



**YENEPOYA UNIVERSITY**

**Deralakatte, Mangalore - 575018**

**REGULATIONS AND CURRICULUM GOVERNING  
POSTGRADUATE PROGRAM (MS) IN  
OBSTETRICS AND GYNAECOLOGY (OBG)**

**(CURRICULUM - EFFECTIVE FROM 2010-11)**

**ATTESTED**

A handwritten signature in blue ink, appearing to read 'G.S.', is written over the printed name.

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Ref: No.YU/REG/ACA/5-ACM/2010

15.10.2010

**NOTIFICATION**

Sub: Curriculum and Syllabus governing the Postgraduate course in the  
Speciality of MD, Obstetrics & Gynecology

Ref: Resolution of the Academic Council at its 5<sup>th</sup> Academic Council  
meeting held on 11.10.2010, vide agenda - 8

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The Academic Council at its 5<sup>th</sup> meeting held on 11.10.2010 and subsequently the 12<sup>th</sup> Board of Management at its meeting held on 12.10.2010 have resolved to approve the curriculum and syllabus governing the Postgraduate course in the speciality of MD, Obstetrics & Gynecology.

This notification is issued for implementation with effect from the academic year 2010-2011.



**REGISTRAR**

To:

The Principal - YMC

Copy to:

1. Controller of Examinations
2. Academic Section

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## **POSTGRADUATE**

### **THEORY:**

#### **Basic Sciences**

#### **ANATOMY INCLUDING EMBRYOLOGY**

Gametogenesis, Ovulation, fertilization, implantation, development of foetus and placenta. Development of male and female genital tract. Problems of abnormal development of genital tract in Obstetrics and Gynaecology. Anatomy of Urogenital system, including pelvic musculature. Blood supply, innervations and Lymphatic drainage of the pelvis and reproductive organs.

#### **GENETICS**

Normal and abnormal Karyotypes  
Problems of intersex  
Genetic causes of infertility and early pregnancy loss  
Genetic aspects of artificial insemination

#### **PATHOLOGY**

Pathology of inflammatory disease, degenerative and neoplastic disease of vulva vagina, cervix and uterus, fallopian tubes. Ovaries and broad ligament.

#### **HAEMATOLOGY**

Blood groups, Rh factor, incompatibility, Blood transfusion

#### **BIOCHEMISTRY**

Steroid and prostaglandin synthesis, function, metabolism in mother and foetus. Maternal and foetal carbohydrate, lipid, amino-acid metabolism and iron metabolism. Synthesis and secretion of foetal pulmonary surfactant.

#### **ENDOCRINOLOGY**

Structure, synthesis, function, metabolism and principles of assay of hormones, produced from hypothalamus, anterior and posterior pituitary, Thyroid, pancreas, adrenal cortex, adrenal medulla, Ovary, Testis and placenta.

#### **PHARMACOLOGY**

Placental transfer of drugs and its effects on mother and foetus, Eg. Antibiotics, anti hypertensive's, Psychotropic drugs, Oral contraceptives, Chemotherapeutic drugs, Anticonvulsants, Anti coagulants and Oxytocic drugs, effects of tobacco and alcohol on pregnancy mother and foetus. Teratogenic effect of drugs taken lactational period.

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## **IMMUNOLOGY**

Basic immunology including primary and secondary immune response, mechanism of antibody production. HLA system and graft rejection. Change in pregnancy and the foetus as a graft, Immunological pregnancy test. Rhesus and other Isoimmunization. Active and passive immunization and Auto immune disease.

## **MICROBIOLOGY**

Epidemiology and pathophysiology of disease developing in pregnancy tht is Septic abortion, Preterm labour, PROM, Puerperal sepsis, mastitis, Septic shock and Neonatal sepsis. Microbiology of TORCH infection, Syphills, Chlamydia, Mycoplasma, hepatitis and HIV.

### **Maternal physiological changes during pregnancy**

- i) Fluid and electrolyte balance
- ii) Changes in respiratory, Cardio vasecular system
- iii) Changes in Gastro – intestinal system – including liver and papcreas
- iv) Change in urinary system
- v) Hematological changes including coagulation mechanism and fibrionolyac system

## **TERATOLOGY**

Mechanisms of teratogenesis. Effect of possible teratogens – drugs virus radiation and other agents.

## **ANTENATAL CARE**

Includes diagnosis, of pregnancy; Identification of high risk group of mothers and foetus with different modality of investigation. Clinical monitoring of maternal/foetal welfare and selection of place of delivery.

## **PHYSIOLOGY OF LABOUR**

Causation of onset of labour

Intrapartum care

Maternal and foetal monitoring

Mechanism and management of normal labour

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## **ABNORMAL PREGNANCY**

- i) Medical diseases and disorders complicating pregnancy and child birth
- ii) Obstetric complications of pregnancy
- iii) Multiple pregnancy
- iv) Congenital malformations
- v) Foetal growth retardation
- vi) Repeated pregnancy loss
- vii) Preterm labour
- viii) Prolonged pregnancy
- ix) Malpresentation
- x) Shock and collapse
- xi) Ectopic pregnancy
- xii) Rh incompatibility
- xiii) Abnormalities of Labour and Delivery including induction of labour and abnormal uterine action

## **SOCIAL OBSTETRICS**

Study of interplay of social and environmental factors and human reproduction going back to premarital a preconception period.

- i) Implementing safe motherhood initiative.
- ii) Community maternal health care
- iii) Antenatal checkup
- iv) MCH problems
- v) Risk approach of pregnant women, Anaemia, STD syphilis, tetanus, AIDS
- vi) Domiciliary care
- vii) Postnatal complications
- viii) Low birth weight (L.B.W.)
- ix) Socio economic status and birth weight correction
- x) Infant feeding
- xi) Road to health chart and school health programme
- xii) Pre pregnancy and post pregnancy counselling
- xiii) Reproductive and child health (RCH)
- xiv) National Health Programme

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## **FAMILY WELFARE PROGRAMMES INCLUDING TUBAL RECONSTRUCTIVE SURGERIES**

### **Temporary methods like**

- Chemical contraceptives
- Barrier methods
- Hormonal contraception
- IUD

### **Permanent methods like**

- Tubectomy
- Laparoscopy tubal ligation
- Minilap

### **Reconstructive surgeries like**

- Tuboplasty
- Vaso Vasotomy

### **Perinatology**

- i) The term new born infant
- ii) Low birth weight baby, -Preterm, IUGR
- iii) Asphyxia neonatorum
- iv) Respiratory distress
- v) Jaundice in new born
- vi) Haemorrhagic disease of new born
- vii) Convulsions in new born
- viii) Injuries of the new born
- ix) Infection of new born
- x) Diarrhoea in new born
- xi) Vomiting of the new born
- xii) Congenital malformation of new born

### **Neonatal**

Early neonatal complication, infection and management

### **Mortality and Morbidity**

Epidemiology, Magnitude of the problem, causes, prevention and management of Maternal mortality and morbidity. Perinatal mortality,

### **Gynaecology:**

History taking with special reference to gynaecological history, abdominal and pelvic examination, relevant investigation to arrive at most probable diagnosis.

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Topics induced: Infection, New growths (both benign and malignant) and other pathological disorders of vulva, vagina, urinary bladder, cervix uterus, fallopian tubes. Ovaries and Pelvic cellular tissues including STD and HIV.

### **Adolescent Gynaecology**

Menstrual disorders, including amenorrhoea, menopause, postmenopausal Gynaecological problems and management of the aged and elderly women. Chromosomal disorders – including intersex.

Gynaecologic clinical cytopathology

Contraception and family planning

Infertility and ART

Hormones therapy.

Problem of sex and marriage

## **CLINICAL OBSTETRICS & GYNAECOLOGY**

### **Obstetrics I**

- i. Diagnosis of early pregnancy and its complication and management
- ii. AIM of ANC and management of high risk pregnancies.
- iii. To work in labour wards and to manage normal and complicated deliveries.
- iv. Neonatal care and resuscitation in labour wards
- v. Follow – up of normal and abnormal deliveries during postnatal period
- vi. Assisting caesarean section initially, by the end of the course, they shall be able to do caesarean sections independently.
- vii. ICU management.
- viii. Family welfare programmes and reconstructive surgeries of the fallopian tubes
- ix. Rural obstetrics care referral services

### **Gynaecology**

- i. To work in OPD and examine Gynaecology cases routinely,
  - ii. Minor operation: To assist in the beginning and carry out work independently by the end of I year.
  - iii. Major Operations : To assist as second assistant for the I six months and as first assistant for the next 6 months and do major operations like vaginal hysterectomy, with PFR and abdominal hysterectomy, Ovariectomy with the assistance of senior doctors. By the end the course the candidate shall be familiar with the techniques of above mentioned operations and to do independently.
  - iv. To do investigations like HSG and USG under guidance initially and independently by the end of course.
  - v. To assist medico legal cases.
  - vi. Writing case records
  - vii. Candidate should write separate PG case sheets, They should keep diary and log book and get verified by the Unit Chief by the end of each month.
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### **Essential Research Skills**

- i. Basic statistical knowledge
  - a. Ability to undertake clinical & basic research
  - b. Descriptive and inferential statistics
  - c. Ability to publish results of one's work.
- ii. This could be achieved during the course by attending workshops on research methodology, basic statistics classes and regularly having journal clubs etc., where selected articles are taken and evaluated for content quality and presentation.

### **Communication abilities**

Ability to interact with and work as a team with other colleagues, with patients and with teachers.

### **Record keeping**

The ability to maintain records as scientifically as possible. Knowledge of computer is helpful.

### **Surgical Skills**

1. Conducting minimum 50 cases of normal delivery including forceps and ventouse application.  
Episiotomy repair, colpocentesis 3<sup>rd</sup> degree perineal tear suturing
  2. Tubectomy both mini lap and laparoscopic sterilization.
  3. Destructive operations
  4. Minor O.T. procedures :
    - i. MTP, D&C, suction evacuation, M.R. Mid-trimester procedure extraamniotic instillation with of 2% ethacardine Inj. Local application cerviprime gel insertion of intrauterine devisors.
    - ii. Cervical and Endometrial biopsy electric cauterization and cold cable tube testing procedure and hysterosalpingogram,
    - iii. Cervical biopsy, pap-smear,
    - iv. Diagnostic laparoscopy and hysteroscopy
    - v. Colposcopy
  5. Major OT procedures
    - i. Caesarean section minimum 10 to be done and 20 operation to be assisted
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- ii. Vaginal hysterectomy minimum 20 to be assisted and 3 to be performed
  - iii. Abdominal hysterectomy minimum 20 to be assisted and 3 to be performed
  - iv. Ovariectomy
  - v. Cervical cerclage
  - vi. Caesarean hysterectomy
  - vii. Salpingectomy for ectopic pregnancy
  - viii. Laparotomy
  - ix. Internal iliac ligation
  - x. external podalic version and MRP
  - xi. Operation for inversion of uterus
6. Special Operations ( Only to assist)
- i) Tuboplasty
  - ii) Myomectomy
  - iii) Ovarian de- bulking operation
  - iv) Ventrofixation (Gilliam's Operation)
  - v) Sling operations for prolapse
  - vi) Wertheim's hysterectomy
  - vii) Simple and radical vulvectomy
  - viii) Operation for stress incontinence

## **YEAR WISE STRUCTURED TRAINING SCHEDULE**

### **I YEAR**

- 1) Theoretical knowledge, Basic sciences.
- 2) Examination and diagnosis of Obstetrics & Gynaecological cases with relevant investigations case recording.
- 3) Surgical Skills  
Assisting Caesarean sections as second assistant initially and later on as first assistant.  
Assisting all major gynecological operations like, vaginal & abdominal hysterectomies as a second assistant.

#### Minor Operations

Assisting minor operations like MTP, Tubectomy, Laparoscopy, Cervical biopsy D & C in the initial period and later on doing independently under supervision

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## II YEAR

Theoretical knowledge of allied subjects

**Clinical examination and diagnosis** : The student is encouraged to take diagnostic, investigational and therapeutic decisions.

**Surgical Skills** : At the end of the second year the student should be capable of operating without assistance but under supervision, like caesarean section and minor operations like, MTP, cervical biopsy, D&, tubectomies, outlet forceps, emergencies during delivery. The student must know how to manage the complications during and after delivery confidently.

**Conferences and workshops**: Encouraged to attend one conference of State level and at National level. Presentation of paper in the conference should be done.

The student should be involved actively in presentation of seminars, panel discussion, Journal clubs and case discussions with seniors, and to maintain record in Log book.

## III YEAR

Should be thorough with basic, allied and recent advances.

**Clinical Diagnosis & examination** : should be able to make clinical diagnosis and be familiar with techniques of operations like caesarean sections, abdominal and vaginal hysterectomies, reconstructive surgeries of fallopian tubes and surgeries on ovarian tumours. Techniques of assisted reproductive technologies.

**Teaching activities** : Final year student should take lead in conducting seminars, panel discussions, Journal Clubs and case discussions with I & II year students. The student should involve himself/herself in teaching undergraduate students specially bedside clinics.

The student should attend National and State level conferences, CME. Programmes and workshops on colposcopy, Hysteroscopy and endoscopic surgeries, including ultrasound guided procedures. The student must also be exposed to the assisted reproductive technologies like IVF – ET ICSI and also to observe radical surgeries in gynaec – Oncology..

### Rotation and labour ward postings

- i) The student must work in labour wards at least 9 months during I, II & III year (3 months each year)
- ii) Paediatrics : 15 days
- iii) Radio – diagnosis including Ultrasound and NST : 15 days
- iv) Oncology and Radiotherapy : 1 month
- v) Anaesthesia : 15 days

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## TEACHING/LEARNING EXPERIENCE

### Teaching and learning activities

A candidate pursuing the course should work in the institution as a full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself/herself from work without valid reasons.

A list of teaching and learning activities designed to facilitate students of our department to acquire essential knowledge and skills are as follows:

1. Lectures: Lectures are to be kept to a minimum. Final year and Second year Postgraduate students are scheduled to take undergraduate bedside clinics once in a week.
2. Journal club once in 1 month
3. Subject Seminar once in a week
4. Case presentations- twice a week
5. Debate: once in a month
6. OPD work – on scheduled OPD days
7. Ward rounds :
  - a. Service rounds :Every day for the care of the patients. Newly admitted patient should be worked up by the PGs and presented to the seniors the following day.
  - b. Teaching rounds : Each unit will conduct grand rounds for teaching purpose
8. Clinico pathological discussion : interesting cases and the slides are discussed regularly with the department of pathology.
9. Inter departmental meetings to be held with department of Radiology & Paediatrics to discuss interesting cases.
10. CME – at least 2 state level CME programmes should be attended by each students in 3 years.
11. Conferences : PG students should present 1 poster and 1 paper at conferences with due support from the teaching staffs.
12. Should have atleast 1 publication at the end of 3 years.

The unit head will scrutinize for the PG work every week end and will be scrutinized by the HOD at the end of each unit posting.

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## DISSERTATION :

Every candidate should carry out work on selected research projects under the guidance of the recognized postgraduate teacher. They should stick to the norms proposed by MCI.

### Monitoring Learning Progress

- i) Personal attitudes : The essential items are :
- Caring attitude
  - Initiative
  - Organizational ability
  - Potential to cope with stressful situations and undertake responsibility
  - Trust worthiness and reliability
  - To understand and communicate intelligibly with patients and others.
  - To behave in a manner which established professional relationship with patients and colleagues
  - Ability to work in team
  - A critical enquiring approach to the acquisition of knowledge
- The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

- ii) Acquisition of knowledge :
- The methods used comprise of 'Log Book' which records participation in various teaching/learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors.

Case discussions : an interesting case in the wards to be selected and presented in the class. The ability to take detailed history, arrive at probable diagnosis and different modes of management to be discussed in detail.

Journal review meeting (Journal club): The ability to do literature search in department study, presentation skills, and use of audio – visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist.

Seminars/Symposia: The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio-visual aids are to be assessed using a checklist

Clinico – pathological conferences : This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and

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therapeutic problems by using an analytical approach. The presenters are to be assessed using a check-list similar to that used for seminar.

Medical Audit : Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

iii) Clinical skills :

*Day to day work* : Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills.

*Clinical Meeting* : Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list.

*Clinical & procedural skills* : the candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book.

iv) Teaching skills : Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any this performance should be based on assessment by the faculty members of the department and from feed back from the undergraduate

v) Dissertation in the Department : Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the University for registration, again before finalization for critical evaluation and another before final submission of the completed work.

vi) Periodic tests: The departments conduct three tests, two of them will be annual tests, one at the end of first year and the other in the second year. The third test may be practical's /clinical and viva – voce.

vii) Work diary /Log Book : Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such a journal reviews, seminars, etc. Special intention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

viii) Records : Records, log books and marks obtained in tests will be maintained by head of the department and will be made available to the University.

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## **LOG BOOK**

The log book is a record of the important activities of the candidates during training, internal assessment should be based on the valuation of the log book collectively. Log books are a tool for the evaluation of the training programme. The record includes academic activities as well as presentations and procedures carried out by the candidate.

**Students qualifying for university examination should have published one paper, one presentation of scientific paper, one presentation of poster in State/National conference.**

## **SCHEME OF EXAMINATION :**

### **A. Theory**

There will be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and essay questions each carrying 10 marks. Total marks for each paper will be Questions on recent advances may be asked in any or all the papers. Details distribution of topics for each paper will be follows. Internal assessment examination conduct both in theory and practical at the end of the academic year. B

Paper I : Basic Science as applicable to Obstetrics & Gynaecology

Paper II : Obstetrics and Gynaecology

Paper III: Gynaecology

Paper IV: Social Obstetrics and Family Welfare Planning & Recent advances

### **B. Clinical 200 marks**

There will be two long cases and two short cases to be examined and presented by each candidate. Marks shall be 200.

Type of cases

Long cases : one case of obstetrics and one case of Gynaecology. Each cases carries 75 marks.

Short cases: One case of Obstetrics and one case of Gynaecology. Each case carries 25 marks.

### **C. Viva Voce: 100 marks**

1. Viva – Voce Examination (80 Marks)

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All examiners will conduct viva-voce conjointly on candidates comprehension. Analytical approach, Expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, charts dummies (pelvis, foetal skull), gross specimens, pathology slides, instruments, X-rays, ultrasound, CT Scan images, NST etc, for interpretation. It includes discussion on dissertation also.

2. Pedagogy Exercise : (20 Marks)

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8 -10 minutes.

**D.**

Maximum marks for MD Obstetrics & Gynaecology	Theory	Practical	Viva	Grand Total
	<b>400</b>	<b>200</b>	<b>100</b>	<b>700</b>