PROGRAMME OF MS OB/GYN

Nishtar Medical University (NMU)

Multan

"IF ANYONE SAVED A LIFE IT WOULD BE AS IF HE SAVED THE LIFE OF THE WHOLE HUMANITY." QURAN 5:32

CURRICULUM/STATUTES & REGULATIONS

FOR

4 YEARS DEGREE PROGRAMME

IN

OBSTETRICS AND GYNAECOLOGY

(MS Obstetrics and Gynaecology)

NISHTAR MEDICAL UNIVERSITY,
MULTAN

Nishtar Medical University, Multan

Certificate of Curriculum Approvals

Name of Department: _____

Name of Program Director: _____

Name of Faculty: _____

Name of Program: _____

Date of Preparation: _____

No	Statuary Body	Signing Authority	Signature
1	Departmental Board of Studies	Chairman	
2	Board of Faculty	Dean	
3	Curriculum Committee	Chairman	
4	Board of Advance Studies	Chairman	
5	Academic Council	Chairman	
6	Syndicate	Secretary	

CHECKLIST OF DOCUMENTS

No	Detail	Status
1	Certificate of Curriculum Approvals	YES
2	Nomenclature of Program/ Degree Title	YES
3	Objectives of Program	YES
4	Scope of Program	YES
5	Duration of Program	YES
6	Admission Criteria	YES
7	Examination Policy	YES
8	Research Publications Policy	YES
9	Thesis Evaluation Policy	YES
10	Plagiarism Policy	YES
11	Course Content	YES
12	Recommended Books	YES
13	Faculty Details	YES

CHECKLIST OF DOCUMENTS

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NISHTAR MEDICAL UNIVERSITY

MULTAN

MISSION STATEMENT

Train/produce health professionals equipped with passion, proficiency and empathy by achieving excellence in health professional education, standardized patients care and dedicated academic research.

STATUTES

Nomenclature of the Proposed Course

The name of degree programme shall be MS Obstetrics and Gynaecology. This name is well recognized and established for the last many decades worldwide.

Course Title:

MS Obstetrics and Gynaecology

Training Center:

Departments of Obstetrics and Gynaecology in affiliated institutes of Nishtar Medical University, Multan.

Duration of Course:

The duration of MS Obstetrics and Gynecology course shall be four (4) years with structured training in a recognized department under the guidance of an approved supervisor.

After the admission of MS Obstetrics and Gynecology programme, the resident will spend first 6 months in the department of Obstetrics and Gynaecology as **Induction period** during which resident will get orientation about the chosen discipline and will also participate in the **mandatory workshops** (Appendix E). The research project will be designed and the **synopsis** be prepared during this period.

On complication of Induction period the resident will start formal training in the basic principle of general surgery for 06 months. At the end of one calendar year, the candidate will take up intermediate exam.

During the 2nd, 3rd & 4th years, of the program, there will be two components of the programme. The research synopsis must be got approved by AS&RB of the university within first 2 years of the programme.

1) Clinical training in Obstetrics & Gynaecology

2) Research and Thesis writing

The resident will undergo clinical training to achieve the educational objectives of MS obstetrics and Gynaecology programme (Knowledge & Skill) along with rotation in relevant fields during the 3rd year of the programme such as Neonatology and Radiology. The clinical training shall be competency based. There shall be generic and specialty specific competencies assessed by continuous internal assessment (Appendix F&G).

The research component and thesis writing shall be completed over the four years duration of the programme. Candidates will spend total time equivalent to one calendar year for research during the training. Research can be done as one block or in regular periodic rotation as long as total research time is equivalent to one calendar year.

Admission Criteria:

Applications for admission to MS Training Programs will be invited through advertisement in print and electronic media mentioning closing date of applications and date of Entry Examination.

Eligibility: The applicant on the last date of submission of applications for admission must possess the:

1) Basic Medical Qualification of MBBS or equivalent medical qualification recognized by Pakistan Medical & Dental Council.
2) Certificate of one year's House Job experience in institutions recognized by Pakistan Medical & Dental Council Is essential at the time of interview. The applicant is required to submit Hope Certificate from the concerned Medical Superintendent that the House Job shall be completed before the Interview.
3) Valid certificate of permanent or provisional registration with Pakistan Medical & Dental Council

Registration and Enrollment:

- As per policy of Pakistan Medical & Dental Council the number of PG Trainees/ Students per supervisor shall be maximum 05 per annum for all PG programmes including minor programmes (if any).
- Beds to trainee ratio at the approved teaching site shall be at least 5 beds per trainee.
- The University will approve supervisors for MS courses.
- Candidates selected for the courses after their enrollment at the relevant institutions shall be registered with NISHTAR MEDICAL UNIVERSITY as per prescribed Registration Regulation.

Accreditation Related Issues of The Institution:

A. Faculty

Properly qualified teaching staff in accordance with the requirements of Pakistan Medical and Dental Council (PMDC)

B. Adequate Space

Including class-rooms (with audiovisual aids), demonstration rooms, computer lab and clinical pathology lab etc.

C. Library

Departmental library should have latest editions of recommended books, reference books and latest journals (National and International).

Accreditation of Obstetrics and Gynaecology training program can be suspended on temporary or permanent basis by the University, if the program does not comply with requirements for residents training as laid out in this curriculum.

Program should be presented to the University along with a plan for implementation of curriculum for training of residents.

Programs should have documentation of residents training activities and evaluation on monthly basis.

To ensure a uniform and standardized quality of training and availability of the training facilities, the University reserves the right to make surprise visits of the training program for monitoring purposes and may take appropriate action if deemed necessary.

AIMS AND OBJECTIVES OF THE COURSE

AIM:

The aim of four years MS programme in Obs/Gynae is to train residents to acquire the competency of a specialist in the field of Obs/Gynae so that they can become good teachers, researchers and clinicians in their specialty after completion of their training.

GENERAL OBJECTIVES:

1. To provide a broad experience in Obs/Gynae, including its interrelationship with other disciplines.
2. To enhance Obs/Gynae knowledge, skills, and competence in bedside diagnostic and therapeutic procedures.
3. To achieve the professional requirements, to prepare the consultants for the sub specialty in Obs/Gynae.
4. To cultivate the correct professional attitude and enhance communication skill towards patients, their families and other healthcare professionals.
5. To enhance sensitivity and responsiveness to community needs and the economics of health care delivery.

6. To enhance critical thinking, self-learning, and interest in research and development of patient service.
7. To cultivate the practice of evidence-based practice and critical appraisal skills.
8. To inculcate a commitment to continuous medical education and professional development.
9. To provide a broad trammg and in-depth experience at a level for trainees to acquire competence and professionalism of a specialist in Obs/Gynae especially in the diagnosis, investigation and treatment of obstetrical and gynaecological problems towards the delivery of holistic patient care.
10. To acquire competence in managing acute Obs/Gynae emergencies and identifying Obs/Gynae problems in patients referred by primary care and other doctors, and in selecting patients for timely referral to other specialty appropriate tertiary care or the expertise of another specialty.
11. To develop competence in the inpatient and outpatient management and in selecting patients for referral to tertiary care facilities and treatment modalities requiring high technology and/or the expertise of another specialty.
12. To manage patients in general Obs/Gynae units in regional/District hospitals; to be a leader in the health care delivery team and to work closely with networking units which provide convalescence, rehabilitation and long-term care.
13. To encourage the development of skills in communication and collaboration with the community towards health care delivery.
14. To foster the development of skills in the critical appraisal of new methods of investigation and/or treatment.
15. To reinforce self-learning and commitment to continued updating in all aspects of Obs/Gynae.
16. To encourage contributions aiming at advancement of knowledge and innovation in Obs/Gynae through basic and/or clinical research and teaching of junior trainees and other health related professionals.

17. To acquire professional competence in training future trainees in Obs/Gynae at Nishtar Medical University.

SPECIFIC OBJECTIVES

A. OBS/GYNAE KNOWLEDGE

1. The development of a basic understanding of core Obs/Gynae concepts.
2. Etiology, clinical manifestation, disease course and prognosis, investigation and management of common Obs I
3. Gynae diseases.
4. Scientific basis and recent advances in diagnosis and management of complicated Obs/Gynae diseases.
5. Spectrum of clinical manifestations and interaction of multiple problems diseases in the same patient.
6. Psychological and social aspects of Obstetrical and gynaecological complications.
7. Effective use and interpretation of investigation and special diagnostic procedures.
8. Critical analysis of the efficacy, cost-effectiveness and cost-utility of treatment modalities.
9. Patient safety and risk management
10. Audit and quality assurance
11. Ethical principles and medico legal issues related to concerned specialty.
12. Updated knowledge on evidenced-based practice and its implications for diagnosis and treatment of patients.
13. Familiarity with different care approaches and types of sub specialties in Obs/Gynae, including urogynecology, fetal medicine, gynecological oncology and subfertility.
14. Knowledge on patient safety and clinical risk management.
15. Awareness and concern for the cost-effectiveness and risk-benefits of various advanced treatment modalities.

16. Familiarity with the concepts of administration and management of overall running of Obs/Gynae unit.

B. SKILLS

1. Ability to take a detailed history, gathers relevant data from patients, and assimilates the information to develop detailed management plan.
2. MS trainee are expected to effectively record an initial history and physical examination and follow-up notes. She should be capable to present case in an elaborative and comprehensive manner to her seniors on round and to guide their team members regarding case management.
3. Competence in eliciting abnormal physical signs and interpreting their significance.
4. Ability to select appropriate investigation and diagnostic procedures for confirmation of diagnosis and patient management.
5. Residents should be able to interpret all laboratory data relevant to basic antenatal care.
6. Basic understanding of routine baseline investigations for subfertility biochemistry, hormonal profile, pelvic ultrasound and semen analysis. In addition MS trainee should be capable of judicially advising all these laboratory investigations based on patient history and examination.
7. The Trainee should be capable enough to advise and interpret basics radiological investigations including trans abdominal ultrasound, trans vaginal ultrasound, CT and MRI.
8. The formulation of a differential diagnosis based on patient history and investigation and with up-to-date scientific evidence and the development of list of risk factors to make therapeutic decisions.
9. Assessing the risks, benefits, and costs of varying effective treatment options.

10. Residents must be able to perform competently all Obs/Gynae procedures and skills required in their allocated time interval during the training of Obs/Gynae. This includes efficiency in taking consent based on appropriate indications.
11. Residents should be instructed in additional procedural skills that will be determined by the training environment, trainees expectations and availability of skilled teaching faculty.
12. Skills in performing important bedside diagnostic and therapeutic procedures will be marked by supervisor or mentors as desired competency level achieved I not achieved by trainee. The required number of DOPS and MiniCEX during four year training will be enlisted in Log Book.
13. Ability to present clinical cases in ward rounds and teaching classes.
14. Good communication skills and interpersonal relationship with patients, families, colleagues, paramedics, nursing and allied health professionals.
15. Ability to mobilize appropriate resources for management of patients at different stages of Obs/Gynae illnesses, including critical care, consultation of Obs/Gynae specialties and other disciplines, ambulatory and rehabilitative services, and community resources.
16. Competence in the diagnosis and management of obstetrics emergencies particularly postpartum hemorrhage, eclampsia, septic induced abortion, ruptured ectopic and rupture uterus.
17. Competence in the diagnosis and management of benign and malignant gynecological tumor and treatment modalities available around vicinity.
18. Diagnostic skills to effectively manage complex cases with unusual presentations.
19. Ability to implement strategies to prevent antenatal complication and early detection of diseases.
20. Ability to understand and critically appraise published work and clinical research on disease presentations and treatment outcomes. Experience in basic and/or clinical

research within the training programme should lead to publications and/or presentation in seminars or conferences.

21. Practice based learning with reference to research and scientific knowledge pertaining to their discipline through comprehensive training in Research Methodology.
22. Ability to recognize and appreciate the importance of cost-effectiveness of treatment modalities.
23. The identification of key information resources and the utilization of literature to expand one's knowledge base and to search for answer to problems.

C. ATTITUDES

1. The well-being and restoration of health of patients must be the top priority .
2. Empathy and good rapport with patient and relatives are essential attributes.
3. An aspiration to be the team-leader in total patient care involving nursing and allied Obs/Gynae professionals should be developed.
4. The cost-effectiveness of various investigations and treatments in patient care should be recognized.
5. The privacy and confidentiality of patients and the sanctity of life must be respected.
6. The development of a functional understanding of informed consent, and the physician-patient relationship.
7. Ability to appreciate the importance of the effect of disease on the psychological aspects and socio-economic burden of individual.
8. Understand patients' psycho-social needs and rights, as well as the professional ethics involved in patient management.
9. Willingness to keep up with advances in Obs/Gynae and concerned specialties.
10. Understand the need of timely referral of patients to the appropriate specialty.
11. Aspiration to be the team leader in patient care involving paramedics nursing and allied Obs/Gynae professionals.

12. The promotion of women health via awareness programmes regarding contraception immunizations, periodic health screening, and risk factor assessment and modification.
13. 12. Recognition that teaching and research are important activities for the advancement of the profession.

D. OTHER REQUIRED CORE COMPETENCIES:

1. PATIENT CARE

a. Residents are expected to provide patient care that is compassionate, appropriate and effective for the promotion of health, prevention of illness, treatment of disease and at the end of life.
b. Gather accurate, essential information from all sources, including history, physical examinations, investigations, clinical record and diagnostic/therapeutic procedures.
c. Make informed recommendations about preventive, diagnostic and therapeutic options and interventions based on clinical judgment, scientific evidence, and patient preference.
d. Develop, negotiate and implement effective patient management plans and integration of patient care.
e. Perform competently the diagnostic and therapeutic procedures considered essential to the practice of internal medicine.

2. INTERPERSONAL AND COMMUNICATION SKILLS

a. Residents are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.
b. Provide effective and professional consultation to other physicians and health care professionals and sustain therapeutic and ethically sound professional relationships with patients, their families, and colleagues.

c. Use effective listening, nonverbal, questioning, and narrative skills to communicate with patients and families. · Interact with consultants in a respectful, appropriate manner.

d. Maintain comprehensive, timely, and legible Obs/Gynae records.

3. PROFESSIONALISM

a. Residents are expected to demonstrate behaviors that reflect a commitment to continuous professional developmental, ethical practice, an understanding and sensitivity to diversity and a responsible attitude toward their patients, their profession, and society.

b. Demonstrate respect, compassion, integrity, and altruism in relationships with patients, families, and colleagues.

c. Demonstrate sensitivity and responsiveness to the gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behavior and disabilities of patients and professional colleagues.

d. Adhere to principles of confidentiality, scientific/academic integrity, and informed consent.

e. Recognize and identify deficiencies in peer performance.

f. Understand and demonstrate the skill and art of end-of-life care.

4. PRACTICE-BASED LEARNING AND IMPROVEMENT

a. Residents are expected to be able to use scientific evidence and methods to investigate, evaluate, and improve patient care practices.

b. Identify areas for improvement and implement strategies to enhance knowledge, skills, attitudes and processes of care.

c. Analyze and evaluate practice experiences and implement strategies to continually improve the quality of patient practice.

d. Develop and maintain a willingness to learn from errors and use errors to improve the system or processes of care.

e. Use information of technology or other available methodologies to access and manage information, support patient care decisions and enhance both patient and physician education.

5. SYSTEMS-BASED PRACTICE

a. Residents are expected to demonstrate both an understanding of the contexts and systems in which health care is provided, and the ability to apply this knowledge to improve and optimize health care.

b. Understands accesses and utilizes the resources, providers and systems necessary to provide optimal care.

c. Understand the limitations and opportunities inherent in various practice types and delivery systems, and develop strategies to optimize care for the individual patient.

d. Apply evidence-based, cost-conscious strategies to prevention, diagnosis, and disease management.

e. Collaborate with other members of the health care team to assist patients in dealing effectively with complex systems and to improve systematic processes of care.

SPECIFIC LEARNING OUTCOMES

On completion of the training programme, Obstetrics and Gynaecology trainees pursuing an academic pathway will be expected to have demonstrated competence in all aspects of the published syllabus. The specific training component would be targeted for establishing clearly defined standards of knowledge and skills required to practice Obstetrics and Gynaecology at secondary and tertiary care level with proficiency in the Basic and applied clinical sciences, Basic gynecological and obstetric care, intensive care, Emergency (A&E) medicine and Complementary surgical disciplines.

1. Describe embryology, applied anatomy, physiology, pathology, clinical features, diagnostic procedures and the therapeutics including preventive methods, (medical/surgical) pertaining to Obstetrics and Gynaecology surgery
2. Develop clinical skills in the medical interview and physical examination in both obstetrical and gynecological patients
3. Understand the physiological, physical and psychological change during pregnancy, labour and puerperium
4. Understand the development of the foetus from conception to term
5. Develop skill in identifying the needs of the mother during antenatal, intranatal and postnatal period and promote positive health in normal and high risk cases.
6. Develop skill in conducting normal labour and identify any major deviations from normal.
7. Develop skill in giving care to the high-risk neonates, small for date & premature infants.
8. Identify menstrual disorders, pelvic inflammatory diseases and infertility cases and provide comprehensive care.
9. Extend maternal and child health to families and counsel couples regarding acceptance of family planning measures.

10. Be able to develop a broad differential diagnosis for a patient with an "acute abdomen" including conditions such as pelvic infection, ectopic pregnancy, adnexal torsion, appendicitis, diverticulitis, urinary calculi
11. Become aware of population health; recognize social and health policy aspects of women's health, ethical issues, sterilization, abortion, domestic violence, adolescent pregnancy, and access to health care
12. Demonstrate newer knowledge about gynecological or obstetric diseases in general, including technological (laser) and pharmacologic advances (medicines) and newer method of therapy for certain conditions.
13. Acquire knowledge about radiology/imaging and to interpret different radiological procedures and imaging procedures in Obstetrics and Gynaecology There should be collaboration with Radiology department for such activities.

SPECIALIZED TRAINING IN:

Anatomy & Embryology:

- Review of external and internal female and male genital organs
- Anatomy of pelvic floor
- Female pelvis-structure measurement and deviation
- Fertilization and maturation of ovum, embedding of zygote.
- Placenta – development, type, abnormalities and functions
- Fetal development and fetal circulation.
- Fetal skull and its measurement
- Influence of hereditary factors on growth & development of fetus and health of newborn
- Normal development and pubertal changes in human breast
- Hormonal influences on breast development
- Cell proliferation and hormone receptors

- Morphology, blood supply and lymphatic drainage of the breast
- Changes during pregnancy, lactation and Menopause
- Abnormalities in breast development
- Congenital
- Acquired

Physiology:

- Physiology of normal menstruation
- Physiological during pregnancy – anatomical, hormonal and biochemical
- Signs symptoms and diagnosis of pregnancy – clinical, biophysical, biochemical and hormonal
- Psychosocial aspects

Antenatal care:

- Assessment, general and obstetrical examination, pelvic examination, nutrition, antenatal exercises, mother craft.
- Minor aliments of pregnancy.
- Aspects of preventive obstetrics.

Normal labour

- Onset, physiological changes & psychological aspects of labour
- Mechanism, induction and augmentation of labour
- Monitoring & use of portogram and cervicograph
- Observation and clinical diagnosis of patient in different stages of labour.
- Episiotomy and care
- Analgesics and anesthesia in labour

Normal puerperium

- Physiological changes during puerperium
- Care during puerperium – mother, neonate and family
- Physiology of lactation and establishment of lactation and breast feeding

- Post-natal-care – post natal exercises, follow up care.
- Customs and beliefs in relation to confinement and puerperium

New Born

- Resuscitation &, immediate care of new born.
- Normal characteristics and care of the new born
- Asphyxia neonatorum, respiratory distress
- Jaundice in new born
- Hemorrhagic diseases of the newborn
- Convulsions in new born
- Birth injuries, congenital anomalies, infection of the newborn, vomiting in new born.
- Still birth – incidence, causes and prevention
- Care of Low birth weight babies in labour room and nursery

High risk pregnancy

- Hyperemesis gravidarum
- Hydramnios
- Multiple pregnancy
- Premature rupture of membrane and preterm labour
- Intrauterine growth retardation
- Post-date pregnancy
- Abnormal Uterine Action
- Medical conditions associated with pregnancy:
- Anemia in pregnancy
- Heart disease in pregnancy
- Pregnancy induced hypertension
- Venous thromboembolism
- Rh Incompatibility and amniocentesis

- Diabetes in pregnancy
- Pyelonephritis
- Infections, sexually transmitted diseases in pregnancy
- General surgery during pregnancy

Gynecological conditions in pregnancy:

- Ca cervix with pregnancy
- Fibroid with pregnancy
- Ovarian tumor in pregnancy
- Retroverted gravid uterus
- Genital prolapse in pregnancy

Complications in pregnancy

- Bleeding in early pregnancy
- Abortion, types, complication and management
- Ectopic pregnancy
- Trophoblastic tumours
- Ante partum haemorrhage
- Placenta praevia
- Abruptio placenta
- Hydatidiform mole
- Pregnancy induced hypertension (Pre eclampsia and eclampsia)
- Intrauterine death
- Induction of labour, Preterm labour and Post maturity
- Induction of labour – Medical, surgical, combined
- Preterm labour
- Premature rupture of the membrane
- Post maturity
- Intrauterine foetal death

Malposition, Malpresentation and Cord prolapse

- Occipito-posterior position – causes, diagnosis, antenatal care, course of labour and management
- Breech presentation – causes, diagnosis, types, antenatal care, course of labour and management
- Face and brow presentation – causes diagnosis, antenatal care, course of labour, and management
- Transverse lie, unstable lie
- Compound presentations
- Cord prolapse
- Prolonged labour, obstructed labour, dystocia caused by foetal anomalies
- Destructive operations

Abnormalities of Puerperium

- Puerperal pyrexia and puerperal sepsis
- Puerperal venous thrombosis, thrombophlebitis, pulmonary embolism
- Urinary complications in puerperium
- Post partum hemorrhage
- Other puerperal emergencies
- Subinvolution, obstetric palsies
- Breast complications – Breast engorgement, breast abscess, acute mastitis cracked & retracted nipples, suppression of lactation
- Psychiatric disturbances in puerperium
- Obstetrical emergencies and operative obstetrics 5 Hrs
- Uterine rupture, cervical tear, inversion of uterus
- Obstetrical hysterectomy
- Dilatation and evacuation
- Suction evacuation

- Use of instruments – forceps, ventouse, Versions
- Caesarean section

Special cases

- Pregnancy with previous history of Caesarean section
- Pregnancy in Rh-negative woman
- Elderly primigravida
- Grand multipara
- Bad obstetric history
- Complications of third stage of labour
- Contracted pelvis
- Abnormal uterine action

Pharmacotherapeutics

- Oxytocics and prostaglandins used in obstetrics
- Indications and contraindications of rationale drugs in pregnancy

Gynaecological history taking and examination Menstrual disorders

- Amenorrhoeas
- Cryptomenorrhoea, oligomenorrhoeas
- Hypomenorrhoea, dysmenorrhoea
- Metrorrhagia, menorhagia
- Dysfunctional uterine bleeding
- Menopause and hormonal replacement therapy (HRT)

Common genital infection

- Fungal infections – Vaginal discharges
- Acute and chronic infections of genitalia
- Low back ache

Endometriosis Tumours of the genital tract

- Proliferative lesions and benign tumours; Adenomyosis, uterine lieomyoma, cervical polyp, ovarian cyst and tumours
- Malignant tumours – vulvar, vaginal, cervical, ovarian, endometrial and trophoblastic carcinomas
- Radiotherapy
- Chemotherapy

Uterine displacements

- Uterovaginal prolapse
- Retroverted uterus
- Anteverted uterus

Infertility

- Primary and secondary infertility

Gynecological emergencies

- Acute salpingo-oophoritis
- Twisted ovarian cyst, pedunculated fibroma of the uterus
- Ectopic pregnancy

Special diagnostic tests

- Pap smear
- Ovulation tests, semen analysis
- Tubal patency tests – salphingography,
- Hysterosalpingography
- Culdoscopy, colposcopy, Laparoscopy
- Biopsy –cervical and endometrial
- Gynecological operations and instruments
- Vesicovaginal fistula
- Ureterovaginal fistula

- Pre and post operative care of patients undergoing gynaecological operations

Hormone Therapy:

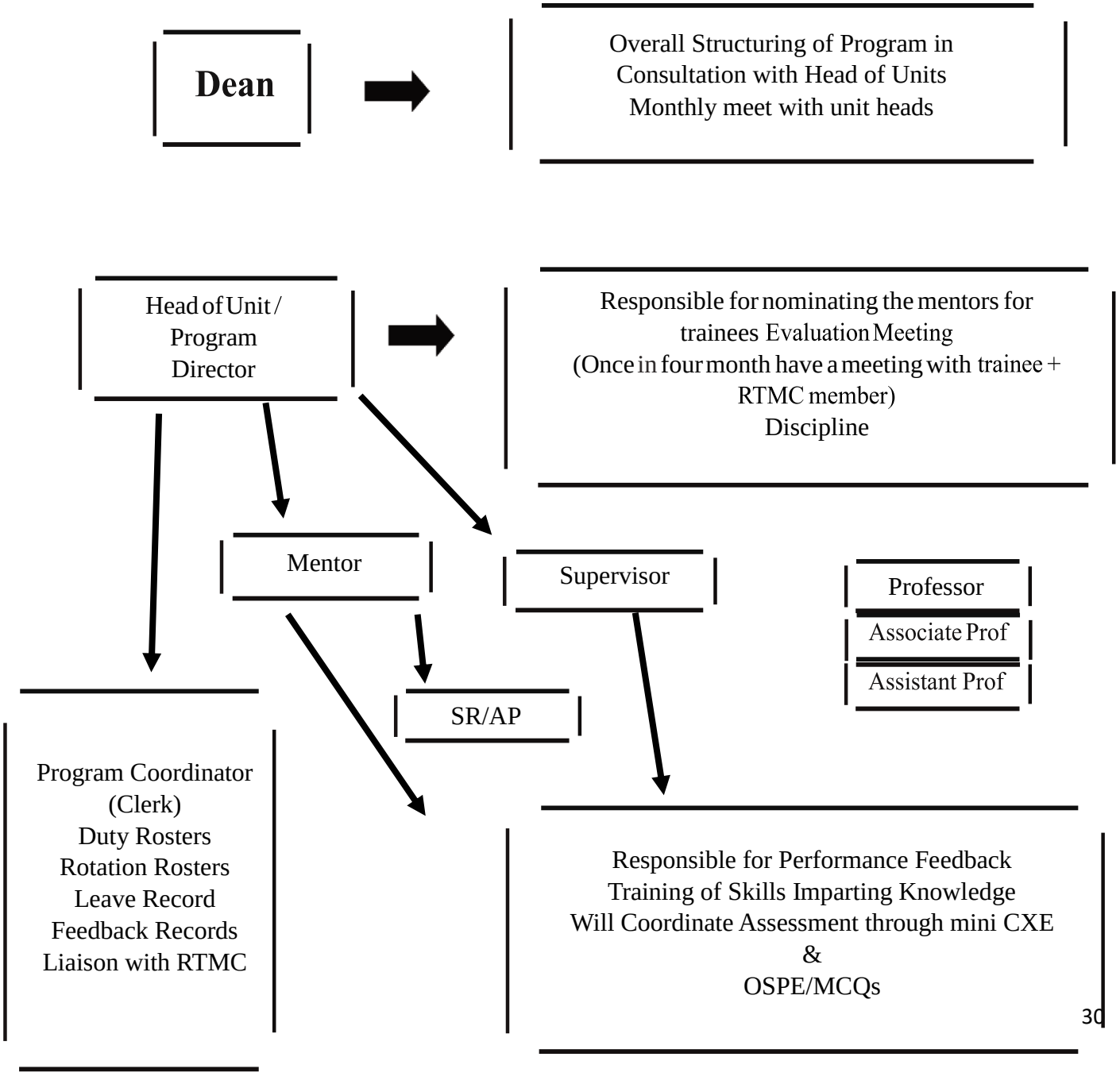
- indications and management of complications

Research Experience:

All residents in the categorical program are required to complete an academic outcomes-based research project during their training. This project can consist of original bench top laboratory research, clinical research or a combination of both. The research work shall be compiled in the form of a thesis which is to be submitted for evaluation by each resident before end of the training. The designated Faculty will organize and mentor the residents through the process, as well as journal clubs to teach critical appraisal of the literature.

ROAD MAP OF UNIVERSITY TRAINING PROGRAMME

GYNAE / OBS



REGULATIONS

SCHEME OF THE COURSE

A summary of four years course in MS Obstetrics and Gynaecology is presented as

COURSE STRUCTURE	COMPONENTS	EXAMINATION
AT THE END OF FIRST YEAR	**1st Year of the Program** Principals of General Surgery ➢ 6 months in Obs & Gynae ➢ 6 months General Surgery ➢ 2 mandatory workshops **Basic Science Education** (Anatomy, Physiology, Pharmacology and Pathology) **Research Work** Research project designed and synopsis prepared and approved by Ethical Review Board	**Continues Internal Assessment** **Intermediate Examination** At the end of the 2nd year of MS Obstetrics and Gynaecology programme **Written** MCQS based **Clinical Examination** TOACS/OSCE and Oral Clinical Examination
AT THE END OF SECOND YEAR	➢ 1 year complete Obstetric & Gynaecology	**Continues Internal Assessment**

	➢ 2 mandatory workshops **Research Work** ➢ Synopsis approved ➢ Data collection and research work started	
AT THE END OF THIRD YEAR	➢ 6 months Obstetrics & Gynaecology ➢ 4 months rotations in relevant fields **Skill workshops** (Neonatology, Obstetrics Emergencies, Surgical Skills) **Research Work**	**Continues Internal Assessment**
AT THE END OF FOURTH YEAR	➢ 12 months Obstetrics & Gynaecology **Thesis work** Thesis writing must be completed and thesis be submitted at least 6 months before the end of final year of the programme	• Final Examination of Obstetrics & Gynaecology • Continuous internal assessment, (appendix G) • Defence of the thesis will be at the end of fourth year

ELECTIVE ROTATIONS

A significant amount of time during residency is devoted to electives, which allows our residents the flexibility to gain a concentrated experience in an area of interest. Residents will do elective rotation in Surgery for six months after her six months of Gynae and Obs training. Residents will also do elective rotation of Neonatology and Medicine for 2 months each.

- Surgery 6 months
- Medicine 2 months
- Neonatology 2 months

These specialties are selected for rotation on basis of their importance related to Gynae/Obs specialty Neonatology is closely linked with obstetrics. Medical knowledge regarding different medical complications of obstetrics will improve overall outcome of patient. Surgery is the part and parcel of Obs/Gynae so the basic knowledge of surgical skill required to gain competency in Obs/Gynae.

GENERAL SURGERY/ UROLOGY

Principles of General Surgery

- History of surgical patient
- Preparing a patient for surgery
- Principles of operative surgery: asepsis, sterilization and antiseptics
- Surgical infections and antibiotics
- Basic principles of anaesthesia and pain management

- Acute life support and critical care:
    - Pathophysiology and management of shock
    - Fluids and electrolyte balance/ acid base metabolism
    - Haemostasis, blood transfusion
- Wound healing and wound management
- Nutrition and metabolism
- Principles of laparoscopy and endoscopy
- Informed consent and medicolegal issues
- Identification of ureteric and bladder injury
- Principles of bladder and ureteric repair
- VVF identification and repair

Common Surgical Skills

- Incision of skin and subcutaneous tissue:
    - Langer' s lines
    - Healing mechanism
    - Choice of instrument
    - Safe practice
- Closure of skin and subcutaneous tissue: Knot tying:
    - Choice of material
    - Single handed
    - Double handed
    - Superficial
    - Deep
- Tissue retraction:
    - Choice of instruments
    - Placement of wound retractors

    - Tissue forceps
- Use of drains:
    - Indications Types
    - Insertion
    - Fixation
    - Management/removal
- Incision of skin and subcutaneous tissue:
    - Ability to use scalpel, diathermy and scissors
- Closure of skin and subcutaneous tissue:
    - Accurate and tension free apposition of wound edges

Haemostasis:

- Control of bleeding vessel (superficial)
- Diathermy
- Suture ligation
- Tie ligation
- Clip application

Pre-operative assessment and management:

- Cardio-respiratory physiology
- Diabetes mellitus
- Renal failure
- Pathophysiology of blood loss
- Pathophysiology of sepsis
- Risk factors for surgery
- Principles of day surgery
- Management of comorbidity

Intraoperative care:

- Safety in theatre
- Sharps safety
- Diathermy, laser use
- Infection risks
- Tourniquets
- Principles of local, regional and general anesthesia

Post-operative care:

- Monitoring of postoperative patient
- Postoperative analgesia
- Fluid and electrolyte management
- Detection of impending organ failure
- Initial management of organ failure
- Complications specific to particular operation
- Critical care

Blood products:

- Components of blood
- Alternatives to use of blood products
- Management of the complications of blood product transfusion

Antibiotics:

- Common pathogens in surgical patients
- Antibiotic sensitivities

- Antibiotic side-effects
- Principles of prophylaxis and treatment

Technical Skills:

- Central venous line insertion
- Bleeding diathesis & corrective measures, e.g. warming, packing
- Clotting mechanism;
- Effect of surgery and trauma on coagulation
- Tests for thrombophilia and other disorders of coagulation
- Methods of investigation for suspected thromboembolic disease
- Anticoagulation, heparin and warfarin
- Role of V/Q scanning, CT angiography and thrombolysis
- Awareness of symptoms and signs associated with pulmonary embolism and DVT
- Role of duplex scanning, venography and d-dimer measurement
- Initiate and monitor treatment

Topic to be covered in surgery rotation

Sr. No.	Topic	Content
1.	Common Surgical Skills	• Incision of skin and subcutaneous tissue: o Langer 's lines o Healing mechanism o Choice of instrument o Safe practice • Closure of skin and subcutaneous tissue: Knot tying: o Choice of material o Single handed

		○ Double handed ○ Superficial and deep • Tissue retraction: ○ Choice of instruments ○ Placement of wound retractors • Use of drains: ○ Indications Types ○ Insertion ○ Fixation ○ Management/removal • Incision of skin and subcutaneous tissue: ○ Ability to use scalpel, diathermy and scissors ○ Closure of skin and subcutaneous tissue: ○ Accurate and tension free apposition of wound edges
2.	Haemostasis	• Control of bleeding vessel (superficial) • Diathermy • Suture ligation • Tie ligation • Clip application
3.	Pre-operative assessment and management	• Cardio-respiratory physiology • Diabetes mellitus • Renal failure • Pathophysiology of blood loss • Pathophysiology of sepsis • Risk factors for surgery

		• Principles of day surgery • Management of comorbidity
4.	Intraoperative care	• Safety in theatre • Sharps safety • Diathermy, laser use • Infection risks • Tourniquets • Principles of local, regional and general anaesthesia
5.	Post-operative care	• Monitoring of postoperative patient • Postoperative analgesia • Fluid and electrolyte management • Detection of impending organ failure • Initial management of organ failure • Complications specific to particular operation • Critical care
6.	Blood products	• Components of blood • Alternatives to use of blood products • Management of the complications of blood product transfusion
7.	Antibiotics	• Common pathogens in surgical patients • Antibiotic sensitivities • Antibiotic side-effects • Principles of prophylaxis and treatment
8.	Technical Skills	• Central venous line insertion • Bleeding diathesis & corrective measures, e.g. warming, packing

		• Clotting mechanism; • Effect of surgery and trauma on coagulation • Tests for thrombophilia and other disorders of coagulation • Methods of investigation for suspected thromboembolic disease • Anticoagulation, heparin and warfarin • Role of V/Q scanning, CT angiography and thrombolysis • Awareness of symptoms and signs associated with pulmonary embolism and DVT • Role of duplex scanning, venography and d-dimer measurement • Initiate and monitor treatment

Neonatology

In their elective rotation of Neonatology residents are supposed to gain sufficient capabilities in the following topics

- Care of newborn
- Care of preterm
- Infants of diabetic mother
- Asphyxia & neonatal resuscitation.
- Neonatal sepsis - prevention, early detection & management
- Neonatal hyperbilirubinemia, investigation and management
- Birth trauma - prevention, early detection & management
- Detection of congenital malformations in new born and referrals for surgical corrections
- Management of the common problems in neonatal period
- Care of growth restricted babies

CONTENT OUTLINE

MS Obstetrics and Gynaecology

Basic Sciences:

Student is expected to acquire comprehensive knowledge of Anatomy, Physiology, Pathology and Pharmacology relevant to surgical practice appropriate for Obstetrics and Gynaecology

1. Anatomy

- Clinical and functional anatomy with pathological and operative relevance
- Surgical approaches to the abdomino-pelvic and perineal structures
- Histology and embryology of male and female genital tract
- Cell Biology: Cytoplasm – Cytoplasmic matrix, cell membrane, cell organelles, cytoskeleton, cell inclusions, cilia and flagella.
- Nucleus – nuclear envelope, nuclear matrix, DNA and other components of chromatin, protein synthesis, nucleolus, nuclear changes indicating cell death.
- Cell cycle, mitosis, meiosis, cell renewal.
- Cellular differentiation and proliferation.
- Tissues of Body: Light and electron microscopic details and structural basis of function, regeneration and degeneration. Confocal microscopy.
- The systems/organs of body – Cellular organization, light and electron microscopic features, structure function correlations, and cellular organization

Embryology

- General Features of Human Development
- Features of mitotic and meiotic modes of cell division. Genetic consequences of meiotic division.
- Abnormal miototic and meiotic divisions of clinical importance.
- Gametogenesis: origin of germ cells.
- Oogenesis: prenatal and postnatal development of ova.
- Spermatogenesis: proliferation and maturation of male germ cells. Abnormal gametes, their clinical significance.
- Ovulation, fertilization and the consequences of fertilization.
- Segmentation of the fertilized ovum
- Formation of embryo
- Fetal membranes and the placenta
- Implantation of the ovum
- Trophoblast
- Chorion
- Placenta

Early Embryonic Development:

- Cleavage, morula and blastocyst formation and implantation.
- Formation of the three primary germ layers.
- Derivatives of the respective germ layers.

Extraembryonic Membranes:

- Development, functions and anomalies of yolk sac, amnion, chorion, allantois, umbilical cord and placenta.

Development of the External Body Form:

- Shaping of the abdomen and pelvic structures
- Development of the urogenital organs
- Development of the kidney & ureter
- Development of the uterus
- Development of genital glands
- Development of external genitalia.
- Development of breast and lactating ducts
- Common developmental anomalies associated

Teratogenesis:

- Factors known to be involved in the development of congenital anomalies especially related to the Gynaecological and Obstetric system.
- Concept of critical periods.

Period of the Growing Fetus:

- Various stages and salient features of the fetus development

Histology

Structural and Functional Organization of the Tissues of Body

- Classification of tissues and identification of various tissues particularly those related to the reproductive system, in routine histological preparations under the light microscope.
- The Epithelial Tissue
- General structure, functions and classification of epithelia
- Their location in the body
- General characters of serous and mucous membranes
- The Connective Tissue
- Key histological features of normal genitourinary and reproductive organs of male and female (including breast)

Surface and Imaging Anatomy

- The abdomen, peritoneum
- Stomach
- Small intestine
- Large intestine
- Rectum
- Anal canal
- Pancreas
- Liver
- Gall bladder
- Urogenital system
- The kidneys
- The ureters
- The urinary bladder
- The female urethra
- The female genital organs
- Ovaries
- Fallopian tubes
- Uterus
- Cervix
- Ligaments of the uterus
- Ext. genital organs of female
- Vulva
- Vagina
- Breasts
- Female pelvis

- Pelvic floor
- Detailed blood supply and nerve supply of pelvis
- Lymphatic drainage of the abdomen & pelvis
- Lymphatic drainage of the lower limb
- Related endocrine structures
- Hypothalamus
- Pituitary gland
- Thyroid and parathyroid gland
- Thymus and spleen
- Adrenals

2. Physiology

- Physiology of puberty, adolescence, menstruation, & menopause
- Physiology of menstruation and ovulation
- Physiology of spermatogenesis
- Physiological development and changes in breast
- Physiological adaptations during pregnancy & labor
- Normal pregnancy, labour & puerperium
- Endocrinology related to male and female reproduction
- Endocrinology of pregnancy
- Physiology & endocrinology of Placenta & Lactation
- Physiology & endocrinology of breast
- Immunology of pregnancy
- Reproductive Endocrinology of Female
- Polycystic ovarian syndrome
- Hirsutism /virilization

- Female infertility
- Premature ovarian failure
- Menstrual disorders
- Dysfunctional uterine bleeding
- Menopause
- Contraception and hormone replacement therapy
- Ovarian tumors
- Reproductive Endocrinology of Male
- Testicular physiology
- Male hypogonadism
- Male infertility
- Gynaecomastia
- Erectile dysfunction
- Testicular tumors
- Autoimmune Polyglandular Failure Syndrome
- Androgen replacement therapy
- Endocrinology - hypothalamus pituitary, thyroid and adrenal glands and neurotransmitters
- Cardiovascular system
- The heart and circulation
- Regulation of blood vessels
- Cardiac output
- Blood
- RBC
- Blood groups
- WBC
- Blood clotting

- Plasma
- Respiration
- Lung volumes
- Respiratory gases
- Emergency resuscitation
- Carriage of gases.
- Blood gas tensions
- Regulation of respiration.
- Digestion
- Control of digestive secretions
- Metabolic Pathways
- Nutritional requirements
- Fluid & electrolyte balance
- Kidney
- Urine formation
- Filtration & reabsorption of water
- Renal failure
- Skin & body temperature

3. Pharmacology

- British Pharmacopeia
- Receptors
- Mechanisms of Drug Action
- Pharmacokinetics
- Pharmacokinetic Process
    - Absorption
    - Distribution

    - Metabolism
    - Desired Plasma Concentration
    - Volume of Distribution
    - Elimination
    - Elimination rate constant and half life
    - Creatinine Clearance
- Drug Effect
    - Beneficial Responses
    - Harmful Responses
    - Allergic Responses
- Drug Dependence, Addiction, Abuse and Tolerance
- Drug Interactions
- Drug use in pregnancy and lactation
- Pharmacology of identified drugs used during pregnancy, labour, post
- partum period in reference to their absorption, distribution, excretion, (hepatic) metabolism, transfer of the drugs across the placenta, effect of the drugs (used) on labour, on fetus, their excretion through breast milk.
- Mechanism of action, excretion, metabolism of identified drugs used in Obstetrics & Gynaecology.
- Role of hormones in Obstetrics & Gynaecology.
- Drugs affecting the autonomic nervous system
    - Cholinergic agonists
    - Cholinergic antagonists
    - Adrenergic agonists
    - Adrenergic antagonists
- Drugs affecting the CNS
    - Anxiolytic and hypnotic Drugs

- CNS stimulants
- Antidepressants drugs
- Neuroleptic Drugs
- Opioid analgesics and antagonists

- Drugs affecting CVS
  - Treatment of congestive heart failure.
  - Antiarrhythmic drugs
  - Antihypertensives
- Drug affecting blood
  - Drugs to treat bleeding
  - Drugs to treat anemia
  - Anti coagulants
  - Thrombolytic drugs
- Diuretic drugs
- GI drugs (drugs used to treat peptic ulcer and constipation)
- Hormones of the pituitary and thyroid
- Insulin and oral hypoglycemic drugs
- Steroid hormones
  - Estrogens
  - Progestogens
  - Oral contraceptive pills
  - Androgens
  - Adrenal corticosteroid
- Ergot alkaloids
- Related to Obstetrics and Gynaecology;
  - Antinflammatory drugs
  - Antibiotics

- Antifungal drugs
- Antiviral drugs
- Anticancer drugs
- Urinary tract antiseptics

4. Pathology

Pathological alterations at cellular and structural level in infection, inflammation, ischaemia, neoplasia and trauma affecting the gynecological and obstetric management

- Cell Injury and adaptation
  - Reversible and Irreversible Injury
  - Fatty change, Pathologic calcification
  - Necrosis and Gangrene
  - Cellular adaptation
  - Atrophy, Hypertrophy,
  - Hyperplasia, Metaplasia, Aplasia
- Inflammation
  - Acute inflammation
  - Cellular components and chemical mediators of acute inflammation
  - Exudates and transudate
  - Sequelae of acute inflammation
  - Chronic inflammation
  - Etiological factors and pathogenesis
  - Distinction between acute and chronic (duration) inflammation
  - Histologic hallmarks
  - Types and causes of chronic inflammation, non-granulomatous & granulomatous,
- Haemodynamic disorders

- Etiology, pathogenesis, classification and morphological and clinical manifestations of Edema, Hemorrhage, Thrombosis, Embolism
- Infarction & Hyperaemia
- Shock; classification etiology, and pathogenesis, manifestations.
- Compensatory mechanisms involved in shock
- Pathogenesis and possible consequences of thrombosis
- Difference between arterial and venous emboli
- Neoplasia
    - Dysplasia and Neoplasia
    - Benign and malignant neoplasms
    - Etiological factors for neoplasia
    - Different modes of metastasis
    - Tumor staging system and tumor grade
- Immunity and Hypersensitivity
    - Immunity
    - Immune response
    - Diagnostic procedures in a clinical Immunology laboratory
    - Protective immunity to microbial diseases
    - Tumour immunology
    - Immunological tolerance, autoimmunity and autoimmune diseases.
    - Transplantation immunology
    - Hypersensitivity
    - Immunodeficiency disorders
    - Immunoprophylaxis & Immunotherapy

Microbiology

- Role of microbes in various Gynaecological and Obstetric disorders

- Normal and abnormal microbiology of genital tract - bacterial, viral & parasitical infections responsible for maternal, fetal and gynaecological disorders
- Infection source
- Nosocomial infections
- Bacterial growth and death
- Pathogenic bacteria
- Vegetative organisms
- Spores
- Important viruses
- Important parasites
- Surgically important microorganisms
- Sources of infection
- Asepsis and antisepsis
- Sterilization and disinfection
- Infection prevention
- Immunization
- Personnel protection from communicable diseases
- Use of investigation and procedures in laboratory
- Basics in allergy and immunology

Special Pathology

- Pathophysiology of ovaries, fallopian tubes, uterus, cervix, vagina and external genitalia in healthy and diseased conditions.
- Pathology of placenta, umbilical cord, amniotic fluid and fetus.
- Humoral and cellular immunology in Obstetrics & Gynaecology
- Menstrual disorders and their etio-pathogenesis
- Inflammatory and infective lesions of the genitourinary system in male and female.

- Classification and sub-classification of benign and malignant genitourinary tumors.
- Endometriosis and adenomyosis, cervical carcinomas and CIN, endometrial carcinoma, its clinical presentation and morphology, leiomyomas and their clinical effects
- Gestational trophoblastic disease with special emphasis on hydatidiform mole and choriocarcinoma.
- Markers in Obstetric & Gynaecology – non neoplastic and neoplastic diseases
- Inflammatory lesions of the breast
- Benign and malignant breast tumors
- Gynaecomastia
- Pathologic findings of thyroiditis, adrenocortical adenoma, phaeochromocytoma, diabetes mellitus, and pituitary malfunction in the gynaecological and obstetric disorders
- Disturbances of endocrine function
- Pathology and clinical symptoms of acute and chronic pyelonephritis.
- Calcium metabolism
- Temperature regulation
- Fluid & electrolyte imbalance
- Blood grouping & blood transfusion
- Indications for and interpretation of results of common biochemical and hematological tests

MS OBSTETRICS AND GYNAECOLOGY

Principles of General Surgery

- History of surgery
- Preparing a patient for surgery
- Principles of operative surgery: asepsis, sterilization and antiseptics
- Surgical infections and antibiotics
- Basic principles of anaesthesia and pain management
- Acute life support and critical care:
    - Pathophysiology and management of shock
    - Fluids and electrolyte balance/ acid base metabolism
    - Haemostasis, blood transfusion
- Trauma: assessment of polytrauma, triage, basic and advanced trauma
- Accident and emergency surgery
- Wound healing and wound management
- Nutrition and metabolism
- Principles of burn management
- Principles of surgical oncology
- Principles of laparoscopy and endoscopy
- Organ transplantation
- Informed consent and medicolegal issues
- Molecular biology and genetics
- Operative procedures for common surgical manifestations e.g cysts, sinuses, fistula, abscess, nodules, basic plastic and reconstructive surgery

Common Surgical Skills

Incision of skin and subcutaneous tissue:

- Langer's lines
- Healing mechanism
- Choice of instrument
- Safe practice

Closure of skin and subcutaneous tissue

- Options for closure
- Suture and needle choice
- Safe practice

Knot tying:

- Choice of material
- Single handed
- Double handed
- Superficial
- Deep

Tissue retraction:

- Choice of instruments
- Placement of wound retractors
- Tissue forceps

Use of drains:

- Indications
- Types
- Insertion
- Fixation

- Management/removal

Incision of skin and subcutaneous tissue:

- Ability to use scalpel, diathermy and scissors

Closure of skin and subcutaneous tissue:

- Accurate and tension free apposition of wound edges

Haemostasis:

- Control of bleeding vessel (superficial)
- Diathermy
- Suture ligation
- Tie ligation
- Clip application
- Plan investigations
- Clinical decision making
- Case work up and evaluation; risk management

Pre-operative assessment and management:

- Cardiorespiratory physiology
- Diabetes mellitus
- Renal failure
- Pathophysiology of blood loss
- Pathophysiology of sepsis
- Risk factors for surgery
- Principles of day surgery
- Management of comorbidity

Intraoperative care:

- Safety in theatre
- Sharps safety
- Diathermy, laser use
- Infection risks
- Radiation use and risks
- Tourniquets
- Principles of local, regional and general anaesthesia

Post-operative care:

- Monitoring of postoperative patient
- Postoperative analgesia
- Fluid and electrolyte management
- Detection of impending organ failure
- Initial management of organ failure
- Complications specific to particular operation
- Critical care

Blood products:

- Components of blood
- Alternatives to use of blood products
- Management of the complications of blood product transfusion including children

Antibiotics:

- Common pathogens in surgical patients
- Antibiotic sensitivities
- Antibiotic side-effects

- Principles of prophylaxis and treatment

Safely assess the multiply injured patient:

- History and examination
- Investigation
- Resuscitation and early management
- Referral to appropriate surgical subspecialties

Technical Skills:

- Central venous line insertion
- Chest drain insertion
- Diagnostic peritoneal lavage
- Bleeding diathesis & corrective measures, e.g. warming, packing
- Clotting mechanism; Effect of surgery and trauma on coagulation
- Tests for thrombophilia and other disorders of coagulation
- Methods of investigation for suspected thromboembolic disease
- Anticoagulation, heparin and warfarin
- Role of V/Q scanning, CT angiography and thrombolysis
- Place of pulmonary embolectomy
- Awareness of symptoms and signs associated with pulmonary embolism and DVT
- Role of duplex scanning, venography and d-dimer measurement
- Initiate and monitor treatment

Diagnosis and Management of Common Surgical Conditions:

- Abdominal pain
- Vomiting
- Trauma
- Groin conditions

    - Hernia
    - Hydrocoele
    - Penile inflammatory conditions
    - Undescended testis
    - Acute scrotum
- Abdominal wall pathologies
- Urological conditions
- Constipation
- Head / neck swellings
- Intussusception
- Abscess

MS OBSTETRICS AND GYNAECOLOGY COMPONENT

Students should be familiar with typical clinical presentation, key physical findings, radiological findings and differential diagnosis, initial treatment, and referral indications for common Gynaecological and Obstetric diseases.

OBSTETRICS:

- Basic sciences of Reproduction & Applied Anatomy of genitourinary system, abdomen, pelvis, pelvic floor, anterior abdominal wall, breast in obstetrics
- Reproductive Anatomy
- Gametogenesis fertilization, implantation & early development of human embryo
- Fetal growth & development
- Birth defects, Genetics & teratology & counseling
- Prenatal diagnosis and genetics
- Fetal medicine in clinical practice
- Physiological changes during pregnancy.
- Endocrinology of pregnancy.
- Pre-conception counseling
- Normal pregnancy, labour & puerperium.
- Antenatal care
- Breast feeding, baby friendly initiative
- Early recognition and prompt management of pregnancy complications
    - Hyperemesis gravid arum
    - Abortions
    - Ectopic pregnancy
    - Hydatidiform mole
    - Pre-eclampsia
    - Eclampsia

- Antepartum hemorrhage
- Spontaneous miscarriage
- Recurrent miscarriage
- Multiple pregnancy
- Post partum haemorrhage
- Preterm labour
- Premsture rupture of membranes
- Polyhydramnios
- Oligohydramnios
- Prolonged labour
- Ectopic pregnancy
- Trophoblast disease

- Management of pregnancies complicated by medical, surgical or gynaecological diseases, in consultation with the concerned specialties by team approach.
  - Anemia
  - Heart disease
  - Diabetes mellitus
  - Liver disorders
  - Respiratory diseases
  - Renal diseases
  - Haematological problems in pregnancy.
  - Neurological conditions
  - Rheumatology
  - Dermatoses of pregnancy
  - Psychiatric disorders
  - Hypertensive disorders
  - Acute abdomen

- Acute appendicitis
- Intestinal obstruction,
- Fibroids
- Ovarian tumors
- Carcinoma cervix
- Genital prolapses

- Infections in pregnancy.
  - Malaria
  - Toxoplasmosis
  - Viral infections (Rubella, CMV, Hepatitis B, Herpes)
  - Syphilis and other sexually transmitted infections including HIV.
  - Parents to child transmission of HIV infection
- Evaluation of the fetal and maternal health in complicated pregnancy by making use of available diagnostic modalities and plan for safe delivery of the fetus and safeguarding the maternal health
- Prenatal diagnosis of fetal abnormalities
- Partographic monitoring of labour progress
- Early recognition of dysfunctional labour and appropriate interventions during labour including active management of labour.
- Obstetrical analgesia and anesthesia.
- Induction and augmentation of labour.
- Management of abnormal labour
  - Abnormal pelvis and soft tissue abnormality in maternal passage
  - Malpresentation and Malpositions of fetus
  - Abnormal uterine action
  - Obstructed labour
  - Cervical dystocia.

    - Third stage complications
    - PPH including surgical management
    - Retained placenta
    - Uterine inversion
- Post partum collapse
    - Amniotic fluid embolism
    - Abnormal puerperium
    - Puerperal sepsis
    - Thrombophlebitis
    - Mastitis
    - Puerperal venous sinus thrombosis
    - Psychosis.
- National Health Programmes to improve the maternal and child health, social obstetrics and vital statistics.
- Drugs used in obstetric practice including prostaglandins.
- Coagulation disorders in obstetrics, Blood and component therapy
- Operative obstetrics - decision making, technique, recognition and management of complications – caesarian section, instrumental delivery, obstetrics hysterectomy, history of destructive surgery. Manipulations -version, MRP etc.
- Intensive care in obstetrics for critically ill patient. Fluid and electrolyte balance, volume status maintenance, protecting vital organ function.
- Termination of pregnancy
- Provision of safe abortion services, selection of case, techniques, and management of complications

Obstetric Statistics

- Live birth
- Still birth

- Maternal mortality rate
- Perinatal mortality rate
- Infant and neonatal mortality rate
- Factors that may reduce maternal and perinatal mortality

Neonatology:

- Care of newborn
- Care of preterm
- Infants of diabetic mother
- Asphyxia & neonatal resuscitation.
- Neonatal sepsis - prevention, early detection & management
- Neonatal hyperbilirubinemia, investigation and management
- Birth trauma - prevention, early detection & management
- Detection of congenital malformations in new born and referrals for surgical corrections
- Management of the common problems in neonatal period

Gynaecology:

- Diagnosis and surgical management of clinical conditions related to congenital malformations of genital tract
- Chromosomal abnormalities and intersex
- Gynecological disorders of childhood and adolescence
- Polycystic ovary syndrome and secondary amenorrhoea
- Physiology of menstruation, common menstrual disorders and their management; medical & surgical

- Menorrhagia and primary dysmenorrhoea
- Premenstrual syndrome
- Reproductive Endocrinology: Evaluation of primary and secondary amenorrhea, management of hyperprolactinemia, hirsutism, chronic anovulation and polycystic ovary disease (PCODP).
- Endometriosis and adenomyosis - medical and surgical management
- Infertility evaluation and management
- Use of ovulation induction methods
- Assisted reproduction
- Tubal microsurgery
- Reproductive tract infections
- Sexually transmitted Infections
- HIV/AIDS: prevention, diagnosis and management
- Genital Tuberculosis
- Benign and malignant tumors of genital tract - Early diagnosis and management
- Principles and practice of oncology in gynecology - chemotherapy, radiotherapy, palliative treatment
- Malignant disease of the vulva and vagina
- Benign diseases of the vagina, cervix and ovary
- Premalignant and malignant disease of the cervix
- Epithelial ovarian cancer
- Benign disease of the uterus
- Cancer of uterine corpus
- Supports of pelvic organs, genital prolapse, surgical management of genital prolapse.
- Common urological problems in gynaecology - Utero-vaginal prolapse, urinary incontinence, voiding difficulties, vesicovaginal fistula.
- Management of menopause, prevention of complications

- Hormone replacement therapy (HRT)
- Cancer screening - genital, breast
- Recent advances
- Newer diagnostic aids - USG, and other imaging techniques, endoscopies
- Hysteroscopy, laparoscopy - diagnostic, simple surgical procedures, including laparoscopic tubal occlusion, colposcopy.
- Medico legal aspects, ethics, communications and counseling.
- Operative gynaecology - Selection of case technique and management of complications of minor and major gynaecology procedures.
- Abdominal and vaginal hysterectomy
- Surgical procedures for genital prolapse
- Surgical management of benign and malignant genital neoplasms.
- Sexual dysfunction
- Ethical issues in Obst. & Gynae.
- Domestic violence and sexual assault

Family Planning:

- Demography and population dynamics.
- Contraception - temporary methods, permanent methods
- Legal issues
- Emergency contraception.
- Recent advances in contraceptive technology.

Common Gynaecological and Obstetric Skills and Procedures

On completion of the initial training in Part I, the trainees will be competent in all aspects of the basic, operative and non-operative care of surgical patients.

During Part II training, they will understand the importance of Gynaecological and

Obstetric care and management with particular reference to common Gynaecological and Obstetric presentations recognizing and preventing secondary disorders. They will be capable of resuscitating, assessing and initiating the surgical management of patients deteriorating as a result of local and systemic complications. They will demonstrate sound judgment when seeking more senior support, prioritizing medical interventions and escalating the level of medical care.

General surgical care:

- Administration of antibiotics in the surgical patient
- Use of blood and its products
- The role/complications of diathermy
- Pain relief in surgery
- Thrombo-embolic prevention and management
- Prevention and management
- Wound care and nosocomial infection
- Suture techniques and materials
- Initial assessment and management of obstetric and gynaecological problems

Obstetrics

- Elective caesarean section
- Emergency caesarean section
- Repair torn bladder
- Repair third degree tear
- Repair lacerated cervix
- Application and removal of cervical suture
- Elective breech delivery
- Twin delivery (including principles of internal version)

- Operative vaginal delivery
- Manual rotation
- Mid-cavity non-rotation forceps
- Ventouse rotation
- Obstetric ultrasound for dating, placental localization, viability and multiple pregnancy.

Gynaecology

- Pelvic laparotomy
- Hysterosalpingography (HSG)
- Dilatation and curettage
- Hysterectomy; Abdominal & vaginal
- Myomectomy
- Sling's operation for prolapse
- Anterior and posterior repair
- Management of corpus luteum cyst
- Management of ruptured/torsion ovarian cyst
- Ligation of tubes
- Treatment of non-CIN cervical lesions
- Pap smear
- Cervical Biopsy
- Marsupialization of Bartholin cyst/abscess
- Insertion and retrieval of lost intrauterine IUCD
- Ring Pessary
- Mini Lap

Optional additional training

Training in laparoscopy to assist in diagnosis of acute pelvic pain, to offer female sterilization and to perform tubal studies for investigation of infertility Basic training in colposcopic techniques might also be offered to trainees caring for women in remote areas without reasonable access to specialist care.

METHODS OF TEACHING & LEARNING DURING COURSE CONDUCTION

1. Inpatient Services:

All residents will have two monthly rotations in

- General antenatal wards
- Postnatal wards
- Daycare clinic
- Pre-op Gynae ward
- Posts of Obs ward
- Elective OT
- High risk antenatal
- High dependency unit
- Filter clinic
- Post-op Gynae ward
- Gynae Emergency
- Emergency OT

The required knowledge and skills pertaining to the ambulatory based training in following areas will be demonstrated;

- Normal labour
- Normal puerperium
- Care to New Born
- Common ailments of pregnancy
- High risk pregnancy
- Gynaecological conditions in pregnancy :
- Genital prolapse in pregnancy
- Complications in pregnancy

- Malposition, Malpresentation and Cord prolapse
- Abnormalitie s of Puerperium
- Obstetrical emergencies
- Operative obstetrics
- Gynaecological history taking and examination
- Menstrual disorders
- Menopause
- Common genital infection
- Endometriosis I adenomyosis
- Gynaecological oncology
- Uterine displacements
- Subfertility
- Gynaecological emergencies
- Interpretation of diagnostic tests
- Gynaecological procedures
- Provide Pre and post operative care of patients undergoing gynaecological operations
- Diagnose and manage patients with urinary complaints
- Urogynaecology
- Prenatal diagnosis

2. Outpatient Experiences:

Residents should demonstrate expertise in diagnosis and management of patients in outdoor clinic including general antenatal, high risk antenatal, patients with common gynaecological complains, oncology clinic, subfertility clinic and contraception clinic.

3. Emergency services:

Our residents take an early and active role in patient care and obtain decision-making roles quickly. Within the Emergency Department, residents direct the initial stabilization of all emergency patients including initial resuscitation (ABC), double IV-line, blood and blood products arrangement and definite decision making for further management.

4. Electives/ Specialty Rotations:

In addition, the resident will elect rotations in

- Surgery
- Neonatology
- Medicine

Residents may also select electives at other institutions if the parent department does not offer the experiences they want

5. Interdisciplinary Practice:

Resident will have enough time for Interdisciplinary interaction and communication. Resident will have laison with Medicine, Neonatology, Radiology, Dermatology, Emergency Medicine, General Surgery, Neurology, Ophthalmology, Nephrology, Urology.

6. Community Practice:

The Residents should be encourage to participate in the free camp providing antenatal, family planning services in the periphery area. This will give the experience of Obs/Gynae practice in a non-academic, non-teaching hospital setting, this will make them more confident and community oriented. They learn the needs of referring physicians or to decide on a future career path.

7. Mandatory Workshops:

Residents achieve hands on training while participating in mandatory workshops of

- Communication Skills,
- Computer Skills and IT
- Research Methodology and Bio Stat
- Synopsis writing

Specific objectives are given in detail in the relevant section of Mandatory Workshops.

8. Core Faculty Lectures (CFL):

The core faculty lecture's focus on monthly themes of the various Obs/Gynae topics. Lectures are still an efficient way of delivering information. Good lectures can introduce new material or synthesize concepts MS trainee have through text-, web-, or field-based activities. Buzz groups can be incorporated into the lectures in order to promote more active learning.

9. Introductory Lecture Series (]LS):

Various introductory topics will be presented by subspecialty and general Obs/Gynae faculty to introduce basic, essential and emerging topics in Obs/Gynae.

10.Long and short case presentations:

Giving an oral presentation on ward rounds is an important skill for Obs/Gynae MS trainee to learn. It is Obs/Gynae reporting which is terse and rapidly moving. After collecting the data, you must then be able both to document it in a written format and transmit it clearly to other health care providers. In order to do this successfully, you need to understand the patient's illnesses, the psychosocial contributions to their History of Presenting Illness and their physical diagnosis findings. You then need to compress them into a concise, organized recitation of the most essential facts. The

listener needs to be given all of the relevant information without the extraneous details and should be able to construct his/her own differential diagnosis as the story unfolds.

11.Seminar Presentation:

Seminar is held in a noon conference format. Upper-level residents present an in-depth review of a Obs/Gynae topic as well as their own research. Residents are formally critiqued by both the associate programme director and their resident colleagues.

12.Journal Club Meeting (JC):

A resident will be assigned to present, in depth, a research article or topic of his/her choice of actual or potential broad interest and/or application. Two hours per month should be allocated to discuss any current article or topic introduced or assigned by senior faculty member. The article will be critically evaluated and its recommended results should be highlighted and reinforced for implementation in routine Gynae and obstetrics care and in clinical practice. Record of all such articles should be maintained in the relevant department.

13.Small Group Discussions/ Problem based learning/ Case based learning:

Traditionally small groups consist of 8- 12 participants. Small groups can take on a variety of different tasks, including problem solving, role play, discussion, brainstorming, debate, workshops and presentations. Generally, MS trainee prefer small group learning to other instructional methods. From the study of a problem MS trainee develop principles and rules and generalize their applicability to a variety of situations PBL is said to develop problem solving skills and an integrated body of knowledge. It is a student-centered approach to learning; in which MS trainee determine what and how they learn. Case studies help learners identify

problems and solutions, compare options and decide how to handle a real situation.

14.Discussion/Debate:

There are several types of discussion tasks which would be used as learning method for residents including:

- **Guided discussion**, in which the facilitator poses a discussion question to the group and learners offer responses or questions to each other's contributions as a means of broadening the discussion's scope;
- **Inquiry-based discussion,** in which learners are guided through a series of questions to discover some relationship or principle;
- **Exploratory discussion,** in which learners examine their personal opinions, suppositions or assumptions and then visualize alternatives to these assumptions; and debate in which MS trainee argue opposing sides of a controversial topic. With thoughtful and well-designed discussion tasks, learners can practice critical inquiry and reflection, developing their individual thinking, considering alternatives and negotiating meaning with other discussants to arrive at a shared understanding of the issues at hand.

15.Case Conference (CC):

These sessions are held three days each week; the focus of the discussion is selected by the presenting resident. For example, some cases may be presented to discuss a differential diagnosis, while others are presented to discuss specific management issues.

16.Grand Rounds (GR):

The Department of Obs/Gynae hosts Grand Rounds on weekly basis. Speakers from local, regional and national Obs/Gynae training programmes are invited to present topics from the broad spectrum of Obs/Gynae. All residents on inpatient floor teams.

17.Weekly hand on skill workshop:

On the dummy pelvis for mechanism of labour, malpresentations and obstetric complications

Examination Policy

Intermediate Examination

All candidates admitted in M.S. Obstetrics and Gynaecology Programme shall appear in Intermediate examination at the end of 2nd calendar year of the programme.

Eligibility Criteria

To appear in Intermediate Examination, a candidate shall be required

a. To have submitted certificate of completion of mandatory workshops.
b. To have submitted certificate of completion of first two years of training from the supervisor/ supervisors of rotations.
c. To have submitted assessment proforma from the supervisor on 03 monthly basis achieving a cumulative score of 75%.
d. To have submitted certificate of submission of synopsis.
e. To have submitted evidence of payment of examination fee.

Intermediate Examination Schedule and Fee

a. Intermediate examination at completion of two years of training, will be held twice a year.
b. There will be a minimum period of 30 days between submission of applications for the examination and the conduction of examination.
c. Examination fee will be determined periodically by the university.

d. The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.
e. The Controller of Examination will issue Roll Number Slips on receipt of prescribed application form, documents satisfying eligibility criteria and evidence of payment of examination fee.
f. At least 75% score in CIA.

Components of Intermediate Examination

All candidates admitted in MS Obstetrics and Gynaecology course shall appear in Intermediate examination at the end of 2nd calendar year.

Intermediate examination at the end of 2nd calendar

Written Examination	= 200 Marks
TOACS, ORAL/OSCE Examination	= 100 Marks
Total	= 300 Marks

Written Paper: 100 MCQs single best answer with 2 marks for each MCQ.

Principles of Surgery in General	= 50 MCQs
Basic Sciences:	= 50 MCQs
• Anatomy	= 20 MCQs
• Physiology	= 10 MCQs
• Pharmacology	= 10 MCQs
• Pathology	= 10 MCQs

The candidates scoring 50% marks in multiple choice question paper will then be eligible to appear in the clinical and oral examination.

TOACS/OSCE & ORAL

The TOACS/OSCE & Oral examination will evaluate patient care competencies in detail.

- A panel of five examiners will be appointed by the Vice Chancellor of the University and of these three will be from within the university whilst two will be the external examiners. In case of difficulty in finding an internal examiner in a given subject, the Vice Chancellor would, in consultation with the concerned Deans will appoint any relevant person inside/ outside the University as an examiner.
    - From three internal examiners, one will be from Surgery department, and two from Gynae department.
    - From two external examiners, one will be from Surgery department and one will be from Gynae department.
    - 5 stations of OSCE/TOACS/Oral will be interactive and 5 stations will be static, and an examiner will be present in interactive stations.
    - The examination will be of 100 total marks consisting of the following components.

Components

- OSCE: 10 stations (100 marks). Time Allocated: 5 mins/ station

Declaration of Result

- The Candidate will have to score 50% marks in written and TOACS clinical components and a cumulative score of 60% to be declared successful in the Intermediate Examination. Cumulative score of 60% marks to be calculated by adding up secured marks of each component of the examination and then calculating its percentage.

Final Examination

All candidates admitted in M.S. Obstetrics and Gynaecology Programme shall appear in the Final Examination at end of structured training programme (end of 4th year).

Eligibility Criteria:

To appear in the Final Examination the candidate shall be required:

a. To have submitted the result of passing Intermediate Examination. ii) To have submitted the certificate of completion of training, issued by the Supervisor will be mandatory.
b. To have achieved a cumulative score of 75% in Continuous Internal assessments of all training years.
c. To have got the thesis accepted and will then be eligible to appear in Final Examination.
d. To have submitted no dues certificate from all relevant departments including library, hostel, cashier etc.
e. To have submitted evidence of submission of examination fee.

Final Examination Schedule and Fee

a. Final examination will be held twice a year.
b. The candidates have to satisfy eligibility criteria before permission is granted to take the examination.
c. Examination fee will be determined and varied at periodic intervals by the University.
d. The examination fee once deposited cannot be refunded / carried over to the next examination under any circumstances.
e. The Controller of Examinations will issue an Admittance Card with a photograph of the candidate on receipt of prescribed application form,

documents satisfying eligibility criteria and evidence of payment of examination fee. This card will also show the Roll Number, date / time and venue of examination.

Final MS Examination Obstetrics and Gynaecology

Total Marks: 1200

All candidates admitted in MS Obstetrics and Gynaecology course shall appear in Final examination at the end of structured training programme (end of fourth calendar year) and after clearing Intermediate examination.

There shall be two written papers of 250 marks each, Extended TOACS of 300 marks.

Final MS Obstetrics and Gynaecology

Clinical Examination

Total Marks: 1200

Topics included in paper 1

- Obstetrics & Neonatology

Topics included in paper 2

- Gynaecology & Family planning

Components of Final Clinical Examination

Theory:	**500 Marks**	
Paper I	**250 Marks**	**3 Hours**
100 MCQs	=200 Marks	
5 SAQs	=50 Marks	
Paper II	**250 Marks**	**3 Hours**
100 MCQs	=200 Marks	
5 SAQs	=50 Marks	

- *Each MCQ carry 2 marks.*

- *Each SAQ carry 10 marks.*
    - Both papers will be conducted on 2 separate days.
    - Only those candidates, who pass in theory papers, will be eligible to appear in the Clinical, TOACS/OSCE & ORAL.
    - The written part result will be valid for three consecutive attempts for appearing in the Clinical and Oral Part of the Final Examination. After that the candidate shall have to re-sit the written part of the Final Examination.

Clinical, TOACS/OSCE & ORAL

Extended TOACS (10-Stations) Time: 10 mins/station 300 Marks
(each station carry 30 marks)

Extended TOACS

- A panel of 10 examiners will be appointed by the Vice Chancellor of the University and of these five will be from within the university whilst five will be the external examiners. In case of difficulty in finding an internal examiner in a given subject, the Vice Chancellor would, in consultation with the concerned Deans will appoint any relevant person inside/ outside the University as an examiner.
- All stations of Extended TOACS will be interactive and an examiner will be present.
- The internal examiners will not examine the candidates for whom they have acted as Supervisor and will be substituted by other internal examiners.

MS Obstetrics and Gynaecology

Thesis Examination Total Marks: 300

All candidates admitted in MS Obstetrics and Gynaecology courses shall appear in thesis examination at the end of 4th year of the MS programme and not later than 7th calendar year of enrolment. The examination shall include thesis evaluation with defense.

Components / Pass Percentage:

- Accumulative pass percentage is 60%. Candidate must pass in each component separately:

Component 1: Written Paper (Paper 1 and 2)	500 Marks
Component 2: Extended TOACS	300 Marks
Component 3: Thesis Examination	300 Marks
Component 4: Internal Assessment	100 Marks

Anti-Plagiarism Policy

OFFICE OF THE REGISTRAR
NISHTAR MEDICAL UNIVERSITY, MULTAN
email: registrar@nmu.edu.pk
No: 143 /NMU-Reg,
Dated: 16 - 02 - /2024

NOTIFICATION

IMPLEMENTATION OF HIGHER EDUCATION COMMISSION'S ANTI-PLAGIARISM POLICY (VERSION 2.0) AT NISHTAR MEDICAL UNIVERSITY

As per directions of Higher Education Commission Islamabad vide its Letter No. 15-54/Coord/ 2019/ HEC/(QAD)/646 dated August 12, 2023 it is being notified that Higher Education Commission's **"ANTI- PLAGIARISM POLICY (VERSION 2.0)"** is being implemented in Nishtar Medical University for evaluation of thesis and research work.

This is to align with Nishtar Medical University's commitment to maintaining academic integrity and upholding the highest standards in research and education. The HEC's Anti-Plagiarism Policy is designed to ensure the authenticity and originality of scholarly work, fostering a culture of academic honesty and ethical conduct.

All the faculty, students and researchers are expected to adhere to the guidelines outlined in the HEC's Anti-Plagiarism Policy (Version 2.0) during the preparation, submission and evaluation of theses and research projects. Any instances of plagiarism will be thoroughly investigated, and appropriate actions will be taken in accordance with this policy.

REGISTRAR
NISHTAR MEDICAL UNIVERSITY
MULTAN.

No. / 16 /NMU-REG Multan dated Multan the _____ 2024

Copy forwarded for information and necessary action to:-

1. The Vice Chancellor, NMU, Multan.
2. All the Deans NMU Multan
3. The Controller of Examination NMU, Multan
4. The Director ORIC NMU, Multan
5. The Director QEC NMU, Multan
6. Master File.

REGISTRAR
NISHTAR MEDICAL UNIVERSITY
MULTAN

SUBMISSION / EVALUATION OF SYNOPSIS

The candidates shall prepare their synopsis as per guidelines provided by the Advanced Studies & Research Board, available on university website.

1. The research topic in clinical subject should have 30% component related to basic sciences and 70% component related to applied clinical sciences. The research topic must consist of a reasonable sample size and sufficient numbers of variables to give training to the candidate to conduct research, to collect & analyze the data.
2. Synopsis of research project shall be submitted by the end of the 2 year of MS program. The synopsis after review by an Institutional Review Committee shall be submitted to the University for consideration by the Advanced Studies & Research Board, through the Principal / Dean /Head of the institution.

THESIS COMPONENT

(4th year of MS Obstetrics and Gynaecology Programme)

Research/Thesis Writing

Total of one year will be allocated for work on a research project with thesis writing. Project must be completed and thesis be submitted before the end of training. Research can be done as one block in 4th year of training.

Research Experience

The active research component program must ensure meaningful, supervised research experience with appropriate protected time for each resident while maintaining the essential clinical experience. Recent productivity by the program faculty and by the residents will be required, including publications in peer- reviewed journals. Residents must learn the design and interpretation of research studies, responsible use of informed consent, and research methodology and interpretation of data. The program must provide instruction in the critical assessment of new therapies and of the surgical literature. Residents should be advised and supervised by qualified staff members in the conduct of research.

Clinical Research

Each resident will participate in at least one clinical research study to become familiar with:

1. Research design
2. Research involving human subjects including informed consent and operations of the Institutional Review Board and ethics of human experimentation
3. Data collection and data analysis
4. Research ethics and honesty

5. Peer review process

This usually is done during the consultation and outpatient clinic rotations.

Case Studies or Literature Reviews

Each resident will write, and submit for publication in a peer-reviewed journal, a case study or literature review on a topic of his/her choice.

Laboratory Research

Bench Research

Participation in laboratory research is at the option of the resident and may be arranged through any faculty member of the Division. When appropriate, the research may be done at other institutions.

Research involving animals

Each resident participating in research involving animals is required to:

1. Become familiar with the pertinent Rules and Regulations of the University of Health Sciences Lahore i.e. those relating to "Health and Medical Surveillance Program for Laboratory Animal Care Personnel" and "Care and Use of Vertebrate Animals as Subjects in Research and Teaching"
2. Read the "Guide for the Care and Use of Laboratory Animals"
3. View the videotape of the symposium on Humane Animal Care

Research involving Radioactivity

Each resident participating in research involving radioactive materials is required to

1. Attend a Radiation Review session
2. Work with an Authorized User and receive appropriate instruction from him/her.

SUBMISSION OF THESIS

1. Thesis shall be submitted by the candidate duly recommended by the Supervisor.
2. The minimum duration between approval of synopsis and submission of thesis shall be one year, but the thesis cannot be submitted later than 8 years of enrolment.
3. The research thesis must be compiled and bound in accordance with the Thesis Format Guidelines approved by the University and available on website.
4. The research thesis will be submitted along with the fee prescribed by the University

EVALUATION OF THESIS

1. The candidate will submit his/her thesis at least 06 months prior to completion of training.
2. The Thesis along with a certificate of approval from the supervisory will be submitted to the Registrar's office, who would record the date / time etc. and get received from the Controller of Examinations within 05 working days of receiving.
3. The Controller of Examinations will submit a panel of eight examiners within 07 days for selection of four examiners by the Vice Chancellor. The Vice Chancellor shall return the final panel within 05 working days to the Controller of Examinations for processing and assessment. In case of any delay the Controller of Examinations would bring the case personally to the Vice Chancellor.
4. The Supervisor shall not act as an examiner of the candidate and will not take part in evaluation of thesis.
5. The Controller of Examinations will make sure that the Thesis is submitted to examiners in appropriate fashion and a reminder is sent after every ten days.
6. The thesis will be evaluated by the examiners within a period of 06 weeks. g) In case the examiners fail to complete the task within 06 weeks with 02 fortnightly reminders by the Controller of Examinations, the Controller of Examinations will bring it to the notice of Vice Chancellor in person.
7. In case of difficulty in find an internal examiner for thesis evaluation, the Vice Chancellor would, in consultation with the concerned Deans, appoint any relevant person as examiner in supersession of the relevant Clause of the University Regulations.
8. There will be two internal and two external examiners. In case of difficulty in finding examiners, the Vice Chancellor would, in consultation with the concerned Deans, appoint minimum of three, one internal and two external examiners.
9. The total marks of thesis evaluation will be 300 and 60% marks will be required to pass the evaluation.
10. The thesis will be considered / accepted, if the cumulative score of all the examiners is 60%.

11. The clinical training will end at completion of stipulated training period but the candidate will become eligible to appear in the Final.

Examination at completion of clinical training and after acceptance of thesis. In case clinical training ends earlier, the slot will fall vacant after stipulated training period.

Award of MS Obstetrics and Gynaecology Degree

After successful completion of the structured courses of MS Obstetrics and Gynaecology and qualifying Intermediate & Final Examinations, (Written, Clinical, TOACS/OSCE & ORAL) the degree with title MS Obstetrics and Gynaecology shall be award

LOG BOOK

The residents must maintain a log book and get it signed regularly by the supervisor. A complete and duly certified log book should be part of the requirement to sit for MS examination. Log book should include adequate number of diagnostic and therapeutic procedures observed and performed, the indications for the procedure, any complications and the interpretation of the results, routine and emergency management of patients, case presentations in CPCs, journal club meetings and literature review.

Proposed Format of Log Book is as follows:

Candidate's Name: _____

Roll No. _____

The above mentioned procedures shall be entered in the log book as per format:

Procedures Performed

Sr.#	Date	Name of Patient, Age, Sex & Admission No.	Diagnosis	Procedure Performed	Supervisor's Signature
1					
2					
3					
4					

Emergencies Handled

Sr. #	Date	Name of Patient, Age, Sex & Admission No.	Diagnosis	Procedure/ Management	Supervisor's
1					
2					
3					
4					

Case Presented

Sr.#	Date	Name of Patient, Age, Sex & Admission No.	Case Presented	Supervisor's Signature
1				
2				
3				
4				

Seminar/Journal Club Presentation

Sr.#	Date	Topic	Supervisor's signature
1			
2			
3			
4			

Evaluation Record

(Excellent, Good, Adequate, Inadequate, Poor)

At the end of the rotation, each faculty member will provide an evaluation of the clinical performance of the fellow.

Sr.#	Date	Method of Evaluation (Oral, Practical, Theory)	Rating	Supervisor's
1				
2				
3				
4				

EVALUATION & ASSESSMENT STRATEGIES

Assessment

It will consist of action and professional growth oriented ***student-centered integrated assessment*** with an additional component of ***informal internal assessment, formative assessment*** and measurement-based ***summative assessment.***

Student-Centered Integrated Assessment

It views students as decision-makers in need of information about their own performance. Integrated Assessment is meant to give students responsibility for deciding what to evaluate, as well as how to evaluate it, encourages students to '**own'** the evaluation and to use it as a basis for self- improvement. Therefore, it tends to be growth-oriented, student-controlled, collaborative, dynamic, contextualized, informal, flexible and action- oriented.

In the proposed curriculum, it will be based on:

- Self Assessment by the student
- Peer Assessment
- Informal Internal Assessment by the Faculty

Self Assessment by the Student

Each student will be provided with a pre-designed self-assessment form to evaluate his/her level of comfort and competency in dealing with different relevant clinical situations. It will be the responsibility of the student to correctly identify his/her areas of weakness and to take appropriate measures to address those weaknesses.

Peer Assessment

The students will also be expected to evaluate their peers after the monthly small group meeting. These should be followed by a constructive feedback according to the prescribed guidelines and should be non-judgmental in nature. This will enable students to become good mentors in future.

Informal Internal Assessment by the Faculty

There will be no formal allocation of marks for the component of Internal Assessment so that students are willing to confront their weaknesses rather than hiding them from their instructors.

It will include:

a. Punctuality

b. Ward work

c. Monthly assessment (written tests to indicate particular areas of weaknesses)

d. Participation in interactive sessions

Formative Assessment

Will help to improve the existing instructional methods and the curriculum in use

Feedback to the faculty by the students

After every three months students will be providing a written feedback regarding their course components and teaching methods. This will help to identify strengths and weaknesses of the relevant course, faculty members and to ascertain areas for further improvement.

Summative Assessment

It will be carried out at the end of the programme to empirically evaluate cognitive, psychomotor and affective domains in order to award diplomas for successful completion of courses.

Intermediate Examination

All candidates admitted in M.S. Obstetrics and Gynaecology Programme shall appear in Intermediate examination at the end of 2nd calendar year of the programme.

Components of Intermediate Examination:

Intermediate examination at the end of 2nd calendar

Written Examination	= 200 Marks
TOACS, ORAL/OSCE Examination	= 100 Marks
Total	= 300 Marks

Written Paper: 100 MCQs single best answer with 2 marks for each MCQ.

Principles of Surgery in General	= 50 MCQs
Basic Sciences:	= 50 MCQs
• Anatomy	= 20 MCQs
• Physiology	= 10 MCQs
• Pharmacology	= 10 MCQs
• Pathology	= 10 MCQs

The candidates scoring 50% marks in multiple choice question paper will then be eligible to appear in the clinical and oral examination.

Final Examination

All candidates admitted in M.S. Obstetrics and Gynaecology Programme shall appear in the Final Examination at end of structured training programme (end of 4th year).

Final MS Obstetrics and Gynaecology

Clinical Examination

Total Marks: 1200

Topics included in paper 1

- Obstetrics & Neonatology

Topics included in paper 2

- Gynaecology & Family planning

Components of Final Clinical Examination

Theory:	**500 Marks**	
Paper I	**250 Marks**	**3 Hours**
100 MCQs	=200 Marks	
5 SAQs	=50 Marks	
Paper II	**250 Marks**	**3 Hours**
100 MCQs	=200 Marks	
5 SAQs	=50 Marks	

- *Each MCQ carry 2 marks.*
- *Each SAQ carry 10 marks.*
  - Both papers will be conducted on 2 separate days.
  - Only those candidates, who pass in theory papers, will be eligible to

appear in the Clinical, TOACS/OSCE & ORAL.

- The written part result will be valid for three consecutive attempts for appearing in the Clinical and Oral Part of the Final Examination. After that the candidate shall have to re-sit the written part of the Final Examination.

Clinical, TOACS/OSCE & ORAL

Extended TOACS (10-Stations)	Time: 10 mins/station	300 Marks
Continue Internal Assessment		100 Marks

MS Obstetrics and Gynaecology

Thesis Examination Total Marks: 300

All candidates admitted in MS Obstetrics and Gynaecology courses shall appear in thesis examination at the end of 4th year of the MS programme and not later than 7th calendar year of enrolment. The examination shall include thesis evaluation with defense.

RECOMMENDED BOOKS

CORE TEXTBOOK

- Edmonds ***Dewhurst's Post Graduate Obstetrics & Gynaecology*** 7th Ed. 2007
- D James, P Steer, C Weiner, B Gonik. ***High Risk Pregnancy – Management Options.*** 3rd Ed. 2006.
- Berek ***Novak & Berek's Gynaecology.*** 14th Ed. 2007
- Chard & Lilford. ***Basic Sciences for Obstetrics & Gynaecology***. 5th Ed. 1998
- De Swiet, Chamberlain, Bennet. ***Basic Science in Obstetrics and Gynaecology*** 3rd Ed. 2002
- Rana M. H., Ali S., Mustafa M. ***A Handnook of Behavioural Sciences for Medical and Dental Students.*** Lahore: University of Health Science; 2007

GYNECOLOGICAL SURGERY (for reference only)

- Monaghan, Tito, Naik. ***Bonney's Gynaecological Surgery.*** 10th Ed. 2004
- J. Apuzzio, A. Vintelioz, L. Iffy. ***Operative Obstetrics.*** 3rd Ed. 2005
-

SUPPLEMENTARY BOOKS

- Snell. ***Clinical Anatomy***.
- Langman J. ***Embryology***.
- DTY Liu. ***Labor Ward Manual***. 4th Ed.2007
- Studd. ***Progress in O & G***. Vol 17 (2006), Vol 16 (2005), Vol 15 (2003)
- Bonnar. ***Recent Advances in O & G.*** Vol 23 (2005), Vol 22 (2003).
- ***RCOG Clinical Greentop Guidelines***

REVISION TEXTBOOKS

- Stirrat, Mills, Draycott. ***Notes on Obstetrics & Gynaecology***. 5th Ed. 2003.
- Magowan B. ***Churchill's Pocketbook – Obstetrics & Gynaecology***. 3rd Ed. 2005.
- Norwitz & Schorge. ***Obstetrics & Gynaecology at a glance***. 2nd Ed. 2006.
- Chin, H. ***On call Obstetrics & Gynaecology***. 3rd Ed. 2006

PRACTICE TEXTS FOR SEQ / MCQ / OSCE

- Chard MCQs on ***Basic Science for Obstetrics & Gynaecology*** 1998
- Setchell & Lilford. ***MCQs in Gynaecology & Obstetrics*** 3rd Ed. 1996
- J. Konje. ***Short Essays, MCQs, & OSCEs for MRCOG Part II, a comprehensive guide.***2003.
- P. Abedin, K Sharif. ***MRCOG II Short Essay Questions***. 2003.
- R. de Courcy-Wheeler. ***MCQ for MRCOG Part II.*** 2003.
- D. Luesley. ***MCQ & Short Essays for MRCOG***.2004.

APPENDIX "E"

(See Regulation 9-iii)

MANDATORY WORKSHOPS

1. Each candidate of MD/MS/MDS program would attend the 04 mandatory workshops and any other workshop as required by the university.
2. The four mandatory workshops will include the following

   a. **Research Methodology and Biostatistics**
   b. **Synopsis Writing**
   c. **Communication Skills**
   d. **Introduction to Computer / Information Technology and Software programs**

3. The workshops will be held on 03 monthly basis.
4. An appropriate fee for each workshop will be charged.
5. Each workshop will be of 02 - 05 days duration.
6. Certificates of attendance will be issued upon satisfactory completion of

APPENDIX "F"
(See Regulation 9xxiii, 13, 14 & 16)

CONTINUOUS INTERNAL ASSESSMENTS

a) Workplace Based Assessments

Workplace based assessments will consist of Generic as well as Specialty Specific Competency Assessments and Multisource Feedback Evaluation.

Generic Competency Training & Assessments

The Candidates of all MD / MS / MDS programs will be trained and assessed in the following five generic competencies.

i. **Patient Care.**

a. Patient care competency will include skills of history taking, examination, diagnosis, plan of investigation, clinical judgment, plan of treatment, consent, counseling, plan of follow up, communication with patient / relatives and staff.

b. The candidate shall learn patient care through ward teaching, departmental conferences, morbidity and mortality meetings, core curriculum lectures and training in procedures and operations.

c. The candidate will be assessed by the supervisor during presentation of cases on clinical ward rounds, scenario based discussions on patient management, multisource feedback evaluation, Direct Observation of Procedures (DOPS) and operating room assessments.

d. These methods of assessments will have equal weightage.

ii. **Medical Knowledge and Research**

a. The candidate will learn basic factual knowledge of illnesses relevant to the specialty through lectures/discussions on topics selected from the syllabus, small group tutorials and bed side rounds.

b. The medical knowledge/skill will be assessed by the teacher during case based discussions and presentations to the supervisors / consultants / senior postgraduate trainees.

c. The candidate will be trained in designing research project, data collection, data analysis and presentation of results by the supervisor.

iii. The following key will be used for assessing operative and procedural competencies:

a. **Level 1 Observer status**

The candidate physically present and observing the supervisor and senior colleagues

b. **Level 2 Assistant status**
The candidate assisting procedures and operations

c. **Level 3 Performed under supervision**
The candidate operating or performing a procedure under direct supervision

d. **Level 4 Performed independently**
The candidate operating or performing a procedure without any supervision

iv. **Procedure Based Assessments (PBA)**

a. Procedural competency will assess the skill of consent taking, preoperative preparation and planning, intraoperative general and specific tasks and postoperative management

b. Procedure Based assessments will be carried out during teaching and training of each procedure.

c. The assessors may be supervisors, consultant colleagues and senior residents.

d. The standardized forms will be filled in by the assessor after direct observation.

e. The resident's evaluation will be graded as satisfactory, deficient requiring further training and not assessed at all.

f. Assessment report will be submitted to the Registrar on 03 monthly basis.

g. A satisfactory score will be required to be eligible for taking final examination.

Multisource Feedback Evaluation

i. The supervisor would ensure a multisource feedback to collect peer assessments in medical knowledge, clinical skills, communication skills, professionalism, integrity, and responsibility.

ii. Satisfactory annual reports will be required to become eligible for the final examination

b) Completion Of Candidate's Training Portfolio

i. The Candidate's Training Portfolio (CTP) will be published (or computer based portfolio downloadable) by the university.
ii. The candidates would either purchase the CTP or download it from the KEMU web site.
iii. The portfolio will consist of the following components

a) Enrollment details.

b) Candidate's credentials as submitted on the application for admission form.

c) Timeline of scheduled activities e.g dates of commencement and completion of training, submission of synopsis and thesis, assessments and examination dates etc **(Appendix H)**

d) Log Book of case presentations, operations and procedures recorded in an appropriate format and validated by the supervisor.

e) Record of participation and presentations in academic activities e.g lectures, workshops, journal clubs, clinical audit projects, morbidity & mortality review meetings, presentation in house as well as national and international meetings.

f) Record of Publications if any.

g) Record of results of assessments and examinations if any

h) Synopsis submission proforma and IRB proforma and AS&RB approval Letter

i) Copy of Synopsis as approved by AS&RB

iv. Candidates Training Portfolio shall be assessed as per proforma given in **"Appendix-G".**

d. The acquisition of research skill will be assessed as per regulations governing thesis evaluation and its acceptance.

iii. **Practice and System Based Learning**

a. This competency will be learnt from journal clubs, review of literature, policies and guidelines, audit projects, medical error investigation, root cause analysis and awareness of healthcare facilities.

b. The assessment methods will include case studies, presentation in morbidity and mortality review meetings and presentation of audit projects if any.

c. These methods of assessment shall have equal weight-age.

iv. **Communication Skills**

a. These will be learnt from role models, supervisor and workshops.

b. They will be assessed by direct observation of the candidate whilst interacting with the patients, relatives, colleagues and with multisource feedback evaluation.

v. **Professionalism as per Hippocratic Oath**

a. This competency is learnt from supervisor acting as a role model, ethical case conferences and lectures on ethical issues such as confidentiality, informed consent, end of life decisions, conflict of interest, harassment and use of human subjects in research.

b. The assessment of residents will be through multisource feedback evaluation according to proformas of evaluation and its' scoring method.

Specialty Specific Competencies

i. The candidates will be trained in operative and procedural skills according to a quarterly based schedule.

ii. The level of procedural competence to be achieved at various levels of training will be according to a competency table to be developed by each specialty.

APPENDIX G

(See Regulation 9ix, 9xxiii-d, 10, 11, 14 & 16)

Supervisor's Evaluation

PROFORMA FOR CONTINUOUS INTERNAL ASSESSMENTS

1.	**Generic Competencies**		
	(Please score from 1 – 100. 75% shall be the pass marks)	**Component Score**	**Score achieved**
	i. Patient Care	20	
	ii. Medical Knowledge and Research	20	
	iii. Practice and System Based Learning		
	• Journal Clubs	04	
	• Audit Projects	04	
	• Medical Error Investigation and Root Cause Analysis	04	
	• Morbidity / Mortality / Review meetings	04	
	• Awareness of Health Care Facilities	04	
	iv. Communication Skills		
	• Informed Consent	10	
	• End of life decisions	10	
	v. Professionalism		
	• Punctuality and time keeping	04	
	• Patient doctor relationship	04	
	• Relationship with colleagues	04	
	• Awareness of ethical issues	04	
	• Honesty and integrity	04	
2.	**Specialty specific competencies**		
	Please score from 1 – 100. 75% shall be the pass marks		**Score achieved**
	Operative Skills / Procedural Skills		
3.	**Multisource Feedback Evaluation**(Please score from 1 – 100. 75% shall be the pass marks)		
4.	**Candidates Training Portfolio** (Please score from 1 – 100.75% shall be the pass marks)		
	(Please score from 1 – 100. 75% shall be the pass marks)	**Component Score**	**Score achieved**
	i. Log book of operations and procedures	25	
	ii. Record of participation and presentation in academic activities	25	
	iii. Record of publications	25	
	iv. Record of results of assessments and examinations	25	

pervisor's Annual Review Report.

This report will consist of the following components:-

i. Verification and validation of Log Book of operations & procedures according to the expected number of operations and procedures performed (as per levels of competence) determined by relevant board of studies.

ii. A 90 % attendance in academic activities is expected. The academic activities will include: Lectures, Workshops other than mandatory workshops, Journal Clubs, Morbidity & Mortality Review Meetings and Other presentations.

iii. Assessment report of presentations and lectures

iv. Compliance Report to meet timeline for completion of research project.

v. Compliance Report on Personal Development Plan.

vi. Multisource Feedback Report, on relationship with colleagues, patients.

vii. Supervisor will produce an annual report based on assessments as per proforma in appendix-G and submit it to the Examination Department.

viii. 75 % score will be required to pass the Continuous Internal Assessment on annual review.

pervisor's Annual Review Report.

This report will consist of the following components:-

i. Verification and validation of Log Book of operations & procedures according to the expected number of operations and procedures performed (as per levels of competence) determined by relevant board of studies.

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iii. Assessment report of presentations and lectures

iv. Compliance Report to meet timeline for completion of research project.

v. Compliance Report on Personal Development Plan.

vi. Multisource Feedback Report, on relationship with colleagues, patients.

vii. Supervisor will produce an annual report based on assessments as per proforma in appendix-G and submit it to the Examination Department.

viii. 75 % score will be required to pass the Continuous Internal Assessment on annual review.

Multisource Feedback Evaluation

i. The supervisor would ensure a multisource feedback to collect peer assessments in medical knowledge, clinical skills, communication skills, professionalism, integrity, and responsibility.

ii. Satisfactory annual reports will be required to become eligible for the final examination

b) Completion Of Candidate's Training Portfolio

i. The Candidate's Training Portfolio (CTP) will be published (or computer based portfolio downloadable) by the university.
ii. The candidates would either purchase the CTP or download it from the KEMU web site.
iii. The portfolio will consist of the following components

a) Enrollment details.

b) Candidate's credentials as submitted on the application for admission form.

c) Timeline of scheduled activities e.g dates of commencement and completion of training, submission of synopsis and thesis, assessments and examination dates etc **(Appendix H)**

d) Log Book of case presentations, operations and procedures recorded in an appropriate format and validated by the supervisor.

e) Record of participation and presentations in academic activities e.g lectures, workshops, journal clubs, clinical audit projects, morbidity & mortality review meetings, presentation in house as well as national and international meetings.

f) Record of Publications if any.

g) Record of results of assessments and examinations if any

h) Synopsis submission proforma and IRB proforma and AS&RB approval Letter

i) Copy of Synopsis as approved by AS&RB

iv. Candidates Training Portfolio shall be assessed as per proforma given in **"Appendix-G".**