MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
JAIPUR

Super Specialty Courses

SYLLABUS

M.Ch. UROLOGY

Notice

- Amendment made by the Medical Council of India in Rules/Regulations of Post Graduate Medical Courses shall automatically apply to the Rules/Regulations of the Mahatma Gandhi University of Medical Sciences & Technology (MGUMST), Jaipur.

- The University reserves the right to make changes in the syllabus/books/guidelines, fees-structure or any other information at any time without prior notice. The decision of the University shall be binding on all.

- The Jurisdiction of all court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

Syllabus of DM / M.Ch. Courses
M.Ch. UROLOGY (9370)

Selection of Candidates:
There shall be a uniform entrance examination to all medical educational institutions at the Postgraduate level namely 'National Eligibility-cum-Entrance Test' for admission to postgraduate courses in each academic year and shall be conducted under the overall supervision of the Ministry of Health & Family Welfare, Government of India.

In order to be eligible for admission to Postgraduate Course for an academic year, it shall be necessary for a candidate to obtain minimum of marks at 50th percentile in the 'National Eligibility-Cum-Entrance Test for Postgraduate courses' held for the said academic year. However, in respect of candidates belonging to Scheduled Castes, Scheduled Tribes, and Other Backward Classes, the minimum marks shall be at 40th percentile. In respect of candidates with benchmark disabilities specified under the Rights of Persons with Disabilities Act, 2016, the minimum marks shall be at 45th percentile for General Category and 40th percentile for SC/ST/OBC.

The percentile shall be determined on the basis of highest marks secured in the All India Common merit list in National Eligibility-cum-Entrance Test for Postgraduate courses.

Provided when sufficient number of candidates in the respective categories fail to secure minimum marks as prescribed in National Eligibility-cum-Entrance Test held for any academic year for admission to Postgraduate Courses, the Central Government in consultation with Medical council of India may at its discretion lower the minimum marks required for admission to Post Graduate Course for candidates belonging to respective categories and marks so lowered by the Central Government shall be applicable for the academic year only.

The reservation of seats in Medical Colleges/institutions for respective categories shall be as per applicable laws prevailing in States/Union Territories. An all India merit list as well as State-wise merit list of the eligible candidates shall be prepared on the basis of the marks obtained in National Eligibility-cum-Entrance Test and candidates shall be admitted to Postgraduate Courses from the said merit lists only.

There shall be no admission of students in respect of any academic session beyond 31st August under any circumstances. The Universities shall not register any student admitted beyond the said date.

ELIGIBILITY:

S. No.	Area of Specialisation	Prior Requirement
1	DM Cardiology	MD (Medicine / Paediatrics)
2	DM Medical Gastroenterology	
3	DM Nephrology	
4	DM Neurology	
5	M.Ch. Cardio vascular & Thoracic Surgery	MS (Surgery)
6	M.Ch. Urology	
7	M.Ch. Neuro-Surgery	
8	M.Ch. Plastic Reconstructive Surgery	

Common Counseling:
There shall be a common counseling for admission to all Postgraduate Super specialty Courses (DM/ M.Ch.) in all Medical Educational Institutions on the basis of merit list of the National Eligibility-cum-Entrance Test.

Period of Training:
The period of training for obtaining DM/M.Ch Degrees shall be three completed years including the examination period.

Migration:
Under no circumstance, Migration/transfer of student undergoing any Super Specialty course shall be permitted by any University/Authority.

Staff - Faculty:
Only those teachers who possess 6 years teaching experience out of which at least 2 years teaching experience as Assistant Professor gained after obtaining the higher specialty degree shall be recognized post graduate teacher.

No teacher shall be considered as a postgraduate teacher in any other institution during the period till the postgraduate course at the institute which has been granted permission considering him as a postgraduate teacher is recognized u/s 11(2) of the Indian Medical Council Act, 1956.

Minimum staff required (Super-speciality):
1- Professor
1- Associate Professor
1- Assistant Professor
1- Senior Resident
2- Junior Resident

Training programme:
All the candidates joining the Post Graduate training programme shall work as 'Full Time Residents' during the period of training and shall attend not less than 80% (Eighty percent) of the imparted training during each academic year (Academic Term of 6 months) including assignments, assessed full time responsibilities and participation in all facets of the educational process.

No candidate shall be permitted to run a clinic/work in clinic/laboratory/nursing home while studying postgraduate super specialty course. No candidate shall join any other course or appear for any other examination conducted by this university or any other university in India or abroad during the period of registration.

Every institution undertaking Post Graduate training programme shall set up an Academic cell or a curriculum committee, under the chairmanship of a senior faculty member, which shall work out the details of the training programme in each speciality in consultation with other department faculty staff and also coordinate and monitor the implementation of these training Programmes.

The training programmes shall be updated as and when required. The structured training programme shall be written up and strictly followed, to enable the examiners to determine the training undergone by the candidates and the Medical Council of India inspectors to assess the same at the time of inspection.

Post Graduate students shall maintain a record (log) book of the work carried out by them and the training programme undergone during the period of training including details of surgical operations assisted or done independently by M.Ch. candidates.

The Record (Log) Books shall be checked and assessed periodically by the faculty members imparting the training.

During the training for award of Degree / Superspecialty in clinical disciplines, there shall be proper training in Basic medical sciences related to the disciplines concerned; so also in the applied aspects of the subject; and allied subjects related to the disciplines concerned. In the Post Graduate training programmes including both Clinical and Basic medical sciences, emphasis has to be laid on Preventive and Social aspects. Emergency care, facilities for Autopsies, Biopsies, Cytopsies, Endoscopy and Imaging etc. shall also be made available for training purposes.

The Post Graduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.

Training in Medical Audit, Management, Health Economics, Health Information System, basics of statistics, exposure to human behaviour studies, knowledge of pharmaco – economics and introduction to nonlinear mathematics shall be imparted to the Post Graduate students.

The teaching and training of the students shall include graded responsibility in the management and treatment of patients entrusted to their care; participation in Seminars, Journal Clubs, Group Discussions, Clinical Meetings, Grand Rounds, and Clinico-Pathological Conferences; practical training in Diagnosis and Medical and Surgical treatment; training in the Basic Medical Sciences, as well as in allied clinical specialitites.

The training programme shall be on the same pattern as for M.D. / M.S. in clinical disciplines; with practical training including advanced Diagnostic, Therapeutic and Laboratory techniques, relevant to the subject of specialization. Postgraduate Superspecialty Residents in Surgical Specialties shall participate in Surgical operations as well.

A postgraduate student of a postgraduate degree course in super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

ENROLMENT AND REGISTRATION

Every candidate who is admitted to DM/MCh. course in Mahatma Gandhi Medical College & Hospital shall be required to get himself/herself enrolled and registered with the Mahatma Gandhi University of Medical Sciences & Technology upto November 30 of the year of admission without late fees upto December 31 of the year of admission with late fees after paying the prescribed eligibility and enrolment fees.

The candidate shall have to submit an application for the enrolment/eligibility along with the following original documents with the prescribed fees –

(a) MD/MS pass Marks sheet/Degree certificate issued by the University.
(b) Migration certificate issued by the concerned University (in case the University is other than the MGUMST).
(c) Date of Birth Certificate
(d) Certificate regarding registration with Rajasthan Medical Council / Medical Council of India / Other State Medical Council.

ELIGIBILITY TO APPEAR FOR UNIVERSITY EXAMINATION

1. **Work diary or Logbook**: Every candidate shall maintain a work diary for recording his/her participation in the training program conducted in the department. The work diary and logbook shall be verified and certified by the Department Head and Head of the Institution.
2. Every student would be required to present one poster presentation, to read one paper at a National/State Conference and to have one research paper which should be published/accepted for publication/ sent for publication to an indexed journal during the period of his/her post graduate studies so as to make him/her eligible to appear at the Post Graduate Degree Examination.
3. **Attendance:** Every candidate shall have fulfilled the requirement of 80% attendance during each academic year of the postgraduate course (as per MCI rules).

EXAMINATIONS

The examination shall be held at the end of three academic years (six academic terms). The academic term shall mean six months training period. The examination shall consist of: Theory and Clinical/Practical and Oral.

The examinations shall be organised on the basis of 'Marking system' to evaluate and to certify candidate's level of knowledge, skill and competence.

For passing DM/M.Ch. examination as a whole, a candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory (2) Clinical / Practical and Oral examination.

(1) **Theory:**

There shall be four theory papers of 3 hours duration and 100 marks each. Out of the four theory papers, one Paper-I shall be on 'Basic Sciences', and another Paper-IV on 'Recent Advances'. The theory examination shall be held in advance before the Clinical and Practical examination, so that the answer books can be assessed and evaluated before the commencement of the clinical/Practical and Oral examination.

Paper I and II will be set by one external examiner from outside of the state and paper III and IV by another external examiner from outside of the state. The external examiner, who is paper setter for paper I & II shall evaluate the answer books of paper II. The external examiner, who is paper setter for paper III & IV shall evaluate the answer books of paper III. The answer books of paper I & IV shall be evaluated by internal examiners. The answer books of paper IV shall be evaluated by the Head of the Department and the answer books of paper I shall be evaluated by the second Internal Examiner.

Candidates will be required to attempt all the questions in every question paper. In Paper I, Paper II and Paper III there will be 10 questions. Each question shall carry 10 marks. In Paper IV there will be 5 questions of 20 marks each.

Obtaining a minimum of 40% marks in each theory paper and not less than 50% cumulatively in all the four papers shall be compulsory to pass the examination.

Nomenclature of Papers
Paper – I : Basic Sciences as Related to Urology
Paper – II : Clinical Urology
Paper – III: Operative Urology
Paper – IV :Recent advances in Urology

(2) **Clinical / Practical and Oral:**

Clinical/Practical examination shall be conducted to test / aimed at assessing the knowledge and competence of the candidate for undertaking independent work as a specialist / teacher. Practical examination shall consist of carrying out special investigative techniques for Diagnosis and Therapy. M.Ch candidates shall also be examined in surgical procedures. Oral examination may be comprehensive enough to test the candidate's overall knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which shall form a part of the examination.

There shall be one long case of 100 marks, three short cases of 25 marks each, one operative exercise of 50 marks, three ward round Cases 25 each and oral examination of 100 marks. Obtaining of 50% marks in Clinical / Practical and Oral examination shall be mandatory for passing the Clinical / Practical and Oral examination.

Result:
For passing DM/M.Ch. Examination, a candidate will be required to obtain at least 40% marks in each theory paper, 50% marks in the aggregate of all the four theory papers and 50% marks in the aggregate of Clinical / Practical and Oral examination separately. A candidate failing in any theory paper or in the aggregate of all four theory papers or Clinical / Practical and Oral examination shall have to repeat the whole DM/M.Ch. examination.

Grace Marks
No grace marks will be provided in DM/M.Ch. examinations.

Revaluation / Scrutiny
No Revaluation shall be permitted in the DM/M.Ch. examinations. However, the student can apply for scrutiny of the answer books as per University Rules

Examiners:
As per the Amendment Notification of the MCI dated June 5, 2017, no person shall be appointed as an internal examiner in any subject unless he/she has three years experience as recognized PG teacher in the concerned subject. For external examiners, he/she should have minimum six years of experience as recognized PG teacher in the concerned subject.

For all Post Graduate Super specialties examinations, the minimum number of Examiners shall be four, out of which at least two (50%) shall be External Examiners, who shall be invited from other recognised universities from outside the State.

Number of Candidates:
The maximum number of candidates to be examined in Clinical / practical and Oral on any day shall not exceed three for D.M./M.Ch examinations.

Number of Examinations:
The university shall conduct not more than two examinations in a year, for any subject, with an interval of not less than 4 and not more than 6 months between the two examinations.

MCh - UROLOGY (9370)

The infrastructure and faculty of the department of Urology will be as per MCI guidelines

GOALS

The goal of MCh course is to produce a competent surgeon who:

- Recognizes the health needs of adults and carries out professional obligations in keeping with principles of National Health Policy and professional ethics;
- Has acquired the competencies pertaining to Urology that are required to be practised in the community and at all levels of health care system;
- Has acquired skills in effectively communicating with the patients, family and the community;
- Is aware of the contemporary advances and developments in medical sciences.
- Acquires a spirit of scientific enquiry and is oriented to principles of research methodology; and has acquired skills in educating medical and paramedical professionals.

OBJECTIVES

At the end of the MCh Urology, the student should be able to:

- Recognize the key importance of medical/surgical problems in the context of the health priority of the country;
- Practice the speciality of Urology in keeping with the principles of Urology and professional ethics;
- Identify social, economic, environmental, biological and emotional determinants of adult Urology and know the therapeutic, rehabilitative, preventive, surgical and promotion measures to provide holistic care to all patients;
- Take detailed history, perform full physical examination and make a clinical diagnosis;
- Perform and interpret relevant investigations (Imaging and Laboratory); Perform and interpret important diagnostic and surgical procedures;
- Diagnose illnesses in adults based on the analysis of history, physical examination and investigative work up;
- Plan and deliver comprehensive treatment for illness in adults using principles of rational drug therapy and principles of Urology;
- Plan and advise measures for the prevention of diseases; Plan rehabilitation of adults suffering from chronic illness, and those with special needs; Manage emergencies efficiently;
- Demonstrate skills in documentation of case details of morbidity and mortality data relevant to the assigned situation; Demonstrate empathy and humane approach towards patients and their families and respect their sensibilities;
- Demonstrate communication skills of a high order in explaining management and prognosis, providing counselling and giving health education messages to patients, families and communities.
- Develop skills as a self-directed learner, recognize continuing educational needs; use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based medicine;
- Demonstrate competence in basic concepts of research methodology and epidemiology;
- Organize and supervise the desired managerial and leadership skills;
- Function as a productive member of a team engaged in health care, research and education.

SYLLABUS

Theory

- **Anatomy**
  - Surgical Anatomy of the Retroperitoneum, Kidneys and Ureters
  - Anatomy of the Lower Urinary Tract and Male Genitalia
- **Clinical Decision Making**
  - Evaluation of the Urologic Patient: History, Physical Examination, and Urinalysis
  - Urinary Tract Imaging : Basic Principles
  - Outcomes Research
- **Basics of Urologic Surgery**
  - Basic Instrumentation and Cystoscopy
  - Basic of Laparoscopic Urologic Surgery
- **Infections and Inflammation**
  - Infections of the Urinary Tract A. Schaeffer
  - Inflammatory Conditions of the Male Genitourinary Tract
  - Interstitial Cystitis and Related Disorders
  - Sexually Transmitted and Associated Diseases
  - Urological Implications of AIDS and Related Conditions
  - Cutaneous Diseases of the External Genitalia
  - Tuberculosis and Other Opportunistic Infections of the Genitourinary System
- **Molecular and Cellular Biology**
  - Basic Principles of Immunology
  - Molecular Genetics and Cancer Biopsy
  - Tissue Engineering Perspectives for Reconstructive Surgery
- **Reproductive and Sexual Function**
  - Male Reproductive Physiology
  - Male Infertility
  - Surgical Management of Male Infertility
  - Physiology of Erectile Dysfunction : Pathophysiology, Evaluation, Nonsurgical Management
  - Epidemiology, Evaluation, and Nonsurgical Management of Erectile Dysfunction
  - Prosthetic Surgery for Erectile Dysfunction
  - Vascular Surgery for Erectile Dysfunction
  - Peyronie's Disease
  - Priapism
  - Androgen Deficiency in the Aging Male
  - Female Sexual Function and Dysfunction
- **Male Genitalia**
  - Neoplasms of the Testis
  - Surgery of Testicular Tumors
  - Tumors of the Penis
  - Surgery of Penile and Urethral Carcinoma

- Surgery of the Penis and Urethra
- Surgery of the Scrotum and Seminal Vesicles

- **Renal Physiology and Pathophysiology**
  - Renal Physiology and Pathophysiology
  - Renovascular Hypertension

- **Upper Urinary Tract Obstruction and Trauma**
  - Pathophysiology of Obstruction
  - Management of Upper Urinary Tract Obstruction
  - Upper Urinary Tract Trauma

- **Renal Failure and Transplantation**
  - Renal Transplantation
  - Etiology, Pathogenesis, and Management of Renal Failure

- **Urinary Lithiasis and Endourology**
  - Urinary Lithiasis : Etiology, Epidemiology, and Pathophysiology
  - Evaluation and Medical Management of Urinary Lithiasis
  - Surgical Management of Upper Urinary Tract Calculi
  - Ureteroscopy and Retrograde Ureteral Access
  - Percutaneous Approaches to the Upper Urinary Tract

- **Neoplasms of the Upper Urinary Tract**
  - Renal Tumors
  - Urothelial Tumors of the Upper Urinary Tract
  - Urothelial Tunors of the Renal Pelvis and Ureter
  - Open surgery of the Kidney
  - Laparoscopic Surgery of the Kidney
  - Ablative Therapy for Renal Tumors

- **The Adrenals**
  - Pathophysiology, Evaluation, and Medical Management of Adrenal Disorders
  - Surgery of the Adrenals

- **Urine Transport, Storage, and Emptying**
  - Physiology and Pharmacology of the Renal Pelvis and Ureter
  - Physiology and Pharmacology of the Bladder and Urethra
  - Pathophysiology, Categorization, and Management of Voiding Dysfunction
  - Urodynamic and Video dynamic Evaluation of Voiding Dysfunction
  - Neuromuscular Dysfunction of the Lower Urinary Tract
  - Urinary Incontinence : Epidemiology, Pathophysiology, Evaluation, and Overview of Management
  - The Overactive Bladder
  - Pharmacologic Management of Storage and Emptying Failure
  - Conservative Management of Urinary Incontinence : Behavioral and Pelvic Floor Therapy, Urethral and Pelvic Devices
  - Electrical Stimulation and Neuromodulation in Storage and Emptying Failure
  - Retropudic Suspension Surgery for Incontinence in Women
  - Vaginal Reconstructive Surgery for Sphincteric Incontinence

- Pubovaginal Slings
- Tension-Free Vaginal Tape Procedures
- Injection Therapy for Urinary Incontinence
- Additional Treatment for Storage and Emptying Failure
- Geriatric Voiding Dysfunction and Urinary Incontinence
- Urinary Tract Fistulae
- Bladder and Urethral Diverticula
- Surgical Procedures for Sphincteric Incontinence in the Male : The Artificial Genitourinary Sphincter;
- Perineal Sling Procedures

- **Bladder ; Lower Genitourinary Calculi and Trauma**
  - Urothelial Tumors of the Bladder
  - Management of Superficial Bladder Cancer
  - Management of Metastatic and Invasive Bladder Cancer
  - Surgery of Bladder Cancer
  - Laparoscopic Bladder Surgery
  - Use of Intestinal Segments in Urinary Diversion
  - Cutaneous Continent Urinary Diversion
  - Orthotopic Urinary Diversion
  - Genital and Lower Urinary Tract Trauma
  - Lower Urinary Tract Calculi

- **Prostate**
  - Molecular Biology, Endocrinology, and Physiology of the Prostate and Seminal Vesicles
  - Etiology, Pathophysiology, and Epidemiology of Benign Prostatic Hyperplasia
  - Natural History, Evaluation, and Nonsurgical Management of Benign Prostatic Hyperplasia
  - Minimally Invasive and Endoscopic Management of Benign Prostatic Hyperplasia
  - Retropubic and Suprapubic Open Radical Prostatectomy
  - Epidemiology, Etiology, and Prevention of Prostate Cancer
  - Pathology of Prostatic Neoplasms
  - Ultrasonography and Biopsy of the Prostate
  - Tumor Markers in Prostate Cancer
  - Early Detection, Diagnosis, and Staging of Prostate Cancer
  - Definitive Therapy of Localized Prostate Cancer : Outcomes
  - Expectant Management of Prostate Cancer
  - Anatomic Retrograde Retropubic Prostatectomy
  - Radical Perineal Prostatectomy
  - Laparoscopic and Robotic Radical Prostatectomy and Pelvic Lymphadenectomy
  - Radiation Therapy for Prostate Cancer
  - Cryotherapy of Prostate Cancer
  - Treatment of Locally Advanced Prostate Cancer
  - Management of Rising Prostate-Specific Antigen after Definitive Therapy
  - Hormonal Therapy for Prostate Cancer
  - Management of Hormone-Resistant Prostate Cancer

- **Pediatric Urology**
  - Normal and Anomalous Development of the Urinary Tract
  - Renal Function in the Fetus
  - Congenital Obstructive Uropathy
  - Perinatal Urology
  - Evaluation of Pediatric Urologic Patient
  - Renal Disease in Childhood
  - Urinary Tract Infections in Infants and Children
  - Anomalies of the Kidney
  - Renal Dysplasia and Cystic Disease of Kidney
  - Anomalies and Surgery of the Ureteropelvic Junction
  - Ectopic Ureter
  - Vesicoureteral Reflux
  - Prune-Belly Syndrome
  - Exstrophy and Epispadias Complex
  - Surgical Technique for One-Stage Exstrophy Reconstruction
  - Bladder Anomalies in Children
  - Posterior Urethral Valves and Other Urethral Anomalies
  - Voiding Dysfunction in Children : Neurogenic and Non-neurogenic
  - Urinary Tract Reconstruction
  - Hypospadias
  - Abnormalities of External Genitalia in Boys
  - Abnormalities of Testis and Scrotum : Surgical Management
  - Sexual Differentiation : Normal and Abnormal
  - Surgical Management of Intersex
  - Pediatric Oncology
  - Pediatric Endourology and Laparoscopy
  - Pediatric Genitourinary Trauma

MODEL PAPER

M.Ch-9371 **Urolo.-I**

M.Ch. Examination Month, Year
UROLOGY

Paper-I
Basic Sciences as Related to Urology

Time : Three Hours
Maximum Marks : 100

Attempt all questions
All questions carry equal marks
All the parts of one question should be answered at one place in sequential order.
Draw diagrams wherever necessary

Q.1 Write a note on Genitourinary Tuberculosis and its management?

Q.2 Write a note on pathophysiology of erectile dysfunction and its management?

Q.3 a) What are the inhibitors and promoters of crystal formation in urinary tract?

b) How will you investigate a case of recurrent stone former?

Q.4 Functional neuro anatomy of micturition.

Q.5 Embryology of ectopic ureter in cases with single ureter and complete duplication of ureter.

Q.6 Classify contrast media . Discuss the advantages and disadvantages of each category.

Q.7 What are the manifestation of hypercalcemia ? What are the medical measures to treat hypercalcemia?

Q.8 Indications , technique and complications of retrograde urethrography.

Q.9 Renal tubular acidosis:

a) Tubular overview of types.

b) Principles of management.

Q.10 WHO Criteria for normal seminal parameters.

MODEL PAPER

M.Ch.-9372 **Urolo.-II**

M.Ch. Examination Month, Year
UROLOGY

Paper-II
Clinical Urology

Time : Three Hours
Maximum Marks : 100

Attempt all questions
All questions carry equal marks.
Draw diagrams wherever necessary

Q.1 Write about complications of PCNL?

Q.2 Write about vascular surgeries for erectile dysfunction?

Q.3 Write about surgery for penile & urethral carcinoma?

Q.4 Surgical management of upper urinary tract calculi?

Q.5 Write about Laparoscopic surgery of renal tumors?

Q.6 Write about injection therapy for urinary incontinence?

Q.7 Complications of TURP?

Q.8 Note on anterior urethoplasty?

Q.9 Note on Radical Perineal Prostatectomy?

Q.10 Surgical Technique of exstrophy reconstruction?

MODEL PAPER

M.Ch.-9373 **Urolo.-III**

M.Ch. Examination Month, Year
UROLOGY

Paper-III
Operative Urology

Time : Three Hours
Maximum Marks : 100

Attempt all questions
All questions carry equal marks.
Draw diagrams wherever necessary

Q.1 Role of Diagnostic laparoscopy in urology.

Q.2 Newer contrast media pertaining to urology.

Q.3 Evaluation of patient of Interstitial cystitis.

Q.4 Urodynamic evaluation in voiding dysfunction.

Q.5 Ureteroscopy & its uses.

Q.6 Percutaneous approaches to upper urinary tract.

Q.7 Evaluation of Adrenal mass.

Q.8 Electrical stimulation & Neuromodulation in emptying & storage factor of Urinary Bladder.

Q.9 Uses of TRUS in urology.

Q.10 Tumor markers in Prostate cancer.

MODEL PAPER

M.Ch.-9374 **Urolo.-IV**

M.Ch. Examination Month, Year
UROLOGY

Paper-IV
Paper - IV
Recent Advances in Urology

Time : Three Hours
Maximum Marks : 100

Attempt all questions
All questions carry equal marks.
Draw diagrams wherever necessary

Q.1 Recent advances in management of castration resistant prosate carcinoma.

Q.2 Recent advances in management of upper ureteric and renal calculi.

Q.3 Newer imaging technique in diagnosis of early bladder carcinoma and carcinoma in situ.

Q.4 Tumour markers in Urology.

Q.5 Tissue engineering prospective for reconstructive surgery in Urology.