

**REGULATIONS AND SYLLABUS
FOR
ADVANCED DIPLOMA IN MATERNAL AND CHILD HEALTH**

Offered by

**BHARATHIAR UNIVERSITY, COIMBATORE
FROM 2007-2008**

Under The

**UNIVERSITY INDUSTRY INTERACTION AND
CONSULTANCY SERVICE CENTER (UIICSC)
COLLABORATIVE PROGRAMME**

ADVANCED DIPLOMA IN MATERNAL AND CHILD HEALTH

1. Course title

Advanced Diploma in Maternal and Child Health.

2. Course Description

The objectives of the course is that on completion of lectures demonstration and practical the student will be able to demonstrate knowledge in Human anatomy as is necessary for the study and practice of Maternal and Child Health. On completion of the course the candidate will be completely knowledgeable about maternal and child health and will be skillful in management of the patient and in effective organizing and running of the child health unit.

The program will be conducted at a hospital recognized by Bharathiar University under the UIICSC collaboration program. Candidate shall abide by the stipulated timings, discipline, rules and regulations of the hospital to which they will be assigned for the entire course.

3. Regulations

a. Admission criteria

- Any candidate who has passed +2 or an equivalent course (graduates can also apply)
- Both male and female candidates aged 17 years and above are eligible to apply.
- Physical fitness certificate to be obtained from a Registered Medical Practitioner.

b. Course duration

Two years

c. Medium of instruction

- English

4. Course and scheme of examination

First Year

Paper No.	Subject	Credits	Marks	
			Int.	Ext.
1.	Anatomy and Physiology	4	40	60
2.	Physiology	4	40	60
3.	Clinical obstetrics	4	40	60
4.	Pharmacology	4	40	60
5.	Microbiology	4	40	60
6	Project Report and Viva Voce	12	120	180

Second Year

Paper No.	Subject	Credits	Marks	
			Int.	Ext.
1.	Pathology	4	40	60
2.	Community Medicine	4	40	60
3.	Physiotherapy	4	40	60
4.	Basic Nursing / Midwifery	4	40	60
5.	Nutrition	4	40	60
6.	Project Report and Viva Voce	12	120	180

5. Practical training

Being practical oriented program, the focus will be more for practical training. The candidate shall undergo practical training in maternal and child health care unit.

6. Requirement to appear for examination

Candidate should put in a minimum of 90 % attendance to appear for the examinations.

7. Passing minimum

To pass

- A candidate shall secure a minimum of 50 % in the practical and theory to pass the examination. A candidate failing in any one of the component will have to reappear for that particular component only in the supplementary examinations.
- A candidate shall secure 50 % marks in the internals.

8. Classification of successful candidate

A candidate securing 75% and above, aggregate in the theory and practical examinations, in the first attempt, shall be deemed to have passed the examinations with distinction.

A candidate securing 60% and above aggregate in the theory and practical examinations in the first attempt shall be deemed to have passed the examination
With First Class.

Other successful candidates shall be declared to have passed the examination in Second Class.

9. Conferment of degree

A candidate who has passed all the examinations as prescribed shall be eligible to receive the degree “Advanced Diploma in Maternal and Child Health” from the Bharathiar University.

10. Ranking

Candidates who have passed all the examinations in the very first attempt and securing the first position in aggregate marks for every 10 candidates appearing in the examinations (with the maximum of 10 positions) will be awarded university ranks.

11. Revision of regulation and syllabus.

The syllabus and regulations of the course are subject to modification by the concerned board where ever necessary.

12. Question paper pattern.

Theory examination will be for 100 marks with the following components, which will be converted into 60 %

- Multiple choice / one word answers : $20 \times 1 = 20$ marks (no choice)
- Short notes (100 words/ one paragraph) : $5 \times 6 = 30$ marks (either/or type)
- Elaborate (300 words or $1\frac{1}{2}$ paper) : $5 \times 10 = 50$ marks (either/or type)

I YEAR: PAPER 1
ANATOMY AND PHYSIOLOGY

Course objectives:

The objectives of the course is that on completion of lectures demonstration and practical the student will be able to demonstrate knowledge in Human anatomy as is necessary for the study and practice of Maternal and Child Health.

Unit I

1. Introduction:
 - a. Anatomy and its subdivisions.
 - b. The regions, cavities and systems of the body.
 - c. Anatomical positions and anatomical terms.
2. Cell:
 - a. Definition of a cell
 - b. Structure and functions.
 - c. Chromosomes, genes and their role.
 - d. Reviews mitosis and meiosis.
3. Tissues:
 - a. Classification of tissues.
 - b. Functions

Unit II

1. Female reproductive system
 - a. Bony pelvis-Anatomy, features, types, shapes, classification, diameters and measurements.
 - b. External Generative organs
 - c. External genitalia, perineum, vagina, pelvic floor and pelvic diaphragm
 - d. Anatomy of female breast including blood supply and lymphatic drainage Internal generative organs
 - e. Anatomy, blood supply, lymphatic drainage of Uterus, cervix, ovary, and tubes.
 - f. Ligaments and supporting structures of Uterus.
2. Male reproductive system
 - a. Anatomy, blood supply of testis, prostate, penis and spermatic cord.
3. Abdomen
 - a. Abdominal and peritoneal cavity and its contents
 - b. Muscles of anterior posterior abdominal wall, origin, insertion, action and nerve supply.
 - c. Rectus sheath and its contents
 - d. Inguinal canal, inguinal hernia and other hernias

Unit III

- Urinary system:
- a. Anatomy of Kidney and ureter.
 - b. The position, size and shape of the kidneys with their immediate relationship
 - c. The ureter and its position in relation to kidney and urinary bladder.
 - d. Anatomy of the urinary bladder and urethra.
 - e. Male and female urethra.
 - f. Basic innervation of the bladder

Unit IV

Embryology

- g. Significance of embryology
- h. Developmental terms and concepts
- i. Developmental periods
- j. Germ cells or gametes, spermatogenesis and oogenesis

Unit V

- a. Germ cell transport, fertilization and implantation
- b. Embryonic period 4 - 7 weeks
- c. Fetal period 8 weeks to birth
- d. Development of organ systems
- e. Fetal membrane and placenta
- f. Teratology - congenital malformations and causes.

I YEAR: PAPER 2
PHYSIOLOGY

Basic physiology necessary to understand and fulfill the requirements for the Advanced Diploma in Maternal Child Health Advanced Diploma in Maternal Child Health

Unit I

1. Cell: Basic concepts, structure and function of cell.

Unit II

1. Reproductive system:
Female reproductive system
 - a. The menstrual cycle,
 - b. Ovarian hormones, Control of ovarian function, abnormalities of ovarian function.
 - c. Pregnancy
 - i. Maternal adaptation in pregnancy
 1. Reproductive system
 2. Cardiovascular system
 3. Digestive system
 4. Urinary system
 5. Musculoskeletal System
 6. Endocrine and skin
 - d. Endometrium and uterine deciduas
 - e. Placenta and foetal membranes
 - f. Placental hormones

Unit III

1. Male reproductive system
 - a. Gametogenesis
 - b. Endocrine functions of testis
 - c. Testicular function
 - i. control and abnormalities of testicular function.
 - ii. and ejaculation

Unit IV

1. Growth and Functional development of foetus
 - a. Development of organ systems.
 - b. Adjustments of the infant to the extra uterine life
 - i. onset of breathing
 - ii. circulatory readjustments at birth
 - iii. nutrition of the new born
2. Physiology of lactation
 - a. Development of Breasts
 - b. Initiation of lactation
 - i. function of prolactin
 - c. The ejection or let-down process in milk secretion
 - i. Function of oxytocin.
 - d. Milk and metabolic drain on mother caused by lactation.

Unit V

1. Developmental Physiology
 - a. Sex differentiation and development, chromosomal sex
 - b. Embryology of human reproductive system
 - c. Aberrant sexual differentiation
 - d. Puberty, Precocious and delayed puberty
 - e. Genetic counseling

I YEAR: PAPER 3
CLINICAL OBSTETRICS

Unit I

1. Human Pregnancy:
 - a. Obstetrics in broad perspective
 - b. Aims of Obstetrics
 - c. Vital Statistics
 - d. Maternal Mortality
 - e. Perinatal Mortality and Morbidity
 - f. Obstetrics and other branches of Medicine
 - g. Diagnosis of pregnancy
 - h. Spontaneous labour and delivery
 - i. Normal pelvis-review
 - j. Attitude, lie, presentation and position
 - k. Parturation-Biomolecular process
 - l. Mechanism of normal labour
 - m. Puereperium
 - n. New born infant
2. Management of Normal pregnancy:
 - a. Antepartum diagnosis of Fetal Anomalies.
 - b. Antepartum assessment of fetal well being
 - c. Assessment of fetal lung maturity
 - d. Prenatal care
 - e. Conduct of normal labour and delivery
 - f. Analgesia and anesthesia

Unit II

1. Abnormalities of Labour and delivery:
 - a. Abnormalities of expulsive forces
 - b. Abnormalities of presentation, position and development of Fetus
 - c. Abnormalities of bony pelvis
 - d. Abnormalities of soft tissue-reproductive tract
 - e. Breach delivery-techniques
 - f. Dystocia
 - g. Injuries of birth canal
 - h. Abnormality of third stage
2. Abnormalities of Puerperium:
 - a. Puerperal Infections
 - b. Deep vein thrombosis and pulmonary embolism.
 - c. Postpartum depression

Unit III

1. Complications of pregnancy:
 - a. Abortion
 - b. Ectopic pregnancy
 - c. Multiple pregnancy
 - d. Obstetric Haemorrhage
 - e. Abnormality of reproductive tract
 - f. Pre Term and post Term pregnancy
 - g. Diseases and infections of fetus
 - h. Diseases and abnormalities of placenta, Membranes and umbilical cord

- i. Medical and surgical complications of pregnancy
 - i. Hypertensive disorders
 - ii. Diabetes in pregnancy
 - iii. Other medical and surgical conditions

Unit IV

1. Family planning:
 - a. Male contraception-importance, methods.
 - b. Female contraception-importance, methods
2. Reproductive failure:
 - a. Infertility-Causes, investigations
 - b. Assisted reproductive methods.
3. General Gynecology:
 - a. Abnormal bleeding
 - b. Prolapse
 - c. Stress incontinence
 - d. Dysmenorrhea and pelvic pain
 - e. Premenstrual syndrome
 - f. Menopause
 - g. Laparoscopy, Hysteroscopy and Hysterectomy- terminologies and basic understanding
 - h. Cancer cervix
 - i. Benign and malignant Breast diseases

Unit V

1. New born Care
 - a. Functional problems in the neonatal infant.
 - b. Problems of prematurity
 - c. Immature development
 - d. Instability of the control systems in the premature infant
 - e. Dangers of Oxygen therapy in prematurity.
 - f. Care of the premature infant
 - g. Infections in the newborn
 - h. Injuries of the fetus and the newborn
 - i. Respiratory distress syndrome and meconium aspiration syndrome.
 - j. Jaundice in the new born.
 - k. Neurological disorders in the newborn
 - l. Feeding-Breast feeding and substitution
 - m. Care of the newborn, immunization.
 - n. Growth and development of the child
 - o. Behavioral growth

I YEAR: PAPER 4
PHARMACOLOGY

Aim of the study of the subject is to be aware of the use of drugs in pregnancy, indications, contra indications, adverse effects of the drug on the mother and the fetus.

Unit I

- A. General Pharmacological Principles:
 - a. Definitions, Routes of drug administration
 - b. Pharmacokinetics
 - c. Pharmacodynamics

Unit II

- 1. Indication and contra indications
 - a. Adverse drug effects

Unit III

- 1. Drugs acting on Autonomic nervous system
 - a. indication, contra indication, adverse reaction

Unit IV

- 1. Hormones and related drugs
- 2. Drugs acting on Uterus
 - a. Prostaglandins
 - b. Oxytocin

Unit V

- 1. Haematinics, Vitamins, Antimicrobials.
- 2. Vaccines and sera Antiseptics, disinfectant

I YEAR: PAPER 5
MICROBIOLOGY

Unit I

Introduction and history of Microbiology

- a) Classification of Micro-organisms
- b) Special characteristics

Unit II

Sterilization and asepsis

- c) Disinfection and antiseptics
- d) Anti bacterial agents
- e) Susceptibility testes

Unit III

Infection

- f) Source of infection
- g) Portal of entry and spread of infection.
- h) Hospital acquired infections.

Unit IV

Immunity

- a) Natural and acquired.
- b) Non specific immunity.

Allergy and hypersensitivity.

Unit V

Common pathogenic Bacteria and diseases produced by them

- a) Respiratory tract infection
- b) Urinary tract infection
- c) Enteric infections
- d) Wound infections
- e) Anaerobic infections
- f) Sexually transmitted infections
- g) Meningitis, Tuberculosis
- h) Yeast and fungal infections
- i) Viral infections-poliomyelitis, hepatitis and rabies.

II YEAR: PAPER 1
PATHOLOGY

Unit I

Internal environment:

- a. Electrolyte
- b. Water

Unit II

Inflammation:

- a. Definition
- b. varieties of inflammation - Terminology inflammatory process causes, types and mediators

Unit III

Necrosis: Causes, types, reaction to necrosis and cell death

Unit IV

General response to Injury:

- a. Repair:
- b. Regeneration, wound healing, healing of epithelium,
- c. Healing of specialized tissues and abnormal repair

Unit V

Infection:

- a. Source of infection
- b. Transmission of infection
- c. Defense of the body
- d. Failure of the defenses and spread of infection within the body
- e. Important bacterial, viral and fungal infections

II YEAR: PAPER 2
COMMUNITY MEDICINE

Unit I

1. Evolution of Medicine: Towards health for all
2. Concepts in Community Health

Unit II

1. Principles of epidemiology and epidemiologic methods
2. Epidemiology of Communicable diseases:
3. Respiratory and intestinal infections, Tetanus, STD, Yaws and AIDS

Unit III

1. Demography and family planning
2. Pregnancy
3. Contraception

Unit IV

1. Nutrition and health
2. Environment and health
3. Preventive medicine in Obstetrics and Pediatrics

Unit V

1. Health information and Medical Statistics
2. Health education and communication
3. Health planning and Management
4. Health care of the community.

II YEAR: PAPER 3
PHYSIOTHERAPY

Unit I

Importance of exercise in health

- a. Puberty and Menarche
- b. Adolescent
- c. Musculoskeletal changes during adolescent period
- d. Child bearing year
- e. Common gynecological conditions and role of exercises

Unit II

Exercise in Pregnancy

- f. Physiology of being pregnant
- g. Physiological changes during pregnancy
- h. Common musculoskeletal problems encountered during pregnancy
- i. Role of pelvic floor exercise during pregnancy
- j. Indications/contraindications for exercising during pregnancy

Unit III

Labour

- a. Stages of labour and pain patterns during labour
- b. Relaxation position during labour
- c. Breathing patterns during labour

Unit IV

Postnatal exercise

- a. Common problems encountered during postnatal period
- b. Exercise during postnatal period – Specification for normal delivery and LSCS
- c. Back care program
- d. Pelvic floor dysfunction and management

Unit V

Peri menopausal and Post menopausal period

- a. Problems during menopausal period and role of exercise
- b. Osteoporosis and importance of exercise
- c. Anatomy and physiology of bladder and bladder training program
- d. Fitness during old age

II YEAR: PAPER 4
BASIC NURSING / MIDWIFERY.

Unit I

Introduction

1. What is nursing?
 - a. Nursing principles,
 - b. Interpersonal relationships, Nurse to nurse, nurse to patient, nurse to Doctor, nurse to other paramedical personnel and non medical staff and hospital visitors.
2. First Aid
 - a. Definition and importance
 - b. Scope and concept of emergency
 - c. First Aid in emergency
 - d. General and obstetric emergencies
 - e. Skeletal injuries
 - f. Respiratory emergencies

Unit II

1. Wounds and hemorrhages
 - a. Wound cleaning and dressing
 - b. Wound care
2. Unconscious and shock
 - a. Transportation of a patient
 - b. Transportation of a newborn

Unit III

1. Community emergencies and resources
2. Environment safety, bed making

Unit IV

1. Nursing positions
 - a. Position for the patient, prone, supine, lateral, recumbent, fowler's, and sims
2. Feeding:
 - a. Regular feeding
 - b. Nasogastric feeding,
 - c. Intravenous feeding
 - d. Intravenous fluids
 - e. Transfusions and the care of the sites and the infusions

Unit V

1. Catheters and tubes.
 - a. Techniques of catheterization,
 - b. Insertion of nasogastric tubes and rectal tubes.
2. Preparation of delivery room and setting up the table
 - a. Preparation of a patient for vaginal delivery
 - b. Preparation of a patient for abdominal delivery
 - c. Preparations for receiving the baby and arranging for the baby table
 - d. Post delivery care of the mother and baby
 - e. Perineal hygiene, breast feeding, care of the breasts.

II YEAR: PAPER 5
NUTRITION

Unit I

General nutrition:

Classification of foods

- a. Carbohydrates
- b. Protein
- c. Fat
- d. Minerals
- e. Vitamins

Unit II

Diet during pregnancy

1. Diabetic
2. Obesity
3. PCOS
4. Normal

Unit III

Diet changes

1. First trimester
2. Second trimester
3. Third trimester

Unit IV

Postpartum and Lactating

Unit V

Diet in adolescent, peri and Post menopausal periods

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8. Microbiology for Nurses - RL Ichhpujani / Rajesh Bhatia
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11. Community Health Nursing - - BT Basavanthappa
12. A Guide to Midwifery Students – CP Thresyamma
13. Basics of Clinical Nutrition – YK Joshi
14. Food care and nutrition - Dr.M.S.Swaminathan
15. Pregnancy Cook Book - Tarla Dalal
16. Human Embryology – Daksha Dixit
17. Physiotherapy in OBS & Gyn –Jill Mantel&Margret Polden
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