PROGRAM
MS OBSTETRICS AND GYNAECOLOGY

(Revised with effect from 2015-2016 onwards)

Contents

GOAL

- A post graduate is expected to acquire knowledge of Anatomy, Physiology, Pharmacology and Patho-physiology related to reproductive system and reproductive medicine so that he/she is competent to manage pathological state related to these efficiently and effectively backed by scientific knowledge and skill.

- Should learn to maintain high ethical standard and should exercise empathy and caring attitude.

- Should have keen interest in acquiring newer skills and continuing education in the specialty.

- Should be a specialist keen to share skills and knowledge to colleagues and juniors.

OBJECTIVES

- With the knowledge and skills developed at the completion of the curse, the candidate shall be able to : -

- Offer to the community, the current quality of 'Standard care' in obstetrics and gynaecological diagnosis' as well as referred conditions.

- Periodically self assess his or her performance and keep abreast with ongoing advances in the field and apply the same in his/her practice

- Be aware of his or her own limitations to the application of the speciality in situations which warrant referral to major centers or individuals more qualified to treat.

- Apply research and epidemiological methods during his/her practice. The candidate shall be able to present or publish work done by him/her.

- Contribute as an individual or in a group or institution towards the fulfillment of national objectives with regard to prevention of maternal mortality and morbidity and improving the neonatal outcome.

- Effectively communicate with patients or relatives so as to educate them sufficiently and give them full benefit of informed consent to treatment and ensure compliance.

- Effectively communicate with colleagues.
- Interpret various laboratory investigations and other diagnostic modalities in obstetrics and gynaecology.
- Diagnose and manage paediatric and adolescent gynaecologic problems and Post-menopausal and geriatric gynaecologic problems.
- Have knowledge about asepsis, sterilization and disposal of medical wastes.
- Use newer information technologies (computer and internet)

Program Outcomes

PO1 : MEDICAL KNOWLEDGE Acquisition of theoritical knowledge regarding the basic sciences (anatomy, Physiology, Pathology, Pharmacology) pertaining to reproductive system
PO2 : EFFICIENT DIAGNOSTICIAN : Differentiate physiological & pathological states pertaining to reproductive system
PO3 : SKILL ACQUISITION : Acquiring skills to manage the physiological & pathological states.
PO4 : STANDARDISED CARE : Offering Standard, Ethical & unbiased patient care
PO5 : MASTERLY PERFORMANCE : Prenatal Diagnosis & managing "High risk" pregnancies
PO6 : INDIVIDUALISED APPROACH : Providing Individualised family planning methods (Contraception, sterilisation) in par with the legal systems pertaining in the country.
PO7 : MODERN DAY LEARNING : Updation of the knowledge regarding ongoing advances in management of disease conditions &inqusitiveness in research materials.
PO8 : LIFE LONG LEARNING : Participation in Workshops / Conferences / research activities
PO9 : EPIDEMIOLOGIST : Screening for communicable / non-communicable disease status in the population & educating regarding awareness of gynec cancers
PO10 : COMPETANT CLINICIAN :Diagnosing and managing common paediatric/ adolescent / geriatric gynaecologic problems
PO11 : ETHICAL & EMPATHETIC PRACTIONER : Ethical practice in managing Infertility / Gynecological malignancies
PO12 : HEALTH PROGRAMMES : Awareness of National health policies, state helth policies, scientific committee & bodies related to Obstetrics & gynecology

Program Sepcific Outcomes

PSO1 : Acquiring skills & scientific knowledge in Obstetric & gynecological care
PSO2 : Performing procedures & interventions abiding to standard protocols &practises
PSO3 : Participation in research activities

Course Contents

It includes topics not only of Obstetrics and Gynaecology but also those aspects of Medicine, surgery, Pediatrics applied Anatomy, Physiology, Pathology, Pharmacology and Microbiology relevant to the practice of both Obstetrics and Gynaecology. It is intended as a guide to the candidates and it is not comprehensive. As and when there is newer development it becomes eligible for inclusion.

Theory

Basic Sciences

Genetics

- Normal and abnormal karyotypes
- Pattern of inheritance
- Chromosomal abnormalities-types incidence diagnosis, management and recurrence risk.
- Screening counseling and prevention of developmental abnormalities and birth defects including intersex.
- Genetic aspects of infertility and early pregnancy loss-diagnosis management and counseling.
- Genetic aspects of artificial reproductive technologies.
- Prenatal diagnosis and fetal therapy.

Anatomy including Embryology

Gametogenesis, ovulation, fertilization, implantation, development of fetus 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, innervation and lymphatic drainage of pelvic and reproductive organs.

Pathology

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

Haemotology

Blood groups, Rh factor, incompatibility, blood trasfusion.

Biochemistry

Steroid and prostaglandin synthesis and metabolism in mother andfoetus. Maternal and fetal carbohydrate, lipid ,amnio-acid metabolism and iron metabolism. Synthesis and section of fetal 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 hypertensives, Psychotropic durgs, Oral contraceptives, Chemotheraputic drugs, Anticonvulsants, Anti coagulants and Oxytocic drugs, effects to tobacco and alcohol on pregnant mother and foetus. Teratogenic effect of drugs taken during lactational period.

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 tests.Rhesus and other Isoimmunisation.Active and passive immunization and Auto immune disease.

Microbiology

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

Maternal physiological changes during pregnancy

- Fluid and electrolyte balance.
- Changes in respiratory, Cardio vascular system.
- Changes in Gastro-intestinal system – including liver and pancreas.
- Change in urinary system.
- Hematological changes including coagulation mechanism and fibrionolytic system.

Teratology

Mechanism of teratogenesis. Effect of possible teratogens- drugs virus radiation and other agents.

Antenatal care

Includes diagnosis of pregnancy, identification of high maternal and fetal complications and identification of high risk mothers and fetuses with appropriate modalities of investigation, advice to the expectant mothers regarding diet, exercise, immunization, warning symptoms of complications and educate her to prepare herself

for normal delivery. Monitoring of fetal and maternal well-being and selection of place of delivery.

Physiology of Labour

- Causation of onsets of labour
- Intrapartum care
- Maternal and foetal monitoring
- Mechanism and management of normal labour.

Abnormal Pregnancy

- Medical disorders complicating pregnancy and childbirth.
- Obstetric complications.
- Multifetal pregnancy
- Repeated pregnancy loss
- Trophoblastic diseases
- Congenital malformations
- Ectopic pregnancy
- Foetal growth restriction
- Foetalmacrosomia
- PPROM and preterm labour
- Prolonged pregnancy
- Malpositions and presentations
- Abnormalities of placenta, membranes and umbilical cord
- Rh incompatability
- Shock and collapse

Labour and delivery

- Induction of labour

- Active management of labour
- IntrapartumSurveillence of fetal and maternal well being.
- Assessment of pelvis and cephalo-pelvic disproportion
- Active management of third stage of labour.

Abnormalities of labour and delivery

- Prolonged labour
- Abnormal uterine action
- Post-partum haemorrhage
- Retained placenta
- Postpartum shock and collapse

Puerperium

- Physiology of normal puerperium
- Complications of puerperium including puerperal sepsis

Social obstetrics

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

- Implementing safe motherhood initiative
- Community maternal health care
- Antenatal checkup
- MCH problems
- Risk approach of pregnant women – Anaemia, STD syphilis, tetanus, AIDS.
- Domicilliary care

- Postnatal complications
- Low birth weight (L.B.W)
- Socio economic status and birth weight correction
- Infant feeding
- Road to health chart and school health programme
- Pre pregnancy and post pregnancy counseling
- Reproductive and child health (RCH)
- National Health programmes

Family welfare programmes including Reconstructive surgeries.

Temporary methods:

Chemical contraceptives

Barrier methods

Hormonal and non- hormonal contraception

IUD

Permanent methods:

Tubectomy – postpartum and concurrent

Laparoscopic tubal ligation

Minilap

Vasectomy

Reconstructive surgeries

Tuboplasty

Vasovasosotomy

Medical termination of pregnancy

MTP Act

1st and 2nd Trimester MTP

Perinatology

The term new born infant

Low birth weight baby, - Preterm, - IUGR

Asphyxia neonatorum

Respiratory distress

Jaundice in new born

Haemorrahagic disease of newborn

Convulsions in newborn

Injuries of the newborn

Infection of newborn

Diarrhea in newborn

Vomiting of the newborn

Congenital malformation of newborn.

Neonatology

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.

Topics includes: Infection, Newgrowths (both benign and malignant) and other pathological disorders of vulva, vagina, urinary bladder, cervix, uterus, fallopian tubes, Ovaries and Pelvic cellular tissues including pelvic organ prolapse, 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 and gynaecology

Obstetrics:
Diagnosis of early pregnancy and its complication and management.
AIM of ANC and management of high-risk pregnancies.
To work in labour wards and to manage normal and complicated deliveries.
Neonatal care and resuscitation in labour wards.
Follow up of normal and abnormal deliveries during postnatal period.
Assisting caesarean section initially, by the end of the course, they shall be able to do caesarean sections independently.
ICU Management.
Family welfreprogrammes and reconstructive surgeries of the fallopian tubes.
Rural obstetrics care and referral services.

Gynaecology

- To work in O.P.D and examine Gynaecology cases routinely.
- Minor operations: To assist in the beginning and carry out work independently by the end of I year.
- 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 P.F.R. and abdominal hysterectomy, Ovariotomy 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.

- To do investigations like HSG and USG under guidance initially and independently by the end of course.
- To assist medico legal cases.
- Writing case records.
- 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.

Essential Research Skills

1.Basic statistical knowledge.

- Ability to undertake clinical and basic research.
- Descriptive and inferential statistics
- Ability to publish results of one's work.

2.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 collegues, 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 25cases of normal delivery including forceps and ventose application.

Episiotomy repair, colposyntesis 3rd degree perineal tear suturing.

2. Tubectomy both mini lap and Laparoscopic sterilization.

Minor O.T.Procedures

MTP, D&C, suction evacuation, M.R. Mid-Trimester procedures extraamniotic instillation with of 2%ethacardine inj, Local application cerviprime gel insertion of intrauterine devisors.

Cervical and Endometrial biopsy, electric couterisation and cold cautery tube testing procedure and histosalphingogram.

Cervical biopsy, pap-smear.

Diagnostic Laparoscopy and colposyntosis.

Major O.T. Procedures:

- Caesarean section minimum 10 to be done and 20 operations to be assisted.
- Vaginal hysterectomy minimum 20 to be assisted and 5 to be performed.
- Abdominal hysterectomy minimum 20 to be assisted and 5 to be performed.
- Ovariotomy.
- Cervical encerelage
- Caesarian hysterectomy
- Salpingectomy for ectopic pregnancy
- Laparotomy

Special Operations (Only to assist)

- Tuboplasty
- Myomectomy
- Ovarian de-bulking operation
- Ventrofixation (Gilliam's operation)
- Sling operations for prolapse
- Wartheim's hysterectomy.

- Simple and radical culcectomy
- Operation for stress incontinence

Year wise structured Training Schedule

I year

Theroretical knowledge, basic sciences

Examination and diagnosis of Obstetrics and Gynaecological cases with relevant investigations case recording.

Surgical skills

Assisting caesarian sections as second assistant initially and later on as first assistant, with supervision.

Assisting all major gynaecological operations like, vaginal and abdominal hysterectomies as a second assistant.

Minor operations

Assisting minor operations like M.T.P, Tubectomy, Laparoscopy, Cervical biopsy, D and C in the initial period, and later on doing independently under supervision.

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, M.T.P. cervical biopsy, D & C, tubectomies, outlet forceps, emergencies during delivery. The student must know how to manage the complications during and after delivery confidently.

Conference and workshops: Encouraged to attend one conference of State level and at National level. Presentation of paper in the conference should be encouraged.
The student should be involved actively in presentation of seminars, panel discussion, Journal clubs and case discussions with seniors, and to maintain record in Logbook.

IIIrd year

Should be through with basic, allied and recent advances.
Clinical diagnosis and Examinations:- 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 ovriantumours. 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 and 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, C.M.E. Programmes and workshops on colposcopy. Hystererscopy and endoscopic surgeries, including ultrasound guided procedures. The student must also be exposed to the Assisted reproductive technologies like, I.V.F-E-T. ICSI, and also to observe radical surgeries in Gynaec-Oncology.

Rotation and Labour ward Postings

The student must work in labour wards at least 6 months during II & III year. (3 months each year).
Pediatrics: 1 month
Radio-diagnosis including Ultrasound and NST: 1month
Radiotherapy (oncology): 1month
Anesthesia: 1month

Teaching /Learning Experience

Teaching and Learning Activities

A candidate pursuing the course should work in the institution as a full time student. No candidate should be 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 desighed to facilitate students acquire essential knowledge and skills outlined is given below:

1.Lectures: Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.

a. Didactic Lectures: Recommended for selected common topics for post-graduate students of all specialties. Few topics are suggested as examples:

Bio-statistics
Use of library
Research Methods
Medical code of conduct and Medical Ethics
National Health and Disease Control Programmes
Communication Skills etc.

These topics may preferably taken up in the first few weeks of the 1st year.

b. Integrated Lectures: These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes Mellitus, Thyroid etc.

2.Journal Club: Recommended to be held once a week. All the PG students are expected to attend and actively participate in the discussion and enter in

the Log Book relevant details. Further, every candidate must make a presentation from the allotted journals, selected articles at least four times a year and a total of 12-seminar presentation in three years. The presentations would be evaluated using checklists and would carry weightage for internal assessment. A timetable with names of the student and the moderator should be announced at the beginning of every year.

3.Subject seminar: Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must present on selected topics at least four times a year and a total of 12 seminar presentations in three years. The presentation would be evaluated using checklists and would carry weightage for internal assessment. A timetable for the subject with names of the student and the moderator should be scheduled at the beginning of the every year.

4.Student Symposium: Recommended as an optional multi disciplinaryprogramme. The evaluation may be similar to that described for subject seminar.

5.Attending OPD work

6.Ward Rounds: Ward rounds may be service or teaching rounds.

a. Service Rounds: Postgraduate students and Interns should do every day for the care of the patients. Newly admitted patients should be worked up by the PGs and presented to the seniors the following day.
b. Teaching Rounds: Every unit should have ‘grand rounds’ for teaching purpose. A diary should be maintained for day to day activities by the students.

Entries of (a) and (b) should be made in the Log book.

7.Clinico-Pathological Conference: Recommended once a month for all post graduate students. Presentation be done by rotation. If cases are not available due to lack of clinical postmortems, it could be supplemented by published CPCs.

8.Inter Departmental Meetings: Strongly recommended particularly with departments of Pathology and Radio-Diagnosis at least once a week. These meetings should be attended by post graduate students and relevant entries must be made in the Log Book.

Pathology: A dozen interesting cases may be chosen and presented by the post graduate students and discussed by them as well as the senior staff of Surgery department. The staff of Pathology department would then show the slides and present final diagnosis. In these sessions the advance immuno-histo-chemical techniques, the burgeoning markers other recent developments can be discussed.

Radio-diagnosis: Interesting cases and the imaging modalities should be discussed.

9.Teaching skills: Post graduate students must teach under graduate students(Eg. Medical, nursing) by taking demonstrations, bedside clinics, tutorials, lectures etc. Assessment is made using a checklist by surgery faculty as well students. Record of their participation be kept in Log book. Training of post graduate students in Educational Science and Technology is recommended.

10.Continuing Medical Education Programmes(CME): Recommended that at least 2 state level CME programmes should be attended by each student in 3 years.

11.Conferences: Attending conferences is optional. However it is encouraged.

The unit heads should scrutinize it every weekend. HOD., should see abd sign at the end of each unit posting.

i. P.G posted to each unit should write the case history examine the patients in detail and carry out the investigations and shall be responsible for pre operative and post operative care. By the end of the unit posting, shall submit the same to the unit chief and take the signature.

ii. 1.Clinical cases: Each M.D. student should present at least 20 clinical cases for discussion in the three year posting (10 Obstetrics and 10 Gynaecology)

2.Journal Club: Each candidate shall present at least 10 papers on recent advances in Obstetrics and Gynaecology from latest journals in the Journal clubs.

3.Subject Seminar: They shall participate actively in minimum of eight subject seminars.

4.They should actively undertake the undergraduate teaching programmes.

C.M.E programmes: shall attend CME programmes and shall present minimum of two papers in any of the Scientific conferences.

Dissertation

Every candidate pursuing degree course is required to carry out work on a selected research project under the guidance of a recognized post graduate teacher. The results of such a work shall be submitted in the form of dissertation.

The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a

hypothesis, search and review, of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

Every candidate shall submit to the Registrar (Academic) of RGUHS, in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the data of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.

Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

The dissertation should be written under the following headings:

- Introduction
- Aims or Objectives of study
- Review of Literature
- Material and Methods
- Results
- Discussion
- Conclusion
- Summary
- References
- Tables
- Annexures

The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side pf paper 9 (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the institution.

Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.

The dissertation shall be valued by examiners appointed by the university. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.

Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects.

The learning outcomes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of knowledge, (iii) Clinical and operative skills, (iv) Teaching skills and (v) Dissertation.

i. **Personal Attitudes.** The essential items are:

Caring attitudes
Initiative
Organisational ability
Potential to cope with stressful situations and undertake responsibility
Trustworthiness and reliability
To understand and communicate intelligibly with patients and others
To behave in manner which establishes 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 logbook should periodically be validated by the supervisors. Some of the activities are listed.

Journal Review Meeting (Journal Club): The ability to do literature search, in depth 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 the 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 therapeutic problems by using an analytical approach. The presenters are to be assessed using a checklist 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 candidate's sincerity and punctuality, analytical ability and communication skills.

Clinical meetings: Candidates should periodically present cases to his peers and faculty members. This should be assessed using a checklist.

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 logbook.

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 feedback from the undergraduate students.

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 finalisation for critical evaluation and another before final submission of the completed work.

vi. Periodic tests: The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practicals / clinicals 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 as journal reviews, seminars, etc. Special mention 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 the Head of the Department and will be made available to the University or MCI.

Logbook

The logbook is a record of the important activities of the candidates during his training; Internal assessment should be based on the evaluation of the

logbook. Collectively, logbooks are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

Courses/Papers

Paper - I Basic Science as Applicable to Obstetrics and Gynaecology(Course Code MSOB 1)

CO1: Thorough Knowledge of embryogenesis, anatomy of the genital system

CO2 : Knowledge of Reproductive physiology, menarche, menstrual cycle, ovulation, menopause & role of hormones in female reproductive system.

CO3 : Understand the normal & abnormal flora of the genital tract, infectivity of the organism & pathogenesis of STDs.

CO4 : Elaborate on the etiopathogenesis of congenital, inflammatory & neoplastic diseases pertaining to female reproductive system & correlation with histopathologies.

CO5 : Relevant knowledge of common drugs, hormonal supplements, anticoagulants, anti-hypertensives, anticancer medications & drugs specific to obstetric& gynecology.

Anatomy including Embryology

Gametogenesis, ovulation, fertilization, implantation, development of fetus 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, innervation and lymphatic drainage of pelvic and reproductive organs.

Pathology

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

Haemotology

Blood groups, Rh factor, incompatibility, blood trasfusion.

Biochemistry

Steroid and prostaglandin synthesis and metabolism in mother andfoetus. Maternal and fetal carbohydrate, lipid ,amnio-acid metabolism and iron metabolism. Synthesis and section of fetal 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 hypertensives, Psychotropic durgs, Oral contraceptives, Chemotheraputic drugs, Anticonvulsants, Anti coagulants and Oxytocic drugs, effects to tobacco and alcohol on pregnant mother and foetus. Teratogenic effect of drugs taken during lactational period.

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 tests.Rhesus and other Isoimmunisation.Active and passive immunization and Auto immune disease.

Microbiology

Epidemiology and pathophysiology of disease developing in pregnancy that is Septic abortion, Preterm labour, PROM, Puerperal sepsis, Masitits, Septic shock and Neonatal sepsis. **Microbiology of TORCH infection, Syphilis, Chlamydia, Mycoplasma, hepatitis and HIV**.

Paper - II Obstetrics (Course Code MSOB 2)

CO1 : Complete knowledge of physiological changes in pregnancy &labour, diagnosis of pregnancy, conduct & management of normal pregnancies

CO2 : Deal with general principles, protocols, practical problems in managing "High risk" pregnancies, secondary to maternal diseases like Diabetes, Hypertension, Liver diseases, Renal diseases, Endocrine disorders, Autoimmune disorders, Isoimmunisation& Post transplatsitutations

CO2 : Deal with general principles, protocols, practical problems in managing "High risk" pregnancies, secondary to fetal malformations, hydrops, Intrauterinefetal demise, multiple pregnancy.

CO4 : Role as a "Laborist" Triaging & Managing Emergency situations like Cord prolapse, Abruption, Postpartum hemorrhage.

CO5 : Acquisition of minor & major surgical skills in obstetrical care - Suction evacuations, Dilatation & curettage, cerclages, instrumental deliveries & caesarian sections.

Maternal physiological changes during pregnancy

- Fluid and electrolyte balance.
- Changes in respiratory, Cardio vascular system.
- Changes in Gastro-intestinal system – including liver and pancreas.
- Change in urinary system.
- Hematological changes including coagulation mechanism and fibrionolytic system.

Teratology

Mechanism of teratogenesis.**Effect of possible teratogens- drugs virus radiation and other agents**.
Teratogenic plants

Antenatal care

Includes diagnosis of pregnancy, identification of high maternal and fetal complications and identification of high risk mothers and fetuses with appropriate modalities of investigation, advice to the expectant mothers regarding diet, exercise, immunization, warning symptoms of complications and educate her to prepare herself for normal delivery. Monitoring of fetal and maternal well-being and selection of place of delivery.

Physiology of Labour

- Causation of onsets of labour
- Intrapartum care
- Maternal and foetal monitoring
- Mechanism and management of normal labour.
- Fourth stage

Abnormal Pregnancy

- Medical disorders complicating pregnancy and childbirth.
- Obstetric complications.
- Multifetal pregnancy
- Superfecundation
- Repeated pregnancy loss
- Trophoblastic diseases
- Congenital malformations
- Ectopic pregnancy
- Foetal growth restriction
- Foetalmacrosomia
- PPROM and preterm labour
- Prolonged pregnancy
- Malpositions and presentations
- Abnormalities of placenta, membranes and umbilical cord
- Rh incompatability
- Shock and collapse

Labour and delivery

- Induction of labour
- Active management of labour
- IntrapartumSurveillence of fetal and maternal well being.
- **Assessment of pelvis and cephalo-pelvic disproportion**
- Active management of third stage of labour.

Abnormalities of labour and delivery

- Prolonged labour
- Abnormal uterine action

- Post-partum haemorrhage
- Retained placenta
- Postpartum shock and collapse

Puerperium

- Physiology of normal puerperium
- Complications of puerperium including puerperal sepsis

Perinatology

The term new born infant
Low birth weight baby, - Preterm, - IUGR
Asphyxia neonatorum
Respiratory distress
Jaundice in new born
Haemorrahagic disease of newborn
Convulsions in newborn
Injuries of the newborn
Infection of newborn
Diarrhea in newborn
Vomiting of the newborn
Congenital malformation of newborn.

Neonatology
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.

Paper - III Gynaecology(Course Code: MSOB 3)

CO1: Enumerating, Classifying, Diagnosing& managing common gynecological problems

CO2 : Understanding Medical & surgical managment of gynec conditions. Prescription writing for common gynecological conditions.

CO3 : Performing Gynecological office procedures like PAP smear, HPV DNA testing, Pipelle sampling, Intrauterine device insertions, Pessary insertion/removal & Interpreting histopathological reports.

CO4 : Knowledge of Basics of Infertility &Gynec.Oncology

CO5 : Acquiring minor / major surgical skills in Gynecology - D & C, Endometrial aspirations, Polectomy, tubal sterilisation, ovarian cystectomy, myomectomy, hysterectomy

Gynaecology

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

Topics includes: Infection, Newgrowths (both benign and malignant) and other pathological disorders of vulva, vagina, urinary bladder, cervix, uterus, fallopian tubes, Ovaries and Pelvic cellular tissues including pelvic organ prolapse, 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.

Underdeveloped secondary sexual charecteristics and gynecology

Gynaecologic clinical cytopathology.

Contraception and family planning

Infertility and ART

Tubal patency testing

Hormones therapy.

Problem of sex and marriage.

Pelvic assessment

- To work in O.P.D and examine Gynaecology cases routinely.
- Minor operations: To assist in the beginning and carry out work independently by the end of I year.
- 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 P.F.R. and abdominal hysterectomy, Ovariotomy** 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.

- **To do investigations like HSG and USG under guidance initially and independently by the end of course**.

- Management of pelvic inflammatory diseases including TB of the pelvis
- To assist medico legal cases.
- Writing case records.
- 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.

Paper - IV Social Obstetrics and Family Welfare Planning (Course Code MSOB 4)

CO1: Implementing National health & family welfare programmes

CO2 : Population based interventional approach to common disease conditions

CO3 : Updating on the recent advances in Obstetric &Gynecpractise

CO4 :Practise family planning methods

CO5 :Analysing& reporting Maternal & perinatal morbidity & mortality in the region of practise

Social obstetrics

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

- Implementing safe motherhood initiative
- Community maternal health care
- Antenatal checkup
- MCH problems
- **Risk approach of pregnant women – Anaemia, STD syphilis, tetanus, AIDS.**
- Domicilliary care
- Postnatal complications
- Low birth weight (L.B.W)
- Socio economic status and birth weight correction
- Infant feeding
- Road to health chart and school health programme
- Pre pregnancy and post pregnancy counseling
- Reproductive and child health (RCH)
- National Health programmes

Family welfare programmes including Reconstructive surgeries.

Temporary methods:

Chemical contraceptives

Barrier methods

Hormonal and non- hormonal contraception

IUD

Permanent methods:

Tubectomy – postpartum and concurrent

Laparoscopic tubal ligation

Minilap

Vasectomy

Reconstructive surgeries

Tuboplasty

Vasovasosotomy

Medical termination of pregnancy

MTP Act

1st and 2nd Trimester MTP

Soft Skills- MSOB 5- Elective Course

CO1: Research Methodolgy knowledge

CO2: Communication skills with patients and caregivers.

CO3: Ability to work as a member of a healthcare team.

CO4: Attitude towards constantly updating subject knowledge and skills.

Scheme of Examination

A. Theory

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

Paper I: Basic Science as applicable to Obstetrics and Gynaecology

Paper II: Obstetrics

Paper III: Gynaecology

Paper IV: Social Obstetrics and Family Welfare Planning.

Note: The distribution of chapters/ topics shown against the papers are suggestive only.

B.Clinical 200marks

There shall 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 case carries 75 marks.

Short Case: 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.

All examiners will conduct viva-voce conjointly on candidate's 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 M.D.Obstetrics and Gynaecology:

Theory	Practical	Viva	Grand Total
400	200	100	700