



BLDE

(DEEMED TO BE UNIVERSITY)

Revised Fellowship and Certificate Courses

2019-20

Published by

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Declared as Deemed to be University u/s 3 of UGC Act, 1956

The Constituent College

SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE, VIJAYAPURA

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CONTENTS

Sl. No.	Courses	Page No.
1	Notification	-
2	Vision & Mission	-
3	Fellowship in Pediatric Dermatology	1
4	Fellowship in Dermatopathology	5
5	Fellowship in Paediatric Urology	10
6	Fellowship in Minimal Access Surgery	20
7	Certificate Course in Operation Theatre Technology	38



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BLDE(DU)/REG/Allied Course/2019-20/330

May 18, 2019

NOTIFICATION

Sub: Revised Curriculum for Medical and Allied Courses (Fellowship and Certificate Courses)

- Ref: 1. Minutes of the Committee of Allied Courses of the University held on 08-09-2018
2. Minutes of the meeting of the 27th Academic Council of the University held on 13-10-2018.
3. Minutes of the meeting of the 47th BoM of the University held on 04-05-2019.

The Board of Management of the Deemed to be University is pleased to approve the Revised Curriculum for Medical Allied Courses (Fellowship and Certificate Courses) at its 47th Meeting held on May 04, 2019.

The revised curriculum shall be effective from the Academic Session 2019-20 onwards, in the constituent College of the University viz. Shri B. M. Patil Medical College, Hospital and Research Centre, Vijayapura.

**REGISTRAR
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**BLDE (Deemed to be University)
Vijayapura-586103. Karnataka.**

Copy to:

- The Secretary, UGC, New Delhi
- The Dean, Faculty of Medicine & Principal
- The Vice Principal
- The Medical Superintendent
- The Controller of Examinations
- The Chairman, Committee for Medical & Allied Courses
- The Coordinator, IQAC
- The Prof. & HoDs of Pre, Para and Clinical Departments
- PS to Hon'ble Vice-Chancellor

Smt. Bangaramma Sajjan Campus, B. M. Patil Road (Sholapur Road), Vijayapura - 586103, Karnataka, India.

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Our Vision

“To be a Leader and be recognized as an Institution striving for maintenance and enhancement of Quality Medical Education and Healthcare”

Our Mission

- To be committed to promote sustainable development of higher education including Health science education, consistent with the statutory and regulatory requirements.
- Reflect the needs of changing technology and make use of the academic autonomy to identify the academic programs that are dynamic.
- Adopt global concepts in education in the healthcare sector.

FELLOWSHIP IN PEDIATRIC DERMATOLOGY

Scope/Need for fellowship in pediatric dermatology:

Dermatology is an ever expanding medical science, Sub specialities are growing at a rapid pace. Pediatric dermatology is one such sub speciality which has grown enough even in developing countries. Pediatric skin is functionally and to some extent structurally immature and the skin diseases in this age group are unique in several ways such as prevalence, clinical presentations, and response to therapy. The dermatoses range from simple benign birth mark to life threatening staphylococcal scalded skin syndrome and disabling genodermatoses like lamellar ichthyosis and xeroderma pigmentosa. Above all the pediatric skin disorders cause considerable parental anxiety. In this part of the world consanguineous marriage is very high and so are the prevalence of genodermatoses. The effective management of a child with dermatological disorders requires expertise, experience and focused approach which are quite difficult during post graduate training in dermatology, Venerology and leprocy. So a fellowship programme in pediatric dermatology following post-graduation in dermatology is the need of the hour.

Aims and objectives:

At the end of the fellowship programme the candidate should

1. Comprehensively manage the dermatological conditions unique to pediatric age group.
2. Comprehensively manage the pediatric and neonatal dermatological emergencies.
3. Acquire the knowledge of pharmacology of dermatological drugs used in pregnancy, lactation and children.
4. Exhibit skills like performance of emergency procedures, fluid and electrolyte balance etc.
5. Master communication with referring physicians and learn how to interact with and effectively communicate with other speciality services in both outpatient and inpatient settings.

Duration of fellowship programme:

One year

Eligibility:

Post graduate degree or diploma in dermatology from a MCI recognized institution.

Teaching Faculty:

1. Teaching faculty of Department of Dermatology
2. Teaching faculty of Department of Pediatrics
3. Teaching faculty of Department of Pathology
4. Guest/Visiting faculty

Structure of fellowship programme:

- The programme is divided into four modules of three month each
- Each module will have particular syllabus (see under syllabus)
- At the end of each module the candidate will be assessed by theory examination, practical test, and problem solving questions
- At the end of the programme the candidate will be once again assessed by theory examination, practical test and problem solving questions
- Candidate has to select (at the start of second module) and complete (at the end of third module) a project to address the pediatric dermatological problems faced by the people in and around the place of fellowship programme

Syllabus:

Module I (First trimester)

1. Structure and functions of the skin
2. Neonatal dermatology
3. Bacterial infections
4. Viral infections
5. Fungal infections
6. Protozoal and Helminthic infestations
7. Bites, Stings and infestations

Module II (Second Trimester)

1. Sexually transmitted diseases and HIV/AIDS
2. Cutaneous mycobacterial infections
3. Eczemas
4. Disorders of Keratinization
5. Vesiculo-bullous disorders
6. Pigmentary disorders
7. Photosensitive disorders

Module III (Third trimester)

1. Vascular reaction pattern
2. Vascular malformations, tumors, and associated syndromes
3. Disorders of mucous membrane
4. Disorders of hairs
5. Disorders of nail
6. Disorders of cutaneous appendages
7. Diseases of the dermis and subcutaneous tissue
8. Laser and light based therapy in children

Module IV (Fourth trimester)

1. Neoplastic skin disorders

2. Cutaneous Mastocytosis and Histocytosis
3. Collagen vascular disorders and systemic vasculitides
4. Skin in systemic diseases and multisystem disorders
5. Genodermatoses
6. Pediatric dermatological emergencies

Teaching and Learning activities:

1. Lectures: Conducted by paediatricians and pathologists on relevant topics
2. Teaching programmes
 - Journal club: Once in a week
 - Case presentation: Once in a week
 - Seminar: Once in a month
 - Histopathology: Once in a week
3. Continued medical education/ workshop/ Conference
4. Teaching skills: Undergraduate and post graduate teaching.

Monitoring of learning process:

1. Observation: This modality is used to assess personal attitudes, and day to day work in outpatient department and wards.
2. Checklist: The performance of candidate in the teaching programs is assessed using checklists (Checklists I- IV). Different model checklists are used for each type of teaching programme. Each parameter in the checklist is graded and marked accordingly.
3. Log book: Log book is used to enter day to day activities of the post graduate student:
4. Feedback: Feedback from the undergraduate students and post graduate students is used to assess teaching skills. Feedback from teaching faculty is also received to assess the performance of candidate.

Evaluation of learning process:

- 1. Continuous evaluation (Formative)**
 - Schedule: After completion of each module
 - Theory Exam: One paper of 80 marks + 20 (Average of three internal assessment held at every trimester)
 - Clinical exam: 100 marks (10 spotters + 3 case discussions)
 - Viva: 100 marks including problem solving question
- 2. Examination Particulars (Summative)**
 - Schedule: Main examination will be held at the end of one year course
 - Theory Exam: One paper of 80 marks + 20 (Average of three internal assessment held at every trimester)
 - Clinical exam: 100 marks (10 spotters + 3 case discussions)
 - Viva: 100 marks including problem solving question
 - Project work: 100 marks (Done during the course)

- Standard of passing: To complete or to pass in each paper B grade is required.
(A = >75 %, B = >50%, C = <50% Fail)

Reference books

1. Harper's Textbook of Pediatric Dermatology 3rd ed. Editors: Alan Irvine, Peter Hoeger, Albert Yan. Publisher: Wiley-Blackwell.
2. Hurwitz Clinical Pediatric Dermatology 5th ed. Editors: Amy Paller, Anthony Mancini. Publisher: Elsevier.
3. Pediatric Dermatology 4th ed. Editor: Bernard Cohen. Publisher: Elsevier.
4. Neonatal and Infant Dermatology 3rd ed. Editors: Lawrence Eichenfield, Ilona Frieden. Publisher: Elsevier Saunders.
5. Textbook of Pediatric Dermatology 2nd ed. Editors: Arun C. Inamadar, Aparna Palit, Ragnatha S. Publisher: Jaypee Brothers Medical Publisher.

FELLOWSHIP IN DERMATOPATHOLOGY

Preamble:

Dermatopathology is a sub-specialty of both dermatology and surgical pathology that focuses on the study of cutaneous diseases at a microscopic level. It also encompasses analyses of the potential causes of skin diseases at a cellular level. Dermatopathologist will work in association with dermatologists. In fact, some of them are trained primarily in dermatology themselves.

Dermatologists are able to recognize most skin diseases based on appearances, anatomic distributions and behavior. Sometimes, however, those criteria do not allow a conclusive diagnosis to be made, and a skin biopsy is taken to be examined under the microscope. Here comes the role of a dermatopathologist who evaluates both the clinical and microscopic features and reveals the histology of the diseases and makes a specific diagnosis, which will be helpful in early diagnosis and treatment.

Need of the fellowship:

Dermatology and pathology are the branches of ever expanding medical science. In these branches sub-specialties are growing at a rapid pace. Dermatopathology is one such sub-specialty which has grown enough even in developing countries. There is need of separate fellowship to cater to the needs of dermatologists and pathologists. At present in India, there is no such facility in any of the institutes or universities.

Aims and objectives:

At the end of fellowship programme in dermatopathology, fellow should be able

1. To identify basic histopathological reactive patterns of structures/components of the skin.
2. To correlate histopathological findings with clinical features to arrive at correct diagnosis.

Goal: The primary goal of the fellowship is the provision of comprehensive training in Dermatopathology as well as training in surgical pathology (for fellows with a dermatology background) or clinical dermatology (for fellows with a pathology background).

Eligibility: Post graduate degree or diploma holders in Dermatology and/or Pathology.

Duration of the course: 1 year, consisting of 4 trimesters

Total Intake: Maximum of 2 candidates per academic year.

Selection procedure: Interview of applicant

Faculty:

1. Departmental faculty of Pathology and Dermatology.
2. Guest faculty with dermatopathology sub-specialization

Syllabus of fellowship:

Model 1 (1st trimester):

1. Structure of normal skin
2. Definitions in dermatopathology
3. Clinical evaluation of skin disease
4. Skin biopsy – Types and Indications and etc.,
5. Histopathological evaluation of skin disease
6. Stains used in dermatopathology
7. Approach to diagnosis (Clinical examination & Histopathological examination)
8. Clues in Dermatopathology
9. Selection of Project work

Model 2 (2nd trimester):

1. Lichenoid tissue reactions
2. Psoriasiform tissue reaction
3. Spongiotic dermatoses
4. Reactive erythemas
5. Bulbous diseases
6. Connective tissue diseases
7. Vacuities
8. Granulomas
9. Pigmentation disorders
10. Emergency in dermatology: Urgency and emergency in dermatology is topic of discussion in the recent advances. Various conditions like Angioinvasive fungal infections, Stevens-Johnson syndrome/toxic epidermal necrolysis, staph-scalded-skin syndrome, acute graft-versus-host disease, bullous pemphigoid, calciphylaxis, Sweet syndrome and its histiocytoid variant, pyoderma gangrenosum, and leukocytoclastic vasculitis etc where there is urgent need of histopathology report for proper management of patient.

Model 3 (3rd trimester):

1. Appendigeal diseases
2. Panniculitis
3. Genodermatoses
4. Deposition disorders
5. Perforating disorders
6. Histopathology of infections
7. Role of frozen section in dermatology - Frozen section helps in freezing the tissue at -25 degree Celsius and help in section the fresh tissue without any use of formalin. It aids in immunofluorescence study & also plays role in surgical margin clearance & diagnosis of toxic epidermal necrolysis, acute graft-versus-host disease
8. Role of immunofluorescence in dermatology - It aids in diagnosis of vesicobullous lesions.
9. Role of immunohistochemistry in dermatology - Immunohistochemistry plays a very important role in the definitive diagnosis of cutaneous lymphoma, melanoma etc. importance of immunohistochemistry is emphasized, with a focus on potential pitfalls and mimickers in the diagnosis of neoplasms metastatic to skin.
10. Role of electron microscopy in dermatology - Electron microscopy helps in the study of ultrastructure of individual cell of significance. The role of electron microscopy is minimal however, it helps in definitive identification of Langerhan's cells in Langerhan cell histiocytes etc.

Model 4 (4th trimester):

1. Tumours of epidermis
2. Premalignant and malignant tumors of epidermis
3. Appendigeal tumors
4. Connective tissue tumors
5. Melanocytic tumors
6. Cutaneous infiltrative disorders
7. Inflammatory microenvironment in skin tumors. - It deals with study of tumor behavior in different microenvironment which leads to metastasis of tumor.
8. Completion of Research project in dermatopathology

Teaching and learning activities:

1. Lecturers: Will be conducted by pathologists and dermatologists on relevant topics
2. Teaching programmes
 - Journal club – Once in 2 week
 - Clinico-pathological correlation - Once in a week
 - Seminar - Once in a month
 - Biopsy review - Once in a week

3. Continued medical education(CME)/ Workshop/Conference
4. Teaching – Undergraduate and Post graduate teaching
5. Presentation of Research project in dermatopathology

Monitoring of learning process:

1. **Observation:** This modality is used to assess personal attitudes, day to day work in histopathology section, dermatology outpatient department (OPD's) and wards.
2. **Checklist:** The performance of candidate in the teaching programmes is assessed using checklists. Different model checklists are used for each type of teaching programme. Each parameter in the checklist is graded and marked accordingly.
3. **Log book:** Log book is used to enter day-to-day activities of the fellow.
4. **Feed back:** Feedback from teaching faculty is received to assess the performance of candidate.

Evaluation of learning process:

1. Continuous evaluation (Formative):
 - Schedule; After completion of each module
 - Theory exam: One paper of 100 marks
 - Practical exam: 100 marks
 - 10 histopathology slides diagnosis - 50 marks
 - Clinico-pathological case discussions – 25 marks
 - Special stains – Fite faraco stain, Van Gieson stain,..etc – 25 marks
 - Viva: 100 marks including problem solving question
2. Examination Particulars (Summative):
 - Schedule: Main examination will be held at the end of one year course
 - Theory exam: One paper of 80 marks + 20 Average of three internal assessments held at every trimester)
 - Practical exam: 100 marks
 - 10 histopathology slides diagnosis - 50 marks
 - Clinico-pathological case discussions – 25 marks
 - Special stains – Fite faraco stain, Van Gieson stain,..etc – 25 marks
 - Viva: 100 marks including problem solving question
 - Project work: 100 marks (Done during course)
 - Standard of passing: To complete or to pass in each paper B grade is required.
(A Grade = > 75%, B Grade = > 50%, C = < 50% Fail)

References:

1. Lever's Histopathology of the Skin – 11th edition
2. Mckenzie clinical laboratory hematology
3. The American journal of dermatopathology
4. Indian journal of dermatopathology and diagnostic dermatology(IJDPDD)
5. Journal of cutaneous pathology
6. International journal of Dermatopathology and Surgery

FELLOWSHIP IN PAEDIATRIC UROLOGY

Preamble

The objective of certificate examination in Paediatric urology is to produce highly competent manpower in Paediatric Urology

Objectives

The training ingredients should provide in depth knowledge of Paediatric Urology and relevant allied subjects

Eligibility for Admission

Basic requirement is a Master of Surgery, (M. Ch) in Urology or a M.Ch Paediatric Surgery or DNB in General Surgery, Urology, Paediatric Surgery of the National Board of Examination, from a recognized institution.

Duration of Course

Duration of the course will be for one Academic year

Medium of Instruction

Medium of instruction
is English

Attendance

Atleast 80% during one year period

Course content for each subject

1. Normal and pathological embryology of the urinary and genital tract

- Development of the kidney and ureter
- Development of the bladder and the urethra
- Development of the female genital tract
- Development of the male genital tract

2. Nephrology

- Normal physiology of the urinary tract and kidney
- Pathophysiology of pre and postnatal hydronephrosis
- Haematuria
 - Definition
 - Analysis
 - Aetiology
 - Diagnostic
- Parenchymal Pathology
 - Glomerular diseases (glomerulonephritis, hemolytic-uraemic-syndrome)
 - Tubular diseases (acute renal insufficiency, hereditary diseases)
 - Interstitial nephritis
- Renal insufficiency and dialysis
 - Aetiology of chronic renal insufficiency
 - Clinic (pyuria, anaemia, hypertension, bone metabolism; growth disorders)
 - Dialysis (indication, peritoneal-haemodialysis)
- Renal Transplantation
 - Indication
 - Selection, risks and contra-indications
 - Preparation and diagnostic work-up
 - Transplantation-immunology (HLA)
 - Cadaveric and living donor kidney

- Surgical technique of explanation, implantation and postoperative technical complication
- Working of Euro-Transplant-organization
- Post transplant immunosuppression technique
-

3. Infection

- Definition of UTI (asymptomatic bacteriuria, bacterial cystitis, pyelonephritis)
- Diagnosis of UTI (microbiology, culture media, preparation techniques)
- Specific infection clinical features (abscess, tuberculosis, candida, eosinophilic cystitis, cystitis-cystica)
- Orchitis, epididymitis

4. Principles in diagnosis of the urinary tract

- History and physical examination of the child at different ages
- Associated clinical signs with anomalies of the urinary tract
- Urinalysis (stix, microscopic, chemical, culture)
- Serum-analysis
- Imaging of the urinary tract
 - Ultrasound, color Doppler: theory, possibilities and limitations
 - X-ray: protection principles, urography, cystography, video-urodynamics
 - Contrast media: principles, indication and contra-indications
 - Computerized tomography (principles, interpretation, possibilities, limitations)
 - Magnetic Resonance imaging (principles, interpretation, possibilities, limitations)
- Special imaging of the urinary tract using radio-isotopes
 - Principles
 - Static imaging: DMSA
 - Dynamic imaging: DTPA, MAG-3
 - Interpretation of clearance and glomerular filtration rate: principles and limitations
 - Direct and indirect cystography
 - Extrarenal imaging: neuroblastoma

- Prenatal diagnostic
 - Ultrasound
 - Urinalysis (electrolytes, tubular markers)
- Non-invasive diagnostic of the lower urinary tract
 - Uroflowmetry (principles, methods, interpretation)
 - Electromyography (principles, methods, interpretation)
- Invasive diagnostic of the lower urinary tract
 - Antegrade and retrograde cystography (technique, interpretation)
 - Video-urodynamic study (technique, interpretation)
 - Cystometry (ambulatory and non-ambulatory)

5. Pre, peri and post operative management of the child – Anaesthesia principles

- Selection, pre-operative studies
- Parental information pre and post operative
- Ambulatory surgery
 - Selection
 - Local anesthesia techniques (methods, pharmacology)
- Pain management (oral, rectal, parenteral)
- Post operative fluid management
- Anaesthesia (principles, premedication)

6. Anomalies of the kidney and the upper urinary tract – diagnostic, management, therapeutic options, surgery selection, surgical techniques of:

- Prenatal hydronephrosis and associated problems (pulmonary hypoplasia)
- Renal agenesis
- Renal hypoplasia
- Renal dysplasia (multicystic dysplastic kidney, cystic dysplasia with obstruction)
- Renal duplication: incomplete
- Polycystic infantile and adult renal disease
- Horseshoe-kidney
- Renal ectopia
- Uretero-pelvic junction obstruction (UPJ)
- Megacalycosis

- Ureterocele (intra and extravesical)
- Ectopic ureter

7. Anomalies of the lower urinary tract – Diagnostic, management, therapeutic options, surgery selection, surgical techniques of:

- Urachal pathology (open urachus, cysts, sinus, diverticulum)
- Exstrophy – Epispadias – complex
- Bladder diverticulum
- Vesico-ureteral reflux
- Urethral valves
- Urethritis posterior
- Urethral strictures
- Duplication of the urethra
- Urethral diverticulum
- Meatal prolapse
- Urogenital sinus anomalies
- Cloacal anomalies

8. Anomalies of the upper and lower urinary tract- Diagnostic, management, therapeutic options, surgery selection, surgical techniques of:

- Prune-Belly-Syndrome

9. Anomalies of the penis- Diagnostic, management, therapeutic options, surgery selection, surgical techniques of:

- Hypospadias
- Phimosis (lichen sclerosus)
- Epispadias
- Buried penis
- Penoscrotal web
- Micropenis

10. Anomalies of the testis and the scrotum - Diagnostic, management, therapeutic options, surgery, selection, surgical techniques of:

- Maldescent of the testis (cryptorchism, ectopia, retractile)

- Anorchia, polyorchia
- Hydrocele, hernia
- Varicocele
- Spermatocele
- Vascular Lesions of the Genitalia

11. Sexual differentiation problems

- Embryology and physiology of genital differentiation
- Hermaphroditism, female and male pseudohermaphroditism
- Mixed gonadal dysgenesis
- Chromosomal abnormalities

12. Functional disorders of the lower urinary tract

- Normal anatomy and physiology
- Classifications of functional disorders
- Urinary diversion techniques
- Non-neuropathic function disorders
- Neuropathic function disorders: conservative treatment, bladder augmentation
- Management of associated problems of neurogenic disorders (bowel, tethered cord, pubertas praecox, latex allergy, amnesia)

13. Primary monosymptomatic nocturnal enuresis

- Pathophysiology
- Treatment options

14. Paediatric urology emergencies - Diagnostic, management, therapeutic options, surgery, selection, surgical techniques of:

- Renal infectious problems (pyonephrosis, renal abscess)
- Renal non-infectious problems (trauma, renal vein thrombosis)
- Ureteral trauma
- Adrenal haemorrhage
- Renal colic (acute upper urinary tract obstruction)
- Urinary retention

- Testicular torsion
- Torsion of the appendix testis
- incarcerated hernia
- Testicular rupture
- Orchitis
- Epididymitis
- Paraphimosis
- Priapism
- Penile and scrotal trauma
- Bladder trauma (intra and extraperitoneal rupture)
- Urethral rupture
- Trauma of the female genital tract
- Infection of the female genital tract (vulvovaginitis, foreign body)
- Acute hydro and haematocoele
- Idiopathic scrotal oedema

15. Urolithiasis

- Aetiology
- Metabolic disorders
- Chemical characteristics
- Clinical, diagnostic and management
- Treatment options

16. Paediatric urology oncology - Diagnostic, management, therapeutic options, surgery, selection, surgical techniques of:

- Wilm's tumour
- Neuroblastoma
- Rhabdomyosarcoma
- Testicular tumours (leydig cell, Yolk sac, Leukaemia)
- Hypernephroma
- Pheochromocytoma
-

17. Management and social aspects of the care of the child as a patient

- Communication skills with the child and its family
- Knowledge of the psychosocial and sexual development of a child

18. Urologic evaluation of the child

- Chief complaint and history of present illness
- Past medical and surgical history
- Medications and allergies in pediatric patients
- Pediatric urologic examination
- Pediatric laboratory evaluation
- Pediatric radiographic evaluation
- Pediatric urodynamic evaluation and biofeedback training

19. Adolescent and Transitional Urology

- *Definitions*
- *The Process of Transition*
- *Training Requirements*
- *The Adolescent Clinic*
- *Outcome Measures*

Teaching Hours

1. Daily ward rounds
2. O.T as when cases are posted
3. Tuesday – Case discussion (2 hrs)
4. Thursday – Journal club / seminar (2 hrs)

Scheme of Examination for each subject

a. Internal assessment

Student will be assessed on day to day basis. No internal marks to be covered

b. University Examination

i. Theory: There will be 3 papers.

Paper I : Basic sciences as applied to genitor – urinary surgery including adrenals

Paper II : Clinical and operative pediatric urology Paper III: Recent advances.

Duration of the examination will be one and half days. Paper I and II on first day and paper III on second day. Each paper will be for 3 hours. Each paper will consist of 10 short questions so that wider field can be tested. Paper setter should give an outline of a model answer along with the question paper submitted.

ii. Practicals

Practical examination will be in two parts (i) Clinical and (ii) Viva voce

Both the parts of the examination will be conducted on the same day, clinical examination in the morning and viva voce in the after noon.

In the clinical examination, the candidate will be given 3 fully worked up cases for examination in 1 hour. He will have to write history and findings on a paper. This will be submitted after he has been examined. He will also to take for a ward round of completely worked up cases numbering 3-5.

Viva-voce examination is divided into (1) Instruments and operation (2) Pathology specimens and slides (3) Imaging including X-rays, Isotope Renograms, Urodynamics studies, MRI, Angiograms. By making use of this in a viva voce examination the candidate will be examined in a wide range of subjects including and sub-specialties of Paediatric Urology.

Reference Book for each subject

1. Adult & Paediatric Urology – Gellinwater 2007
2. Campbell's Walsh Urology – 2007
3. Paediatric Urology - 2007

Declaration of Results:

a. Criteria for pass – Main subject

Minimum of 50% in theory and practical individually

- b. Declaration of Class
- 65 % First Class
 - 75% Distinction
- c. Carryover benefit

Examiners

No. of Examiners to conduct theory valuation & practical examination Three - One internal, Two External

The theory / practicals will be assessed by the same group examiners

Eligibility to become an examiner

Prof and 10 years in Active Urological / Pediatric Surgical Practice

CURRICULUM FOR FELLOWSHIP IN MINIMAL ACCESS SURGERY

GOAL:

The goal of fellowship in Minimally invasive surgery is to train a General Surgeon (M. S. Gen. Surgery) to be capable and competent to

1. Perform and practice minimally invasive surgery
2. Practice MIS in diligent and ethical manner.
3. Continue to update with the advances
4. Be a team member and leader and in training and sharing knowledge and skills with learners.

PREAMBLE:

The practice patterns of General and GI Surgery has changed significantly in the last two decades as a result of the increasing use of rigid and flexible Endoscopes for both diagnostic and therapeutic techniques.

These changes are occurring from time to time and continue rapidly with increasing the performance of Advanced Laparoscopic procedures.

Residents and General Surgeons who have completed their training in conventional open surgeries and are entering the practice of general surgery must be familiar with and must be well trained and educated in these areas of surgery.

Laparoscopy should be significant part of their practice and with time will become more important and more widely used.

OBJECTIVES:

Gaining laparoscopic skills is very important. Skill in conventional surgical procedure does not necessarily confer skills in Laparoscopic surgery. The course is aimed at bridging this gap and is formulated with the following objectives in mind.

KNOWLEDGE

1. To learn the principles of Laparoscopic surgery. **(K)**
2. To learn the indications, contra-indications and limitations of MIAS and various procedures. **(K)**
3. Anesthesia in laparoscopic surgery. **(K)**
4. Learning about prosthetic meshes and fixation devices. **(K)**

KNOWLEDGE & SKILLS

1. To learn about specialized Laparoscopic equipments and instrumentation. **(K&S)**
2. Sterilization and maintenance of instruments and video equipments. **(K&S)**
3. Trouble shooting in MIAS. **(K&S)**
4. Electro surgery and other newer energy sources. **(K&S)**
5. To learn about tissue morcellators and organ retrieval systems. **(K&S)**
6. To know about the complications and its managements in MIAS. **(K&S)**

SKILLS

1. To master the tactile sensation, altered hand and eye co-ordination due to the length and design of instruments and the absence of three dimensional depth perception due to two dimensional representation of the three dimensional abdominal cavity. **(S)**
2. To perform abdominal insufflations using Veress needle **(S)**
3. Basic and advanced skills in Endo-knotting and intracorporeal suturing techniques. **(S)**
4. To perform laparoscopic procedures on live animal models in the purposeful, wet laboratory. **(S)**
5. Learn to perform on human patients.
6. Documentation, storage data and presentation. **(S)**

ELIGIBILITY

M.S. (General surgery) or DNB in General Surgery recognised by appropriate authority

Duration of course : 1 year

The planned schedule is module based with 4 modules of 3 months/12 weeks each

1. 3 Months Basics in Laparoscopy
2. 3 Months Ward postings
3. 3 Months Hands on / Video presentation
4. 3 Months Internship

1. Basics in Laparoscopy [Module 1]

Introduction to Lap, Pre requisites
Introduction to Instruments / access technique
Energy source
Sterilization + Washing
Anatomy / Wet dissection
Understanding Laparoscopic Physiology

Use of Lap Trainer / Animal module
Complications
Anaesthesia
Documentation/Video editing

Practicals

Veress needle insertion (access technique)
Port position On Manikins, Endotrainers
Patients under supervision
Hand Eye coordination practice
Demonstration of Energy source utilization

2. Ward Postings [Module 2]

Regular workup of Patients,
Preparation for OT,
Attend Wards, rounds and assist all Minimally Invasive Surgeries
Logbook entry and maintenance
Seminars, Journals & Case presentations

3. Hands on video editing recording/Documentation [Module 3]

Assisting all minimally invasive surgeries
Performing under Guidance
Video Editing Theory Class/Practicals
Documentation
Post operative care

4. Internship [Module 4]

Allied Department postings for one week each to assist Minimally invasive surgeries and learn know how related to the speciality
Anaesthesia, Urology, Endoscopy, Gynaceology.

COURSE CONTENT

A. General Principles:

1. Equipment set up and trouble shooting
2. Patient preparation
3. Anesthesia and Monitoring
4. Access to abdomen
5. Creating pneumoperitoneum

6. Abdominal wall lift devices
7. Principles of laparoscopic haemostasis
8. Principles of Electosurgery

TROUBLE SHOOTING:

Laparoscopic procedures are inherently complex. Many things can go wrong. The surgeon must learn sufficiently about all equipments which can trouble shoot and to solve it. Common problems to be learnt are:

1. Cause of Poor insufflations
2. Reason for excessive pressure for insufflations
3. Reasons for inadequate lighting
4. Reasons for too bright lighting
5. Reasons for loss of picture on monitors
6. Reasons for poor quality pictures /fogging / haze
7. Reasons for flickering electrical interference
8. Reasons for inadequate cauterization/inadequate irrigation and suction

Basic Module in MAS FOR GENERAL SURGEONS:

1. Diagnostic Laparoscopy
2. Laparoscopic Appendectomy
3. Laparoscopic Cholecystectomy
4. Laparoscopic Adhesiolysis

Advanced module in MAS FOR GENERAL SURGEONS:

1. Laparoscopic Hernioplasty
 - Direct –TEP REPAIR
 - Indirect – TAPP REPAIR
2. Laparoscopic Perforation Closure
3. Vagotomy and GJ (Stapling and Hand Suturing)
4. Nissen Fundoplication for GERD and Hiatus Hernia
5. CBD Exploration using C-Arm control
6. Laparoscopic Splenectomy
7. Assisted large and small bowel surgeries
8. Liver resections
9. Pancreatojejunostomy and Cystogastrostomy for Pseudocysts of pancreas.
10. Laparoscopic Rectopexy for prolapsed rectum.
11. Laparoscopic APR/Right and left colectomy
12. Transhiatal Esophagectomy
13. Gastrectomy for Ca. Stomach
14. Meckels Diverticulectomy
15. **Bariatric Surgery**
 - Vertical sleeve Gastrectomy, Mini Gastric Bypass, Diversions.

Syllabus

Section 1

1. Chronological advances in Minimal Access Surgery
2. Laparoscopic Imaging Systems
 - Laparoscopic Trolley
 - Imaging systems
 - Light source
 - Light cable
 - Telescope
 - Laparoscopic video monitor
 - Television systems
 - 3-D vision
 - Invention of ideal shadow in laparoscopic surgery
 - 3-D video monitors
3. Laparoscopic Equipments and Instruments
 - Insufflations Systems
 - Suction/Irrigation systems
 - Energy source systems
 - Laparoscopic working equipment
 - Port Access instrument
 - Laparoscopic hand instrument
 - Outer Sheath of hand instrument
 - Instrument for sharp dissection
 - Types of Laparoscopic scissor
 - Endoknife/Scalpel
 - Coagulation in dissecting electrode
 - Needle holder
 - Knot pusher
 - Laparoscopic clip applicator
4. Sterilization of laparoscopic instruments
 - History of sterilization
 - Legislation in sterilization
 - Ultrasound technology for cleaning
5. Anaesthesia in Laparoscopic Surgery
 - Evolution and preparation of patient
 - Physiological changes during laparoscopy
 - Regional
 - General
 - Local
 - Intraoperative complication

6. Abdominal access techniques
 - Closed access
 - Open Access
 - Introduction of veress needle
 - Primary trocar insertion
 - Pneumoperitoneum in special conditions
 - Entry in cases of morbid obesity
 - Port closure techniques
7. Principles of laparoscopic port position
 - Primary port position
 - Secondary port position
 - First decide the target
 - Port position in various surgeries
 - Drawbacks of incorrect port position
8. Laparoscopic dissection techniques
 - Types of laparoscopic dissection
 - Blunt dissection
 - Sharp dissection
 - Scissor dissection
 - High frequency electrosurgical dissection
 - Use of diathermy hook
 - Ultrasonic dissection
 - High velocity water jet dissection
 - Laser dissection
 - Cryotherapy and radiofrequency ablation
9. Laparoscopic tissue approximation techniques
 - Laparoscopic suturing and knotting
 - Laparoscopy needle
 - Roeder's knot
 - The Meltzer slip knot
 - The Tayside knot
 - Using a pre-tied knot
 - Extra-corporal knot for continuous structure
 - Cat eye stone
 - Laparoscopic internal suturing
 - Instrumentation
 - Continuous suturing
 - Application
 - Interrupted sutures
 - Techniques to assist in control of bleeding
10. Hand Assisted Laparoscopic Surgery
 - Hand Port devices

- Omniport
 - Indication of HALS
 - Advantage of HALS
 - Limitation of HALS
 - Lapdisc hand access device
 - Warning and precautions
 - Future prospect of HALS
11. Tissue retrieval techniques
- Endobags
 - Colpotomy
 - HALS
 - Morcellator
12. Laparoscopic Port Closure Techniques
- Withdrawal on instruments on Ports

SECTION 2

1. Laparoscopic cholecystectomy
 - Advantages of laparoscopic approach
 - Exposure of gall bladder and cystic duct
 - Adhesiolysis
 - Dissection of cystic pedicle
 - Intraoperative USG
 - Complication of Lap Cholecystectomy
 - Lap chole and CBD injury
 - Type of CBD injury
 - How to avoid injury
2. Laparoscopic CBD exploration
 - Intraoperative Colangiography
 - Laparoscopic USG
 - Laparoscopic extraction of CBD stones
 - Procedure
3. Laparoscopic Appendectomy
 - Laparoscopic anatomy
 - Advantages of Lap Appendectomy
 - Alternate port and theatre setup
 - Risk factors
4. Laparoscopic repair of inguinal hernia
 - Laparoscopic Anatomy

- Indications
 - Advantages of laparoscopic approach'
 - Disadvantages of Open method
 - Transabdominal pre-peritoneal repair
 - Procedure of TAPP
 - Total Extra peritoneal repair
 - Advantages of TEPP
 - Disadvantages of Pre peritoneal repair
 - Laparoscopic repair of femoral hernia
 - Complications of lap Hernia repair
 - Intra operative complications and precautions
 - Postoperative complications
 - Post operative recovery
 - Recurrence
 - Causes of recurrence
 - Recommendations
5. Laparoscopic Ventral hernia repair
- Laparoscopic Anatomy
 - Operative Procedure
 - Choice of Mesh
 - Surgeries
 - Alloderms
 - Proceedure
 - The second technique
 - Complications
 - Mesh Placement and Fixation
 - Bowel injury
 - Adhesion
 - Infection
 - Seroma
 - Post operative Pain
 - Obesity
 - Recurrence
6. Laparoscopic repair of Hiatus Hernia
- Symptoms of type 2 Hiatus hernia
 - Operative procedure of giant Para oesophageal hernia
 - Recommendations to avoid complications
7. Laparoscopic repair of Duodenal Perforation
- Laparoscopic approach and advantages
 - Operative technique

- Discussion
- 8. Laparoscopic Fundoplication
 - Pathophysiology
 - Operative Technique
 - Procedure
- 9. Sleeve Gastrectomy
 - weight loss
- 10. Laparoscopic Splenectomy
- 11. Laparoscopic management of hepatopancreatic diseases
 - Technique
 - Laparoscopic Liver resection
 - Hepatic resections
 - Laparoscopic pancreatic surgery
 - Pseudocyst drainage
- 12. Diagnostic laparoscopy
 - Indications
 - Contraindications
 - Laparoscopic Anatomy
 - Role of Laparoscopy in Ascites
 - Diagnostic Laparoscopy
- 13. Laparoscopic Small bowel surgery
 - Laparoscopic resection of small bowel
 - Ileocelectomy
- 14. Laparoscopic Colorectal Surgery
 - Sigmoidectomy
 - Low anterior resection
 - Abdominoperitoneal resection
 - Hartmann reversal
 - Resection rectopexy
 - Wells or martex procedure
 - Tips and tricks
- 15. Laparoscopic Adhesiolysis
 - Contraindications
 - Laparoscopic adhesiolysis

SECTION 3

1. Laparoscopic Sterilisation
 - Laparoscopic anatomy
 - Contraindications
 - Bipolar coagulation
 - Falope ring application

2. Laparoscopic Ovarian Surgery
 - Laparoscopic Ovarian Anatomy
 - Laparoscopic management of Ovarian cyst
 - Oophorectomy
 - Contraindications
3. Laparoscopic tubal surgery
 - Laparoscopic tubal anatomy
 - Operative procedure
4. Laparoscopic Management of ectopic Pregnancy
 - Ectopic Pregnancy
 - Discussion
 - Laparoscopy vs laparotomy in treatment
5. Laparoscopic Surgery in Pregnancy- Precautions and Complications
 - Physiological changes in pregnancy
 - Fetal considerations
 - Effects of pneumoperitoneum
 - Laparoscopic procedure
 - Criteria for patient selection
 - Advantages of laparoscopy in pregnancy
 - Discussion
6. Laparoscopic Management of Endometriosis
 - Peritoneal Implants
 - Resection of Ovarian Endometriosis
 - Genitourinary endometriosis
 - Diaphragmatic Endometriosis
7. Laparoscopic Hystrectomy
 - Laparoscopic Anatomy of Uterus
 - Classification
 - Discussion
8. Laparoscopic Myomectomy
 - Procedure
 - Removal of Myoma
9. Laparoscopic management of Stress incontinence
 - Pathophysiology
10. Minimally Invasive Sling Operation for Stress incontinence
 - Tension free vaginal tape
 - Contraindications of tension free vaginal tape and transobturator tape
 - Warnings and Precautions
11. Laparoscopic Sacral Colpopexy
 - Indications
 - Operative procedure

- Vesicovaginal fistula repair
 - Technique
12. Essentials of Hysterectomy
- Indications
 - Contraindications
 - History
 - Delivery of devices
 - Distending Media
 - Fluid monitoring
 - Excessive fluid absorption

SECTION 4: Laparoscopic Urology

1. Urethral Injury and Laparoscopy
 - Urethral injuries
 - Frequency of urethral injury
 - Level of urethral injury
 - Prevention of urethral injury
 - Recognition of urethral injury
2. Laparoscopic Urologic Procedure
 - Laparoscopic Nephrectomy
 - Varicocelectomy
 - Retroperitoneal node dissection
 - Management of lymphoecies
 - Ureterolysis
 - Ileal conduit
 - Pelvic Lymphadenectomy

SECTION 5: Pediatric Laparoscopy

1. Laparoscopic Pediatric Surgery
 - Laparoscopy in infants and children
 - Laparoscopic repair in pediatric hernia
 - Paediatric Urology
 - Laparoscopy for impalpable undescended testis
 - Other laparoscopic pediatric urological procedures

SECTION 6: Miscellaneous

1. Other Minimal Access Surgical Procedures
 - Two port cholecystectomy
 - Two port repair of ventral hernia
 - Historical perspective
 - Surgical technique
 - Minimal access neck surgery

- Minimal access surgery in orthopaedics
 - Arthroscopic Surgery in sports related injury and other pathology
 - Minimal access surgery in orthopaedic trauma
 - Spine surgery and Arthroscopy
 - Bone endoscopy and tumours
2. Minimal Access Bariatric Surgery
 - Laparoscopic treatment of morbid obesity
 - Sleeve gastrectomy
 3. Complications of Minimal Access surgery
 - Anaesthetic and medical complications
 - Haemorrhagic complications
 - Gastrointestinal complications
 - Injury to bladder
 - Neurologic Injury
 - Dissection in thermal injury
 - Incisional hernia
 - Infection
 4. Role of training in minimal access surgery
 - Training objectives needs and means
 - Present training in laparoscopy
 - Learning curve in laparoscopy
 5. Future of minimal access surgery
 - Minimal access techniques
 - Natural orifice transluminal endoscopic surgery.

Teaching learning methods

The academic activities of the program include:

1. Regular academic sessions:
2. Theory Classes, Journal Presentations,
3. Case discussion and seminars
4. Paper presentation

5. Audit/ Project/Research
6. Conferences/CME's/Live workshops
7. Wet lab/ simulator, use of endotrainers
8. **Lectures on Surgery(Obesity & Metabolic Surgery)**
9. **Master Video demonstration**
10. **Practical teaching on- Cadavers, Anaesthetized Pigs & Simulators.**
11. **Posting of students to Asian Institute of Gastroenterology for observing and assisting advanced laparoscopic surgeries and bariatric surgeries.**

Assesment/Evaluation:

FORMATIVE - To assess the skill on simulator every 3 months with viva, presentation (JC, seminars, problem based cases, videos)

SUMMATIVE- At the end of one year

Log books- The log books are to be submitted for monthly evaluation of the progress and to evaluate the learning curve.

Exit exams- The degree is awarded after a final exit examination, at the end of one year training period.

THEORY

Theory paper 1: Basic Sciences-100 marks

Theory paper 2: Systemic chapters related with MIS-100 marks

2 long questions of 20 mark each and 6 short questions of 10 marks each

PRACTICALS

- | | | |
|----------------|---|----------|
| 1. Long cases | - | 40 marks |
| 2. Short cases | - | 20 marks |

Total marks =	Theory	-	200
	Practicals	-	100
	Total	-	300

<u>EXAMINERS</u>	TOTAL	-	03
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2 internal examiners & 1 external examiner

RESULTS

Passing minimum 50%

Ist class- more than 65%

Less than 50% is considered as fail

LIST OF LIBRARY BOOKS FOR REFERENCES

Books

1. Bailey & Loves' Short Practice of Surgery 26th edition
2. Text book of practical laparoscopic surgery by R. K. Misra, 3rdedn. Jaypee Publishers
3. Zucker's laparoscopic surgery. 4thedn
4. Palanivelu's Text book of Laparoscopic Surgery Vol I&II
5. Palanivelu's Atlas of Laparoscopic Surgery
6. Advanced laparoscopic surgery by Katkhouda 2ndedn. Springer publication
7. SAGES Manual of basic laparoscopy and advance laparoscopy 3rd edn, Springer publication
8. *Nubultion and Bariatric Surgery, by-Robert Kushner,Christopher.D*
9. *ASMBS-Text book of Bariatric Surgery by Springer Publication*
10. *The Big book on Bariatric Surgery, by Alex Brecher*
11. *Comprehensive Laparoscopic Surgery,by Dr.Ramesh Agarwalla & Dr.Sayander Dasgupta.*

JOURNALS:

1. Journal of Minimal Access Surgery
2. Journal of Indian Association of Gastroendoscopic Surgeons.
3. World Journal of Laparoscopic Surgery
4. British Journal of Surgery
5. Annals of surgery
6. Indian Journal of Surgery
7. American Journal of Surgery
8. Journal of Society of American Gastro Intestinal Endoscopic Surgeons.

RESOURCES REQUIRED FOR CONDUCTING THE COURSE

INFRASTRUCTURE

- A. Text books on MIAS written by leading and experienced Authors
- B. Educational tools such as Video tapes /CD ROMS
 - Simulators for Endo – Training
 - Box trainers to master the skills
 - Endo trainer rooms with adequate space and good air-conditioning facility to work long hours in the simulators so the trainee can avoid fatigue.
 - Endo-cameras mounted on a special stands with the monitors
 - Special hand instruments to learn the hand and eye co-ordination, depth perception and tactile sensation.
- C. The training should be structured throughout with clearly defined targets to be met after specified intervals. An education plan should be drawn up in consultation with the trainees at the beginning of each attachment and progress should be monitored regularly, by means of log book.

SETTING UP OF A LAPAROSCOPIC UNIT:

INFRASTRUCTURE

- Room with Computer
 - Library
 - Seminar Room
 - Skills Lab
 - OT with Laparoscopic surgery Instruments
 - Demonstration Instruments
 - Animal Laboratory
- A. ROOM LAYOUT AND EQUIPMENT POSITION:
- General considerations include the size of operating room space, location of doors, outlets for electrical and anesthetic equipments.
 - To determine the optimum position and orientation for the monitor placement.
 - If the room is large, the normal position for the operating table will work well for laparoscopy (30/30).
 - Small operating rooms will require diagonal placement of the operating table and proper positioning of laparoscopic accessory instrumentation around the operating table.
 - All equipment check list helps to ensure that all items are available and minimize delays in MIAS.

THE BASIC INSTRUMENTS NEEDED FOR SETTING UP THE UNIT:

- Electrical table with leg separation facility.
- Two video monitors. One for the surgeon and another for the assistants and team (optional).
- Suction and irrigation apparatus.
- Electrosurgical unit with proper grounding.
- Pad equipped with current monitoring system.
- Cart to house the laparoscopic equipments or pendants.
- Light sources (Halogen or Xenon).
- Electronic insufflators or Pneumoflator.
- Fibro-optic cable.
- Camera Systems
 1. Single chip camera system
 2. Three chip camera system
 3. High definition camera systems
- Video recorder for Data (or) computer picture capturing systems connected to the monitors or camera consol.
- Telescopes
 - 10 mm 30 10 mm ○ 5 mm 30 5mm 45 10 mm
- Colour printer for documentation.
- X-Ray Unit for advance intra operative Cholangio graphy
- CO2 Cylinders

Laparoscopic accessory instruments for basic and advanced surgeries

1. Atraumatic graspers
2. Locking toothed and jawed graspers
3. Needle holders
4. Dissectors - curved and right angle
5. Bowel grasping forceps
6. Babcock clamp
7. Veress needle
8. Trocars – 5mm and 10 mm
9. Metzenbaum scissors and Straight scissors
10. Hook with diathermy attachment (L-Shaped)
11. Fan retractors - 10 mm and 5mm
12. Specialized retractors (optional (Cusheri liver retractor)

Vessel Sealing Systems

- Monopolar electrocautery dissection tools.
- Bipolar dissection and coagulation tools
- Harmonic scalpel

- Ligasure (optional)
- Basket containing
- Clip appliers
- Endoscopic stapling devices
- Endoloops
- Endoscopic suture material
- Extra trocars
- Additional tables should be available
- For hot saline
- Irrigating solutions

And open surgical instruments (Conventional surgery) for emergency conversion to open from laparoscopy, should be kept ready and separate from Lap Instruments.

WET LAB

The live animal lab should be attached to the hospital which should have the following:

1. Preferably air-conditioned
2. A regular tilting table
3. A cart for keeping the following equipments
 - Camera
 - Light source
 - Fibro optic cables
 - Diathermy should be placed separately in another trolley to avoid electrical disturbances.
 - Suction /Irrigation Apparatus
 - CO₂ cylinders
 - CO₂ insufflators.
 - Mask anesthesia equipments (Basic Boyle's) for animal anesthesia
4. Pre-Medication chamber for animals
 - Drugs /Anaesthetic agents
 - Post surgery - Recovery area
 - IV Fluid stands
 - Monitors
 - Helper's for washing the hand instruments
 - Disinfectants
5. For procedures requiring anaesthesia, qualified Vet. Anaesthetist / Surgeon
 - Fees : To be decided by the committee
 - Stipend: To be decided by the committee
 - Faculty: Staff of dept of General Surgery, OBG, Urology involved in regular MIS

COURSE CO. ORDINATOR: Dr. M. B. Patil

Staff members

- Dr. HemanthKumar. M.
- Dr. Girish. K. Kullolli
- Dr. Vijaya. D. Patil
- Dr. V. S. Kunderagi
- Dr. Neelamma
- Dr. Girija Hanjagi
- Dr. Mrs.Gobbur

Support Staff

- Clerk
- Servant

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CERTIFICATE COURSE IN OPERATION TECHNOLOGY (OT TECHNOLOGY)

Aims & Objectives of the Course:

The OT Technology course is basically an intermediary course to bridge the gaps in OT functioning and train the individuals capable of managing the day to day function of operation Theatres. These individuals will be trained in understanding of:

1. Basics of asepsis and antisepsis
2. Pre preparation, maintenance and recovery of patient during surgery
3. Routine maintenance of OT equipments
4. Assisting Anaesthesiologists and Surgeons
5. Understanding and assisting in executing special needs of special procedures & similar other complex procedures

Goals:

At the end of the course the individual trained and certified, shall be capable of understanding the basics of antisepsis and asepsis, carry out routine activities of the operation theatres with due diligence and appropriate handling as required.

Eligibility to join the Course: PUC Science or ANM

Course Duration: One year

Selection criteria: Selection will be based on eligibility examination marks & assessment of aptitude by interview.

COURSE CONTENTS

The course will be module based and the candidate has to go through the graded training module to be promoted to next module. After satisfactory completion of the specified modules, final University exam will be conducted comprising all the aspects which will include theory examination and practicals. Successful candidate will be certified as certified OT technologist.

Each module is four weeks or One Month

THE MAIN CONTENTS WILL BE

1. Asepsis and antisepsis
2. Sterilization and concepts of sterile and unsterile handling and universal precautions
3. Basics of human physiology like respiration, consciousness levels, blood pressure, temperature monitoring, hemorrhage etc.
4. Basic fluids and other common drugs, sutures used for surgeries etc.
5. Understanding pre operative preparation of patients, shifting of patients, positioning etc.
6. Understanding working of common equipments used in OT, anaesthesia equipment maintenance of all these.
7. Bio Medical waste disposal.
8. Preservation of various samples in OT and appropriate storage and transport.
9. Understanding requirements of operating surgeons, anaesthesiologists, nursing staff and provide appropriate timely assistance to them.
10. Understanding special working patterns and requirements of various surgical specialities like, surgery, orthopaedics, ENT, Ophthalmology, Urology and others.
11. Understanding the basic concepts of recovery of operated patients, early post operative care and appropriate shifting etc., 1. Perform basic life support skills.
12. Communicate effectively with patients (undergoing surgery) and their relatives.
13. Organize and demonstrate skills in management of operation room.
14. To conduct research in operation technology.
15. To apply infection control measures in the operation room.
16. Discuss the ethical and legal responsibilities of operation room nurse.
17. Occupational hazards in operation room- prevention, control and management.

First Module:

Basic divisions of OT, Hierarchy in working system, Sterile and unsterile areas, No Entry zones, preparatory areas, basic precautions.

Second Module:

Sterilization: understanding sterile and unsterile handling with awareness regarding universal precautions.

Fourth Module:

Basic human physiology

Fifth Module:

Basic working of various Anaesthesia equipments and understand various requirements of Anaesthesiologists.

Sixth Module:

Common requirements of pre-operative preparations and procedures, cross verify and check the material sent with patients and documents etc., Shifting, positioning and keeping the patient ready for Anaesthesiologists.

Seventh Module:

Under department of Obstetrics and Gynaecology and learn the special requirements in addition to basics already learnt. He will learn to assist Paediatric team in caring the newborn.

Eighth Module:

Special requirements of Orthopaedics OT, handling C-Arm and other equipments.

Ninth Module:

Special requirements of Ophthalmic and Otorhinolaryngology OTs.

Tenth Module:

Understanding working of superspeciality OTs i.e, Urology Paediatric Surgery and Neurosurgery.

Eleventh Module:

Dedicated to learn maintenance of usage of endoscopies, minimally invasive surgery equipments of General Surgery, Urology, ENT etc.,.

Twelfth Module

To understanding basic concepts of recovery of operated patients, assessment of recovery and care in early post-operative period and shifting to concerned sections.

Basic knowledge and working in emergency room, emergency pre-operative support and Post-Operative care including basic working of surgical intensive care unit.

Evaluation Methodology:

1) Formative assessment

(MODULE COMPLETION TESTS)

- One at the end of each module completion

Theory Test : 50 Marks

Practical Tests for skill assessment : 100 Marks

TOTAL	12X50	=	600
	12X100	=	<u>1200</u>
	MAXIMUM	:	<u>1800</u>

The average of these tests i.e, marks obtained in theory tests and skills tests will be added to final examination.

UNIVERSITY EXAMINATION

THEORY

SL.NO	MAX.MARKS	DURATION	CONTENT
PAPER-I	75	3 Hrs	Topics from Ist six months modules
PAPER-II	75	3Hrs	Topics from 2 nd six months modules
INT. ASSESSMENT	50	Average of all the modules completion test	

QUESTION PAPER PATTERN

1) Long Essay questions	10x2 =	20
2) Short essays	5x5 =	25
3) Short answers	3x10 =	<u>30</u>
	TOTAL	= 75

PRACTICALS

Total 300 Marks

These 300 marks will be divided into six parts carrying 50 marks each of ½ hr duration.

Each part will test skills of two modules.

Passing criteria

50% in Theory including Internal Assessment(Theory)

50% in Practicals including Internal Assessment(Practical)

UNIVERSITY EXAMINATION

THEORY		PRACTICAL
PAPER-I	75	50X6= 300
PAPER-II	75	
INT.ASSESSMENT	50	100

TOTAL	200	400
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ELIGIBILITY CRITERIA FOR EXAMINERSHIP

- Three Internals - One Faculty from Teaching staff of the Medical College
 One Tutor from Nursing category
 One Tutor from Technical category
- One External - belonging to any of the above said category who has individual experience in Teaching para medical students from another University.

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Expected methodology to be adopted by Teachers and explanation regarding the Basis for the module

The candidate will work in various sections of the hospital during regular OT working hours and evenings will be dedicated to understanding of theoretical aspects of the same with concerned tutors.

1) The first module will be in OT under the guidance of general surgery tutors and senior staff nurses incharge of OT. The candidate is expected to observe the various aspects of basic functioning of OT under direct supervision.

- Basic divisions of OT
- Hierarchy in working system
- Sterile and unsterile areas
- No entry zones, preparatory areas, basic precautions etc., for four weeks.

The individual is expected to be in OT during regular OT timings.

The candidate will be taught mainly by Senior OT staff regarding theoretical aspects in evenings.

2) The second module mainly concentrates on sterilization & understanding sterile and unsterile handling with awareness regarding universal precautions.

The first two weeks will be based in OT under guidance of General Surgery and Senior OT staff. The second two weeks will be in central sterilization department. The candidate will observe, assist CSSD personnel and learn the basic functioning of the department. He will be under the direct monitoring of senior most

technician of C.S.S.D. He should be capable of understanding segregation, packing and assessing sterility level of the sterilized equipment. He should also be able to understand independent handling of simple autoclave machine.

3) In the 3rd month, the trainee will continue to work under OT staff and understand various types of biomedical waste, their segregation, packing and sealing in special conditions and their disposal in appropriate containers. He has to have clear knowledge of biomedical waste generated in OTs and appropriate method of disposal. The trainee can be rotated two weeks in department of Pathology & Microbiology in the afternoons. There he will be taught theoretical aspects of various types of samples, their collection, segregation, storage in appropriate way and transport. The candidate will be under direct supervision of tutors from respective departments.

4) 4th module starts in 4th month. The candidate will be under direct monitoring of tutors from department of Anaesthesia. He will be taught basic human physiology like normal respiration and assessment examination of peripheral pulses, consciousness levels and assessment, measurement of temperature, measurement of blood pressure and monitoring, observation of hemorrhage and urine output etc.

5) In the 5th month, the trainee will undergo appraisal, learn basic working of various anaesthesia equipments and understand various requirements of Anaesthesiologists. He will be capable of handling of these instruments and general maintenance of all these on day to day basis.

6) The 6th module starts in 6th month. The trainee will be under general surgery and OT staff. He will learn basics of common requirements of pre-operative preparations and procedures, cross verify and check the material sent with patients and documents etc., using a check list. He will learn requirements and methodology of handling patients during shifting including sick ones who need special attention. In the OT, he will learn shifting, positioning and keeping the patient ready for Anaesthesiologists. He will assist the scrub nurse and anaesthesia assistant in setting up the required equipments etc. He will also learn to identify common IV fluids, drugs, sutures, disposables, prosthetics etc. He will be trained in trolley setup and special instrument supply as required during surgery.

7) 7th module will be started in 7th month. He will be under department of Obstetrics and Gynaecology and learn the special requirements in addition to basics already learnt. He will learn to assist Paediatric team in caring the newborn etc.

8) The 8th module is meant for learning special requirements of Orthopaedic OT. Here he will be trained in handling C-Arm and other equipments, protect himself from radiation, maintaining the equipment and assisting scrub nurse in special procedures where specialized positioning, POP applications etc, are required.

9) The 9th month will be for learning special needs in Ophthalmic OTs and Otorhinolaryngology OTs.

10) The 10th module is meant for understanding in working of superspeciality OTs i.e, Urology, Paediatric surgery and Neurosurgery

11) The 11th module is dedicated to learn maintenance of usage of endoscopes, minimally invasive surgery equipments of general Surgery ,Urology,ENT etc.

12) The last step or 12th module of four weeks is dedicated to understanding basic concepts of recovery of operated patients , assessment of recovery and care in early post-operative period and shifting to concerned sections. ***Basic knowledge and working in emergency room, emergency pre-operative support and Post-Operative care including basic working of surgical intensive care unit.***

ELIGIBILITY CRITERIA FOR EXAMINERSHIP

Three Internals - One Faculty from Teaching staff of the Medical College
One Tutor from Nursing category
One Tutor from Technical category

One External - belonging to any of the above said category who has individual experience in Teaching para medical students from another University.

BOOKS FOR REFERENCE

1. ***Fundamentals of Physiology-A text book for Nursing students by R.L.Bijalani-Jay Pee Brothers Publications.***
2. ***Simplified Microbiology-The Trained Nurses Association of India(Latest Edition)***
3. ***Nurses role inO.T. and the central Sterilisation-KAS DP Publishers.***

THE INFRASTRUCTURE & PERSONNEL REQUIRED FOR THE ABOVE SAID CERTIFICATE COURSE ARE :-

1. A Hall which will be used for conducting theory classes and tests.
2. One computer with Printer
3. Clerical staff-1 to maintain all the records related to the course, prepare communications etc.
4. One attender cum peon.
5. Co-ordinator for the course preferably from the Gen.Surgery.
6. Tutors from various sections who are capable of delivering the knowledge and skills required

Departments involved

- | | |
|--------------------------------------|----|
| 1. General Surgery | -2 |
| 2. Anaesthesiology | -1 |
| 3. Orthopaedics | -1 |
| 4. OBGY | -1 |
| 5. ENT | -1 |
| 6. Ophthalmology | -1 |
| 7. C.S.S.D. | -1 |
| 8. OT Nursing Staff | -2 |
| 9. Microbiology | -1 |
| 10. Pathology | -1 |
| 11. Hospital administrative category | -1 |
| 12. Anaesthesiology | -1 |

The special allowances for these tutors can be fixed emoluments or monthly basis as per University guidelines.