MAHATMA GANDHI UNIVERSITY
of
MEDICAL SCIENCES & TECHNOLOGY
JAIPUR

SYLLABUS

Super Specialty Course

M.CH. SURGICAL ONCOLOGY

Notice

1. 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.

2. 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.

3. 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. Surgical Oncology ( )

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	M.Ch. Surgical Oncology	MS (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 (MGUMST) after paying the prescribed eligibility and enrolment fees.

The candidate shall have to submit an application to the MGUMST through Principal of College for the enrolment/eligibility along with the following original documents and the prescribed fees within two months of his/her admission or up to November 30 of the year of admission whichever is later without late fees. Then after, student will have to pay applicable late fees as per prevailing University Rules.

(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.

No candidate shall be allowed to appear in University examination without his/her enrolment with the University.

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.
2. Every student would be required to present one poster presentation, one plateform paper at a National/State Conference / 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).

SCHEME OF EXAMINATION

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. 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, include Cancer Biology, Tumor Immunology, Cancer Etiology, Pharmacology, Radiation Biology, Tumor Pathology.

Paper – II: Principals of Surgical Oncology, Management of Head and Neck, Thorax, Gastrointestinal system

Paper – III: Genito Urinary system, Gynaecological cancer, Breast, Bone & Soft tissue, Endocrine tumors, Childhood cancers, skin & Central nervous System.

Paper – IV : Cancer Epidemiology, prevention, Psychooncology, Rehabilitation, Societal Oncology

(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 150 marks, two short cases of 75 marks 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.

M.Ch. – Surgical Oncology

AIM OF TRAINING

The end product should have acquired knowledge, skills, aptitude and attitudes to be able to function as an independent clinician/consultant and a teacher acquainted with research methodology.

OBJECTIVES

The End Product:

- Should be well acquainted with the current literature on relevant aspects of the basic, investigative, clinical and operative neurosciences.
- Should have learned indications and performance skills of common neurosurgical operations.
- Should have acquired performance skills and ability to interpret relevant clinical investigations.
- Should be able to diagnose, plan investigations and treat common conditions in the speciality by relevant current therapeutic methods.
- Should be acquainted with allied and general clinical disciplines to ensure appropriate and timely referral.
- Should be capable of imparting basic neurosurgical training.
- Should be able to identify, frame and carry out research proposals in the relevant speciality.

TRAINING SYSTEM

Exclusively on whole time in service basis, on residency pattern.

ELIGIBILITY

For Post MS

M S (Gen. Surgery only) degree of an Indian University recognized by the Medical Council of India or any other examination recognized for the purpose by the MCI.

TRAINING METHODS

- Clinical teaching in the OPD, Emergency and Operation theatres. Clinical teaching rounds in Surgical Oncology Ward and bed side presentations.
- Special teaching sessions like Oncoradiology rounds, Neuro-ophthalmalogy round combined Medical, Radiation and Surgical Oncology case discussions.
- Seminars, journal clubs, mortality, conferences.
- Treatment planning sessions.
- Assisting and performing oncosurgical operations.
- Paper presentations at conferences.
- Preparation of manuscript for publication. 8. Training in an experimental microsurgical laboratory.

COURSE CONTENTS

Knowledge

Cancer Biology

Molecular Biology
Cell Proliferation, Differentiation, and Apoptosis
Growth Factor
Signal Transduction in Cancer
Oncogenes
Tumor Suppressor Gene Defects in Recurring Chromosome Rearrangements in Human Cancer
Biochemistry of Cancer
Invasion and Metastases
Tumor Angiogenesis

Tumor Immunology

Tumor Immunology

Cancer Etiology

Genetic Predisposition to Cancer
Chemical Carcinogenesis
Hormones and the Etiology of Cancer
Ionizing Radiation
Ultraviolet Radiation Carcinogenesis
Physical Carcinogens
Trauma and Inflammation
Tumor Viruses
Herpesviruses
Papillomaviruses and Cervical Neoplasia
Hepatitis Viruses
Parasites

Cancer Epidemiology

Cancer Epidemiology

Theory And Practice Of Clinical Trials

Theory and Practice of Clinical Trials

Cancer Prevention

Prevention of Tobacco-Related Cancers
Nutrition in the Etiology and Prevention of Cancer
Chemo-prevention of Cancer
Cytokinetics
Drug Resistance and its Clinical Circumvention
Principles of Dose, Schedule, and Combination
Chemotherapy
Regional Chemotherapy
Animal Models in Developmental Therapeutics
In Vitro and In Vivo Predictive Tests
Pharmacology
Toxicology by Organ System

Chemotherapeutic Agents
Folate Antagonists
Pyrimidine and Purine Antimetabolites
Alkylating Agents and Platinum Antitumor Compounds
Anthracyclines and DNA Intercalators /
Epipodophyllotoxins / DNA Topoisomerases
Microtubule-Targeting Anticancer Drugs Derived from Plants and Microbes: Vinca Alkaloids, Taxanes, and Epothilones, Asparaginase

Principles of Endocrine Therapy
Steroid Hormone Binding and Hormone Receptors
Hypothalamic and Other Peptide Hormones
Corticosteroids
Estrogens and Antiestrogens
Clinical Use of Aromatase Inhibitors in Breast Carcinoma
Progestins
Androgen Deprivation Strategies in the Treatment of Advanced Prostate Cancer

Cancer Screening and Early Detection
Cancer Screening and Early Detection

Principles of Cancer Pathology
Principles of Cancer Pathology

Principles of Imaging
a. Imaging Cancer of Unknown Primary Site
b. Imaging Neoplasms of the Head and Neck and Central Nervous System
b. Imaging Neoplasms of the Thorax
c. Imaging Neoplasms of the Abdomen and Pelvis
d. Cross-Sectional Imaging of Musculoskeletal Neoplasms
e. Imaging the Breast
f. Ultrasound in Cancer Medicine
g. Radionuclide Imaging in Cancer Medicine
h. Perspectives in Imaging Interventional Radiology for the Cancer Patient Principles of

Principles Surgical Oncology
Principles of Surgical Oncology
Vascular Access in Cancer Patients

Principles of Radiation Oncology
Physical and Biologic Basis of Radiation Oncology
Principles of Hyperthermia
Photodynamic Therapy of Cancer

Principles of Medical Oncology
Principles of Medical Oncology

P**rinciples of Biotherapeutics**
Immunostimulants
Active Specific Immunotherapy with Vaccines

Interferons
Cytokines: Biology and Applications in Cancer Medicine
Hematopoietic Growth Factors.
Monoclonal Serotherapy
Cancer Gene Therapy

Principles of Bone Marrow Transplantation
Autologous Bone Marrow and Stem Cell Transplantation
Transplantation of Allogeneic Hematopoietic Cells for the Treatment of Malignancies
Principles of Psycho-Oncology
Principles of OncologyNursing
Principles of Oncology

Nursing Principles of Cancer Rehabilitation Medicine
Principles of Cancer Rehabilitation Medicine

Principles of Multidisciplinary Management
Principles of Multidisciplinary Management Palliative Care

Principles of Societal Oncology
Ethical Aspects of Caring for Patients with Cancer
Legal Aspects of Cancer
The Government and Cancer Medicine
Clinical Oncology in a Changing Health Care Environment
Outcomes Assessment

Neoplasms of the Central Nervous System
Neoplasms of the Central Nervous System

Neoplasms of the Eye
Neoplasms of the Eye

Neoplasms of the Endocrine
Glands Pituitary Neoplasms
Neoplasms of the Thyroid
Neoplasms of the Adrenal Cortex
Neoplasms of the Neuroendocrine System and
Neoplasms of the Gastroenteropancreatic
Endocrine System

Neoplasms of the Head and Neck
Head and Neck Cancer
Odontogenic Tumors

Neoplasms of the Thorax
Cancer of the Lung
Malignant Mesothelioma
Thymomas and Thymic Tumors

Neoplasms of the Female Reproductive Organs

Neoplasms of the Vulva and Vagina
Neoplasms of the Cervix Endometrial Cancer
Neoplasms of the Fallopian Tube
Ovarian Cancer Gestational Trophoblastic Disease Gynecologic

Neoplasms of the Breast
Neoplasms of the Breast

Neoplasms of the Skin
Neoplasms of the Skin

MalignantMelanoma
Malignant Melanoma

Neoplasms of the Bone and Soft Tissue
Bone Tumors & Sarcomas of Non-osseous Tissues

Neoplasms of the Hematopoietic System
Myelodysplastic Syndrome
Acute Myeloid Leukemia in Adults
Chronic Myeloid Leukemia
Acute Lymphocytic Leukemia in Adults
Chronic Lymphocytic Leukemia
Tumors of the Heart and Great Vessels
Primary Germ Cell Tumors of the Thorax
Metastatic Tumors in the Thorax
Hairy-Cell Leukemia Hodgkin's Disease
Non–Hodgkin's Lymphomas
Mycosis Fungoides and the Sézary Syndrome
Plasma Cell Tumors
Mast Cell Leukemia and Other Mast Cell Neoplasms
Polycythemia Vera and Essential Thrombocythemia

Neoplasms of the Alimentary Canal
Neoplasms of the Esophagus
Neoplasms of the Stomach
Primary Neoplasms of the Liver
Treatment of Liver Metastases
The Gallbladder
Diagnosis and Management of Biliary Tract Cancer
Neoplasms of the Ampulla of Vater
Neoplasms of the Exocrine Pancreas
Neoplasms of the Small Intestine, Vermiform Appendix, and Peritoneum
Adenocarcinoma of the Colon and Rectum
Neoplasms of the Anus

Neoplasms of the Genitourinary Tract
Renal Cell Carcinoma
Neoplasms of the Renal Pelvis and Ureter
Bladder Cancer

Neoplasms of the Prostate
Neoplasms of the Penis
Neoplasms of the Testis

Neoplasms in Aids
Neoplasms in Acquired Immunodeficiency Syndrome

Neoplasms of Unknown Primary Site
Neoplasms of Unknown Primary Site
Neoplasms in Children
Principles and Practice of Pediatric Oncology
Incidence, Origins, Epidemiology
Principles of Pediatric Radiation Oncology
Late Effects of Treatment of Cancer in Children and Adolescents
Childhood Acute Lymphoblastic Leukemia
Pediatric Acute Myeloid Leukemia
Hodgkin's Disease in Children and Adolescents
Non-Hodgkin's Lymphoma in Children
Langerhans' Cell Histiocytosis
Hepatic Tumors
Renal Tumors of Childhood
Germ Cell Tumors
Neuroblastoma
Soft Tissue Sarcomas of Childhood

Complications of Cancer and its Treatment
Management of Cancer Pain
Anorexia and Cachexia
Antiemetic Therapy
Neurologic Complications
Dermatologic Complications of Cancer Chemotherapy
Skeletal Complications
Hematologic Complications and Blood Bank Support
Coagulopathic Complications of Cancer
Urologic Complications
Cardiac Complications
Respiratory Complications
Liver Function and Hepatotoxicity in Cancer
Gastrointestinal Complications
Oral Complications
Gonadal Complications
Endocrine Complications
Secondary Cancers: Incidence,
Risk Factors, and Management,

Infections in Patients with Cancer
Infections in Patients with Cancer

Oncologic Emergencies
Oncologic Emergencies

TRANING ON SUB-SPECIALITY OF ONCOLOGY

Onco-Anaesthesiology

There should be a didactic lectures which may be a common programme for the Medical Oncology and Surgical Oncology postgraduates. The major thrust in these would be the resuscitation management of difficult airway, life-support systems and monitoring of patients. The Surgical Oncology trainees would have additional requirements in which they should know the interaction of anaesthetic drugs with systemic diseases and oncosurgical disease conditions and for this few more didactic lecture would be required. The major thrust would be on continuing training for the Surgical Oncology trainees in the operation theatre as a result of the informal discussions which would be taking place during the training period.

Onco Radiology

Combined Onco radiology rounds or meetings once a month.

Clinical Medical Oncology Radiation Oncology

Candidates should have 1 months training under medical oncology and radiation oncology department to familiarize themselves regarding common oncological disorders. During this period candidate should also familiarize themselves with the technique and interpretation of FOL, UGI scopies, endoscopies, colonoscopies and evoked potentials.

Oncopathology

It is suggested that there should be a 15 days capsuled training for onco surgery trainees or regular once a month oncopathology conference in which they should be familiarized with the techniques of grossing, staining procedures, brain cutting, autopsy methods and tissue processing including frozen sections and should be able to identify histological features of the common oncosurgical disorders. In regard to weightage in the examination it is felt that it should be five percent of the theory and the practical examination.

MINIMAL REQUIREMENTS OF TRAINING UNIT FOR MCh Surgical Oncology

1. Separate 20 bedded department with an OPD having access to a well equipped general hospital with casualty services and investigative facilities, with well equipped departments of biochemistry, pathology, microbiology, ophthalmology, otorhinolaryngology, general medicine, paediatrics, behavioural sciences, forensic medicine, radiation oncology and medical oncology.
2. The radiology department would provide required support and should be equipped with mammography, PET CT Scan image intensifiers and facilities for selective angiography. Facilities for intervention radiology, DSA, CT scan, MRI and Ultrasonography are desirable. The availability of 2 trained oncoradiologists is desirable.
3. The department of anaesthesiology would provide the required support. The availability of at least 2 trained oncoanaesthesiologists is desirable.
4. There should be access to a separate operation theatre(s) and intensive care area of atleast 3 beds. In addition to the usual oncosurgical equipment it should have operating microscope, biopolar cautery, microsurgery instruments, image intensifiers and monitors, etc.
5. Department of Pathology would provide the required support including autopsy facilities, the availability of 2 fully trained Oncopathologists is desirable.
6. There should be a faculty of 3 persons with one of them atleast 10 years teaching experience.
7. For every recognized teacher two candidates may be taken for training per year, subject to a maximum of 1 trainee per 4 beds at any given time.

MODEL PAPER

M.Ch.- **Sur.Onco.-I**

M.Ch. Examination Month, Year
SURGICAL ONCOLOGY

Paper – I

Basic Sciences, include Cancer Biology, Tumor Immunology, Cancer Etiology, Pharmacology, Radiation Biology, Tumor Pathology.

Time : Three Hours
Maximum Marks : 100

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

Q.1 RET Proto-oncogene.
Q.2 Biases in medical research.
Q.3 Role of palliative care in terminal cancer.
Q.4 Nanotechnology – its role in cancer.
Q.5 Isolated limb perfusion.
Q.6 Phases of clinical trials.
Q.7 HPV and cervical cancer.
Q.8 Chemo prevention in head and neck cancer.
Q.9 Genomics in cancer.
Q.10 Institutional review board.

MODEL PAPER

M.Ch. - **Sur.Onco. -II**

M.Ch. Examination Month, Year
SURGICAL ONCOLOGY

Paper – II
Principals of Surgical Oncology, Management of Head and Neck, Thorax, Gastrointestinal system

Time : Three Hours
Maximum Marks : 100

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

Q.1 Management of Stage I Non Small Cell Lung cancer.
Q.2 Minor salivary gland tumours.
Q.3 Adjuvant therapy in pancreatic head cancer.
Q.4 Parathyroid tumours.
Q.5 MRI in rectal cancers.
Q.6 Carcinoid syndrome.
Q.7 Classification of Thymic tumours.
Q.8 Types of Colonic Resections and their anatomic principles.
Q.9 Sub sites of oral cavity & local flaps in lip reconstruction
Q.10 Voice conservation / restoration in laryngeal cancer.

MODEL PAPER

M.Ch.- **Sur.Onco. -III**

M.Ch. Examination Month, Year
Surgical Oncology

Paper – III

Genito Urinary System, Gynaecological Cancer, Breast, Bone & Soft Tissue, Endocrine Tumors, Childhood Cancers, Skin & Central Nervous System.

Time : Three Hours
Maximum Marks : 100

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

Q.1 Gleason's score in carcinoma prostate.
Q.2 Staging system for epithelial ovarian cancer.
Q.3 BRCA1 and BRAC2.
Q.4 Von Hippel-Lindau disease.
Q.5 Surgical management of extremity and truncal soft tissue sarcomas
Q.6 Hutchison's melanotic Freckle.
Q.7 Mycosis fungoides.
Q.8 Management of brain stem gliomas
Q.9 Neuroblastoma.
Q.10 Types of Pelvic Resections.

MODEL PAPER

M.Ch.- **Sur.Onco.-IV**

M.Ch. Examination Month, Year
SURGICAL ONCOLOGY

Paper – IV
Cancer Epidemiology, prevention, Psychooncology, Rehabilitation, Societal Oncology

Time : Three Hours
Maximum Marks : 100

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

Q.1 Cancer Vaccines

Q.2 Sentinel node biopsy.

Q.3 Hormonal management of prostate cancer.

Q.4 Management of a 45 year old man presenting with a poorly differentiated malignant tumour mass, in a cervical lymph node mass (CUP).

Q.5 Concurrent chemoradiotherapy.