. Anatomical Pathology
  - e. Haematology and Blood Transfusion
  - f. Radiology including advanced techniques – Contrast Studies, Ultrasonography (especially transfontanelle), Computed Tomography, Magnetic Resonance Imaging
  - g. Electrocardiography
  - h. Echocardiography
  
- vi. Obstetric Services with at least three hundred (300) deliveries annually
  
- vii. Manpower requirements
  - a. At least two (2) recognised neonatologists
  - b. At least two (2) Consultant Obstetricians
  
- viii. Other operational needs
  - a. Standard Operating Procedures (SOP) for a variety of neonatal conditions including but not limited to:
    - 1. Management of the asphyxiated baby
    - 2. Management of suspected sepsis
    - 3. Management of neonatal tetanus
    - 4. Management of the baby born too early or too small
    - 5. Management of neonatal jaundice

*Note: all the above facilities/services might not be available at any one single centre: the trainee may have to rotate through other centres with the available services.*

## VII. Training programme

Subspecialty training in neonatology has two interrelated curricula:

1. Academic curriculum
2. Professional curriculum

### 1. The Academic Curriculum

Core academic contents of the training will cover the following topics:

- a) General embryology – emphasis on genetics, teratology and congenital malformations
- b) Systemic embryology
- c) Selected genetic/chromosomal syndromes
- d) Principles of screening for genetic disorders
- e) Perinatal and Neonatal Respiratory physiology
- f) Cardiovascular physiology – emphasis on the newborn
- g) Perinatal and Neonatal Renal physiology
- h) Endocrinology – emphasis on congenital conditions
- i) Concept, Principles and Practice of perinatal care
- j) Fundamental basis of thermal care: Thermoregulation and thermal care
- k) Neonatal Gastroenterology and Nutrition
- l) Paediatric surgical conditions
- m) Birth injuries – asphyxia and mechanical
- n) Metabolic diseases of the newborn
- o) Principles and practice of parenteral nutrition
- p) Haematological conditions of the newborn
- q) Neonatal seizures
- r) Neonatal infections
- s) Problems of maturity and birth size
- t) Neonatal hyperbilirubinaemia and cholestasis
- u) Neonatal Necrotizing Enterocolitis
- v) Idiopathic Respiratory Distress Syndrome
- w) Congenital Heart Diseases – cyanotic and non-cyanotic
- x) Neurological and developmental assessment of the newborn
- y) Impact of maternal health on health of the newborn
- z) Neonatal morbidity and mortality burden
- aa) Biostatistics
- bb) Ethical issues in neonatology including Research Ethics
- cc) Drugs and the newborn

Verification of learning will be assessed through formal examinations using any combinations of:

- (a) Multiple choice/Objective questions
- (b) Short answer questions
- (c) Viva voce

## 2. The Professional curriculum

This aspect of training emphasises the apprentice nature of learning. The requisite abilities will be acquired through clinical rotations in the prescribed units. At the end of training, the trainee is expected to have acquired the knowledge and skills to function at sub-specialty level.

Among others, the trainee should have acquired the skills and knowledge to care for the high-risk neonatal infant with particular reference to advanced respiratory support and parenteral nutrition. The trainee is also expected to imbibe the right disposition and attitude towards neonatal/perinatal care

## RECOMMENDED ROTATIONS

### 1. General neonatology

Duration: 12 months

Training site: Trainee's primary centre

Professional content and expected competences:

- Organization and Management of a Special Care Baby Unit: This includes
  - General supervision of in-patient and outpatient care
  - Administration of staff and facilities
  - Ability to assess needs of the Neonatology Unit
  - Competence in management of special equipment like incubators, CPAP devices, Ventilators, Phototherapy devices
  - Competence in deployment of infection control measures
  - Competence in counseling parents/caregivers in diverse clinical situations
- Care of the well newborn – routine care
- Care of the acutely ill newborn (Special Care Baby Unit) e.g.
  - Neonatal infections
  - Perinatal asphyxia: Physical and Pharmacological management
  - Neonatal jaundice: Use of phototherapy, Exchange Blood Transfusion and other modalities
  - Preterm, low birth weight babies **NOT** requiring advanced respiratory support
- Neurologic and developmental assessment of the newborn and infant
- Follow-up care of the preterm, low birth weight infant
- Follow-up care of the baby recovering or recovered from illness

### 2. Neonatal Intensive Care

Duration: 09 months

Training site: An accredited institution

Professional content and expected competences:

- Organization and Management of a Neonatal Intensive Care Unit
- Care of the high-risk newborn – preterm babies, low birth weight babies, babies born to mothers with metabolic problems or systemic illness.
- Care of other critically ill newborns
- Advanced respiratory support for neonatal infants – CPAP and Ventilator care
- Use of exogenous pulmonary surfactant
- Principles and Practice of Parenteral Nutrition

### 3. Paediatric Intensive Care

Duration: 03 months

Training site: An accredited institution

Professional content:

- Advanced respiratory support for infants and older children

#### 4. **Obstetric Perinatology**

Duration: 03 months

Training site: Trainee's primary centre

Professional content:

- Implications of maternal health and disease on the newborn e.g.
  - Hypertension
  - Diabetes mellitus
  - HIV/AIDS
  - Tuberculosis
  - Hepatitis
  - Thyroid disorders
  - Haematologic conditions – haemoglobinopathy, thrombocytopenia
  - Drug and substance abuse

#### 5. **Anaesthesiology**

Duration: 03 months

Training site: Accredited institution

Professional content:

The trainee will collaborate with anaesthesiologists in the care of children (particularly infants and neonates) scheduled for surgery.

The trainee will be expected to acquire knowledge and skills in preoperative, intraoperative and postoperative care of the neonatal infant with surgical conditions.

## **THE ACCREDITATION PROCESS**

1. Application by the training institution
2. Completion and return of a self-assessment form by the training institution
3. Visitation and meticulous verification of available personnel and other resources
4. Classification of the applying training centres:

### **Category A:**

There is capacity for advanced ventilator support and parenteral nutrition

Accredited for training in the entire range of the curriculum

**Note:** It is recommended that trainees get some experience with the use of exogenous pulmonary surfactant irrespective of category of training institution

### **Category B:**

Personnel and Facilities adequate for basic training

There is, however, no capacity for advanced ventilator support and parenteral nutrition

Accredited will be given for general neonatology training **BUT** trainees must get the required exposure in Advanced Ventilation support and parenteral nutrition from a Category A centre.

Category B accreditation may be FULL or PARTIAL

- With FULL accreditation, trainees may commence and finish all training EXCEPT for Intensive Care in their primary centres
- With PARTIAL accreditation, there is sufficient capacity to handle basic neonatal training but in addition to deficiency in Intensive Care, there are also deficiencies in other capabilities like Investigation Support, Anaesthesia etc. Trainees would therefore, be required to undergo affected postings/exposures in centres duly accredited for the purpose.

**APPENDICES:**

1. LOG BOOK (Appendix 1)
2. Template of report for supervisors (Appendix 2)
3. Template for annual progress report (Appendix 3)
4. Abstracts of Scientific Publications (Appendix 4)
5. ACCREDITATION FORM (Appendix 5) – also serves as “Self-Assessment Form”

**CURRICULUM DRAFTING COMMITTEE**

1. Dr. AA Okolo FMCPaed. (Chairperson)
2. Dr. BC Ibe FMCPaed.
3. Dr. JA Owa FMCPaed.
4. Dr. OF Njokanma FMCPaed. (Secretary)
5. Dr. M. Mukhtar FMCPaed.

## **Appendix 1: Logbook**

S No	ACTIVITY	Grade	Consultant	Date
1	Umbilical catheterization (Investigation)			
2	Umbilical catheterization (Investigation)			
3	Umbilical catheterization (Investigation)			
4	Umbilical catheterization (Investigation)			
5	Umbilical catheterization (Investigation)			
1	Umbilical catheterization (Therapeutic)			
2	Umbilical catheterization (Therapeutic)			
3	Umbilical catheterization (Therapeutic)			
4	Umbilical catheterization (Therapeutic)			
5	Umbilical catheterization (Therapeutic)			
1	Tracheal intubation			
2	Tracheal intubation			
3	Tracheal intubation			
4	Tracheal intubation			
5	Tracheal intubation			
1	Lumbar puncture			
2	Lumbar puncture			
3	Lumbar puncture			
4	Lumbar puncture			
5	Lumbar puncture			
1	Exchange Blood Transfusion			
2	Exchange Blood Transfusion			
3	Exchange Blood Transfusion			
4	Exchange Blood Transfusion			
5	Exchange Blood Transfusion			

Free comments:

Name of Head of Department/unit: \_\_\_\_\_

Signature of Head of Department/unit: \_\_\_\_\_

S No	Activity	Grade	Consultant	Date
1	Mechanical assisted ventilation			
2	Mechanical assisted ventilation			
3	Mechanical assisted ventilation			
4	Mechanical assisted ventilation			
5	Mechanical assisted ventilation			
1	Automated assisted ventilation			
2	Automated assisted ventilation			
3	Automated assisted ventilation			
4	Automated assisted ventilation			
5	Automated assisted ventilation			
1	Performance at high risk delivery			
2	Performance at high risk delivery			
3	Performance at high risk delivery			
4	Performance at high risk delivery			
5	Performance at high risk delivery			
1	Transfontanelle Ultrasonography			
2	Transfontanelle Ultrasonography			
3	Transfontanelle Ultrasonography			
4	Transfontanelle Ultrasonography			
5	Transfontanelle Ultrasonography			

Free comments:

Name of Head of Department/unit: \_\_\_\_\_

Signature of Head of Department/unit: \_\_\_\_\_

S No	ACTIVITY	Grade	Consultant	Date
1	Case presentation (General Neonatology)			
2	Case presentation (General Neonatology)			
3	Case presentation (General Neonatology)			
4	Case presentation (General Neonatology)			
5	Case presentation (General Neonatology)			
1	Case presentation (Neonatal Intensive Care)			
2	Case presentation (Neonatal Intensive Care)			
3	Case presentation (Neonatal Intensive Care)			
4	Case presentation (Neonatal Intensive Care)			
5	Case presentation (Neonatal Intensive Care)			

Seminar presentation				
1	One assigned topic			
2	One self-selected topic			
3	Dissertation title defence			
4	Research Proposal presentation			
5	Dissertation Literature Review presentation			
6	Dissertation presentation			

**Appendix 2**  
**ACCREDITATION/SELF-STUDY FORM**

**1. NEONATAL UNIT**

<b>A</b>	<b>Equipment</b>	<b>Available (Yes/No)</b>	<b>Number functional</b>	<b>Functional/admission capacity %</b>	<b>Number not functional</b>
1	Incubators				
2	Cots				
3	Resuscitaires				
4	Phototherapy units (Regular)				
5	Phototherapy units (LED)				
6	Irradiance meter				
7	Oxygen source				
	Piped		X	X	X
	Cylinder				
	Concentrator				
8	Ventilator				
9	CPAP device				
10	Cardiac monitors				
11	Suction machines (electronic)				
12	Suction machines (pedal)/Suction bulbs				
13	Pulse oximeters				
14	Oxygen monitors/sensors				
15	Bag and mask				
16	Laryngoscopes with appropriate blades				
17	Doppler blood pressure equipment				
18	Diagnostic sets				
19	Stethoscopes				
20	Low reading thermometers				
21	Weighing scales				
22	Infantometers				
23	Measuring tapes				
24	Transcutaneous bilirubinometer				
25	Nasal catheters				
26	Endotracheal tubes				
27	Urinary catheters/bags				
28	Solusets				
29	Infusomats				
30	Haemosets				
31	EBT Kits				
32	Vein finders				
33	Local anaesthetic creams				
34	Dextrose infusions				
35	Electrolyte infusions				
36	Sodium bicarbonate				
37	Calcium gluconate				
38	Potassium chloride				
39	Adrenaline				
40	Dopamine				
41	Naloxone				
42	Atropine				
43	Sildenafil				
44	Exogenous surfactant				
45	Diazepam				
46	Phenobarbitone/phenytoin				
47	Erythropoietin				
48	I-Stat or equivalent				

<b>B</b>	<b>BED AND SPACE</b>	
	<b>Bed space</b>	<b>Comment</b>
1	Admission capacity (Number)	<b>Number =</b>
2	Space between cots (Good/Poor)	<b>Good/Poor</b>
3	Separate space for inborn/out-born babies	<b>Yes/No</b>
4	Separate space for Intensive Care	<b>Yes/No</b>

<b>C</b>	<b>SANITATION</b>	<b>Available (Circle)</b>
1	Flowing water	A/B/C/D
2	Alcohol hand wash	A/B/C/D
3	Window netting	A/B/C/D
4	General Sanitation	X/Y/Z
<b>Interpretation table</b>		

**A = All the time:      B = Most times:      C = Occasionally:      D = Never**  
**X = Good                      Y = Fair                      Z = Poor**

<b>D</b>	<b>NURSING STAFF</b>		
		<b>Number</b>	<b>% of Admission capacity</b>
1	Total		100
2	Paediatric trained		
3	Neonatal trained		
4	Average Nurse/Patient ratio per shift		X

<b>E</b>	<b>LABOUR WARD THEATRE</b>	
	<b>Item</b>	<b>Number</b>
1	Resuscitaire	
2	Suction machine	
	Bulb suction syringe	
3	Bag and mask	
4	Laryngoscope	
5	Endo tracheal tubes	