



AMRITA
VISHWA VIDYAPEETHAM

AMRITA SCHOOL OF MEDICINE

Amrita Centre for Allied Health Sciences

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CURRICULUM

MSc Physician Assistant

Medical Oncology

(Revised with effect from 2017-2018 onwards)



A Super Speciality Tertiary Care Hospital Accredited by ISO 9001-2008, NABL & NABH

Our Chancellor



SPIRITUAL PRINCIPLES IN EDUCATION

“In the gurukulas of ancient rishis, when the master spoke it was love that spoke; and at the receiving end disciple absorbed of nothing but love. Because of their love for their Master, the disciples’ hearts were like a fertile field, ready to receive the knowledge imparted by the Master. Love given and love received. Love made them open to each other. True giving and receiving take place where love is present. Real listening and ‘sraddha’ is possible only where there is love, otherwise the listener will be closed. If you are closed you will be easily dominated by anger and resentment, and nothing can enter into you”.

“Satguru Mata Amritanandamayi Devi”

Introducing AIMS

India is the second most populous nation on earth. This means that India's health problems are the world's health problems. And by the numbers, these problems are staggering 41 million cases of diabetes, nearly half the world's blind population, and 60% of the world's incidences of heart disease. But behind the numbers are human beings, and we believe that every human being has a right to high-quality healthcare.

Since opening its doors in 1998, AIMS, our 1,200 bed tertiary care hospital in Kochi, Kerala, has provided more than 4 billion rupees worth of charitable medical care; more than 3 million patients received completely free treatment. AIMS offers sophisticated and compassionate care in a serene and beautiful atmosphere, and is recognized as one of the premier hospitals in South Asia. Our commitment to serving the poor has attracted a dedicated team of highly qualified medical professionals from around the world.

The Amrita Institute of Medical Sciences is the adjunct to the term "New Universalism" coined by the World Health Organization. This massive healthcare infrastructure with over 3,330,000 sq. ft. of built-up area spread over 125 acres of land, supports a daily patient volume of about 3000 outpatients with 95 percent inpatient occupancy. Annual patient turnover touches an incredible figure of almost 800,000 outpatients and nearly 50,000 inpatients. There are 12 super specialty departments, 45 other departments, 4500 support staff and 670 faculty members.

With extensive facilities comprising 28 modern operating theatres, 230 equipped intensive-care beds, a fully computerized and networked Hospital Information System (HIS), a fully digital radiology department, 17 NABL accredited clinical laboratories and a 24/7 telemedicine service, AIMS offers a total and comprehensive healthcare solution comparable to the best hospitals in the world. The AIMS team comprises physicians, surgeons and other healthcare professionals of the highest caliber and experience.

AIMS features one of the most advanced hospital computer networks in India. The network supports more than 2000 computers and has computerized nearly every aspect of patient care including all patient information, lab testing and radiological imaging. A PET (Positron Emitting Tomography) CT scanner, the first of its kind in the state of Kerala and which is extremely useful for early detection of cancer, has been installed in AIMS and was inaugurated in July 2009 by Dr. A. P. J. Abdul Kalam, former President of India. The most recent addition is a 3 Tesla Silent MRI.

The educational institutions of Amrita Vishwa Vidya Peetham, has at its Health Sciences Campus in Kochi, the Amrita School of Medicine, the Amrita Centre for Nanosciences, the Amrita School of Dentistry, the Amrita College of Nursing, and the Amrita School of Pharmacy, committed to being centres of excellence providing value-based medical education, where the highest human qualities of compassion, dedication, purity and service are instilled in the youth. Amrita School of Ayurveda is located at Amritapuri, in the district of Kollam. Amrita University strives to help all students attain the competence and character to humbly serve humanity in accordance with the highest principles and standards of the healthcare profession.

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Part I

Rules and Regulations

Post Graduate Programmes (Master of Sciences)

1. Details of Post Graduate Courses :			
Sl. No.	Course	Duration	Eligibility for admission to the course
1	Medical Laboratory Technology (MLT)	2 years	Pass in B.Sc MLT (4 year regular courses only)
2	Neuro-Electro Physiology		B.Sc Neuro-Electro Physiology
3	Swallowing Disorders and Therapy		BASLP
4	Clinical Research		MBBS.BDS/BAMS/BHMS/B.Pharm/B.Sc Allied Health Sciences/B.Sc Biotechnology/B.Sc Nursing/B.Sc in any Life Sciences
5	Biostatistics		Graduates in Statistics/Mathematics with paper in Statistics
6	Respiratory Therapy		B.Sc Respiratory Therapy
7	M.Sc Diabetes Sciences		B.Sc Diabetes Sciences
8	M.Sc Cardiovascular Technology		B.Sc Cardiovascular Technology
9	M.Sc Trauma and Critical Care		B.Sc Emergency Medical Technology, B.Sc Respiratory Therapy, B.Sc Physician Assistant, B.Sc Anaesthesia Technology
10	M.Sc Physician Assistant – Medical Oncology		B.Sc Physician Assistant
11	M.Sc Dialysis Therapy		B.Sc Dialysis Therapy

PROGRAM OUTCOMES (PO)

1. PO1: Through knowledge on the subject.
2. PO2: Effective communication skills.
3. PO3: Knowledge in professional ethics.
4. P04: Leadership qualities and team work.
5. PO5: Problem Analysis and solving skills.
6. PO6: Detailed knowledge on research methodology.
7. PO7: Higher Technical skills and competencies.
8. PO8: Specilization in the subject
9. PO9: Employability in various sectors.
10. PO10: Employability in higher positions

PROGRAM SPECIFIC OUTCOMES (PSO)

1. PSO1: Detailed and through knowledge in the basics of medical oncology and haematology
2. PSO2:Basic knowledge in Patho-physiology, Clinical presentations, evaluation, Treatment and prognosis of all common diseases in the medical oncoloy and haematology
3. PSO3: Train to undertake all matters of a patient beginning from preparing medical history, examining patient, writing case summaries, ordering laboratory investigations and counselling patients etc.
4. PSO4: Take rounds in critical care unit and manage emergency situations until the arrival of specialist.
5. PSO5: Record, progress note, order or carry out therapy under the supervision of a specialist, prepare discharge summary etc.
6. PO6: knowledge on research methodology and teaching skills.

ELECTIVE COURSE AND COURSE OUTCOMES

MPAMO 40 Soft Skills

- CO1: Attitude to continue lifelong learning.
- CO2: Knowledge of gender issues and the attitude to handle such issues.
- CO3: Knowledge of environmental issues and the attitude to work towards a sustainable future.
- CO4: Competency to take decisions applying ethical values and knowledge of proper etiquette.
- CO5: Competency to conduct research.
- CO6: Communication skills including teaching skills.

I.2. Medium of Instruction:

English shall be the medium of instruction for all subjects of study and for examinations.

II.3. Eligibility:

Essential qualifications for eligibility are mentioned under clause No. I.

II. General Rules:

Admissions to the courses will be governed by the conditions laid down by the University from time to time and as published in the Regulations for admissions each year.

I.1. Duration of the Course

Duration details are mentioned under clause No.I of this booklet.

Duration of the course	: Mentioned under clause No. I
Weeks available per year	: 52 weeks
Vacation / holidays	: 5 weeks (2 weeks vacation + 3 weeks calendar holidays)
Examination (including preparatory)	: 6 weeks
Extra curricular activities	: 2 weeks
Weeks available	: 39 weeks
Hours per week	: 40 hours
Hours available per academic year	: 1560 (39 weeks x 40 hours)

Internship wherever specified are integral part of the course and needs to be done in Amrita Institute of Medical Sciences, Centre for Allied Health Sciences, Kochi itself.

II.2. Discontinuation of studies

Rules for discontinuation of studies during the course period will be those decided by the Chairman / Admissions, and is published in the "Terms and Conditions" every year.

II.3. Educational Methodology

Learning occurs by attending didactic lectures, as part of regular work, from co-workers and senior faculty, through training offered in the workplace, through reading or other forms of self-study, using materials available through work, using

materials obtained through a professional association or union, using materials obtained on students own initiative, during working hours at no cost to the student.

II.4. Academic Calendar

Annual Scheme

FIRST YEAR

Commencement of classes – August
Sessional exam – March
University exam (with practical) – 15 June - 15 July

SECOND YEAR

Commencement of classes – August
Sessional exam – March
University exam (with practical) – 15 June - 15 July

EVALUATION AND GRADING SCHEME

III.1. Attendance: **80% of attendance (physical presence) is mandatory.** Medical leave or other types of sanctioned leaves will not be counted as physical presence. Attendance will be counted from the date of commencement of the session to the last day of the final examination in each subject.

III.2. Internal Assessment:

1. Regular periodic assessment shall be conducted throughout the course. At least one sessional examination in theory and preferably one practical examination should be conducted in each subject. The model examination should be of the same pattern of the University Examination. The marks obtained in assignments / oral / viva / practical shall be taken to calculate the internal assessment.

2. A candidate should secure a minimum of 35% marks in the internal assessment in each subject (separately in theory and practical) to be eligible to appear for the University examination.
3. The internal assessment will be done by the department once during the course and final model exam which will be the same pattern of University Examination.
4. Each student should maintain a logbook and record the procedures they do and the work patterns they are undergoing. It shall be based on periodical assessment, evaluation of student assignment, preparation for seminar, clinical case presentation, assessment of candidate's performance in the sessional examinations, routine clinical works, logbook and record keeping etc.
5. Day to day assessment will be given importance during internal assessment and weightage for internal assessment shall be 20% of the total marks in each subject.
6. Sessional examination as mentioned above and the marks secured by the students along with their attendance details shall be forwarded to the Principal. Model examination shall be held three to four weeks prior to the University Examination and the report shall be made available to the Principal ten days prior to the commencement of the University Examination.

III.3. University Examinations:

- University Examination shall be conducted at the end of every academic year.
- A candidate who satisfies the requirement of attendance and internal assessment marks, as stipulated by the University shall be eligible to appear for the University Examination.
- One academic year will be twelve months including the days of the University Examination. Year will be counted from the date of commencement of classes which will include the inauguration day.
- The minimum pass for internal assessment is 35% and for the University Examination is 45%. However the student should score a total of 50% (adding

the internal and external examination) to pass in each subject (separately for theory and practical)

- If a candidate fails in either theory or practical paper, he/she has to re-appear for both the papers (theory and practical)
- Maximum number of attempts permitted for each paper is five (5) including the first attempt.
- The maximum period to complete the course shall not exceed 6 years.
- All practical examinations will be conducted in the respective clinical areas.
- Number of candidates for practical examination should be maximum 12 to 15 per day
- One internal and external examiner should jointly conduct the theory evaluation and practical examination for each student during the final year.

III.4. Eligibility to appear university Examination:

A student who has secured 35% marks for Internal Assessment is qualified to appear for University Examination provided he/she satisfies percentage of attendance requirement as already mentioned at the III (1) of the clause.

III.5. Valuation of Theory – Revaluation Papers:

1. Valuation work will be undertaken by the examiners in the premises of the Examination Control Division in the Health Sciences Campus.
2. There will be **Re-Valuation** for all the University examinations. Fees for re-valuation will be decided by the Principal from time to time.
3. Application for revaluation should be submitted within 10 days from date of result of examination declared and it should be submitted to the office with payment of fees as decided by the Principal.

III.6. Supplementary Examinations:

Every regular University examination will be followed by a supplementary examination which will normally be held within four to six months from the date of completion of the regular examination.

As stipulated under clause No. 2 under Internal Assessment, HOD will hold an internal examination three to four weeks prior to the date of the University Examination. Marks secured in the said examination or the ones secured in the internal examination held prior to the earlier University Examination whichever is more only will be taken for the purpose of internal assessment. HODs will send such details to the Principal ten days prior to the date of commencement of University examination.

Students who have not passed / cleared all or any subjects in the first University examination will be permitted to attend the second year classes. However, he / she can appear for the final year University Examination, only if he / she clear all the subjects in the first year University examinations.

Same attendance and internal marks of the regular examination will be considered for the supplementary examination, unless the HOD furnishes fresh internal marks and attendance after conducting fresh examination.

Students of supplementary batches are expected to prepare themselves for the University Examinations. No extra coaching is expected to be provided by the Institution. In case at any time the Institution has to provide extra coaching, students will be required to pay fees as fixed by the Principal for the said coaching.

III.7. Rules regarding carryover subjects:

A candidate will be permitted to continue the second of the course even if he/she has failed in the first year University Examinations.

IV. Criteria for Pass in University Examination - Regulations:

IV.1. Eligibility criteria for pass in University Examination:

In each of the subjects, a candidate must obtain 50% in aggregate for a pass and the details are as follows:

- A separate minimum of 35% for Internal Assessment
- 45% in Theory & 35% in Oral / Viva
- A separate minimum of 50% in aggregate for Practical / Clinics (University Examinations)

- Overall 50% is the minimum pass in subject aggregate (University Theory + Viva / Oral + Practical + Internal Assessment)

IV.2. Evaluation and Grade:

1. Minimum mark for pass shall be 50% in each of the theory and practical papers separately (including internal assessment) in all subjects.
2. A candidate who passes the examination in all subjects within aggregate of 50% marks and above and less than 65% shall be declared to have passed the examination in the second class.
3. A candidate who passes the examination in all subjects in the first attempt obtaining not less than 65% of the aggregate marks for all the three years shall be declared to have passed the examination with First Class.
4. A candidate who secures an aggregate of 75% or above marks is awarded distinction. A candidate who secures not less than 75% marks in any subject will be deemed to have passed the subject with distinction in that subject provided he / she passes the whole examination in the first attempt.
5. A candidate who takes more than one attempt in any subject and pass subsequently shall be ranked only in pass class.
6. A Candidate passing the entire course is placed in Second class / First class / Distinction based on the cumulative percentage of the aggregate marks of all the subjects in the I and final University Examinations
7. Rank in the examination: - Aggregate marks of all two year regular examinations will be considered for awarding rank for the M.Sc Graduate Examination. For the courses where the number of students are more than 15 rank will be calculated as under :
 - Topmost score will be declared as First Rank
 - Second to the topmost will be declared as Second Rank
 - Third to the topmost will be declared as Third Rank

V. General considerations and teaching / learning approach:

There must be enough experience to be provided for self learning. The methods and techniques that would ensure this must become a part of teaching-learning process. Proper records of the work should be maintained which will form the basis for the students' assessment and should be available to any agency that is required to do statutory inspection of the school of the course.

Research Activities:

The candidate has to maintain a record of research activities done by him/her and keeps a project record (to be submitted to the Principal before Part II examination).

Part II Syllabus

1. GENERAL

CONSIDERATIONS

- 1.1. The role of the medical oncology physician assistant
- 1.2. Standards of care
- 1.3. Course description
- 1.4. Course objectives
- 1.5. Participants' qualifications
- 1.6. Course duration
- 1.7. Student evaluation

2. CURRICULUM

MPAMO 1

CO1: Introducton to oncology

CO2: knowledge in chemotherapy

CO3: knowledge in pediatic medical oncology

CO4: knowledge in palliative chemotherapy

CO5: knowledge in oncology emergencies

2.1. Role of the medical oncology physician assistant

2.1.1. **Standards of care**

2.1.2. **Standards of professional performance**

2.1.3. Evidence-based practice

2.1.4. Clinical practice

2.2. Introduction to oncology

2.2.1. Pathophysiology, epidemiology

2.2.2. Classification of malignancies (Pathology)

2.2.3. **Diagnostic modalities in cancer**

2.2.4. Principles of management

2.2.5. Importance of follow-up

2.2.6. Psychosocial impact and consequences of cancer diagnosis and treatment

2.3. Chemotherapy

MPAMO 2

CO1: knowledge in counseling

CO2: Knowledge in nuclear medicine

CO3: knowledge in radiation oncology

CO4: Knowledge in QA program

CO5: knowledge in cancers of Central Nervous System, Head & Neck, Thoracic, Breast, Haematological Malignancies, Tumours of bone and soft tissue, Cancer in children

2.3.1. Historical development of chemotherapy

2.3.2. Medical Oncology Department

2.3.3. Quality assurance

2.3.4. Principles of chemotherapy

Aim of treatment

Curative

i) Adjuvant

ii) Neo Adjuvant

iii) Palliative

2.3.5. Classification of Cytotoxics

2.3.6. General symptoms management

2.3.7. Site-specific chemotherapy regimen

2.3.8 Chemotherapy adverse events

2.4. Pediatric medical oncology

2.4.1. **Common pediatric malignancies treated with chemotherapy**

2.4.2. Special techniques and approaches

2.4.3. **Dose/technique modifications in children**

2.4.4. Sedation and anesthesia

2.4.5. Acute effects (site dependent)

2.4.6. Late effects

2.4.7. Nursing considerations

2.5. Palliative chemotherapy

2.5.1. Definition and purpose

2.5.2. **Decision-making in oncology practice (shared decision making)**

2.5.3. Quality of life (QOL) issues

2.5.4. End-of-life care

2.5.5. Do-not-resuscitate (DNR) orders

2.6. Oncology emergencies

2.6.1. Spinal cord compression

2.6.2. Superior vena cava syndrome

2.6.3. Febrile Neutropenia

2.6.4. Metabolic Emergencies

2.7. Counseling

2.7.1. Patient and family education

2.7.2. Psychosocial responses

2.7.3. Emotional distress

2.7.4. Coping, body image

2.7.5. Sexuality and sexual dysfunction

2.7.6. Spiritual needs

2.7.7. Complementary forms of healing

2.7.8. Nutrition

2.7.9. Ethical considerations

2.7.10. Assessment & Management of psychosocial distress

2.7.11. Management

2.8. Chemotherapy protection

2.8.1. Absorbed dose and units

2.8.2. Discharge regulations

2.8.3. Patient, family and the general public concerns about Chemotherapy

2.8.5. Emergency situations

2.9. Documentation

2.9.1. Over view of hospital information system /EMR

2.10. Quality assurance (QA) program

2.10.1. Components of a QA program

2.10.2. Chemotherapy Treatment chart

2.10.3. Checklist

2.10.6. Assessment and management of fatigue

2.10.7. Assessment and management of the nutritional status

2.10.12. Counseling for children and their family

2.10.13. Assessment and management of psychosocial/ emotional distress

2.10.14. Assessment and evaluation of patient learning

2.10.15. Stoma care

2.10.17. Pediatric catheters care / Central Venous Cathetre

2.10.18. Application of chemotherapy protection principles

2.11 Nuclear Medicine

Instrumentation

Radio pharmacy

Imaging Techniques - PET FDG, PET DOTA, PET PSMA,

Therapeutic Nuclear Medicine - Radio – Iodine Therapy ,

2.12 Radiation Oncology

Principles of RT, Cobalt Machine, Linear Acceleration

External Radiotherapy, Brachy Therapy , Protone Therapy,

Complications of Radiotherapy

Radiation Safety

2.13 Surgical Oncology

Principles, Conservative surgery , Sentinel Lymphnode Biopsy

2.14 Cancers of various sites

50 hours

MPAMO 3

1. CO1: knowledge in research methodology
2. CO2: Knowledge in various procedures
3. CO3: Training in laboratory skills
4. CO4: Knowledge in cancers of Endocrine tumours, Lymphoreticular tumours, Gastro-Intestinal, Gynecological cancer, Male genital tumors, Urological tumors
5. CO5: Knowledge in bone marrow transplant

2.14.1 Skin cancers: Squamous cell carcinoma,
basal cell carcinoma,
malignant melanoma,
Skin appendage tumors

2.14.2 **Head and neck tumors:** Oral cavity,
Nasal cavity and para nasal sinuses,
Naso pharynx,

Oro pharynx,
Hypopharynx ,
Larynx,
Salivary glands

Tonsillar carcinoma

2.14.3. Thoracic tumors: lung, esophagus, thymus, cardiac wall myomas

2.14.4. Gastrointestinal tumors: Stomach,
 Pancreas,
 Liver,
 Gall bladder,
 Colon,
 Rectum
 Anal canal

2.14.5 Urological tumors: kidney, Ureter, urinary bladder, urethra

2.14.6. Gynecological cancer: uterus, ovary, cervix, vagina, vulva

2.14.7. Male genital tumors : prostate, testis, penis, epididymis

2.14.8. Breast Cancer

2.14.9. Tumors of bone and soft tissue: Osteosarcoma,
 Ewing's tumor,
 Soft tissue sarcoma

2.14.10. Lymphoreticular tumors: Hodgkin's disease, non Hodgkin's lymphoma

2.14.11. Hematological malignancies: Benign Haematology, anaemia, Leukopenia, Thrombocytopenia, Coagulation disorders, Leukemia, Multiple myeloma

2.14.12. CNS tumors: Gliomas, Meningioma, Medullo blastoma

2.14.13. Cancer in children: Retinoblastoma,
 Wilm's tumor,
 Neuro blastoma,
 Rabdomyosarcoma

2.14.14. Endocrine tumors: thyroid, pituitary, adrenal, parathyroid

2.14.15. Orbital and ocular tumors

2.14.16. Metastasis of unknown primary site

2.15 Radiology: 30 hours

2.14.1. Radiological Anatomy

2.14.2 Special Investigations in radiology for cancer patients

2.14.3 Interventional radiology – RFA, TACE, TARE

2.14.4 CT Scan

2.14.5 MRI

2.14.6 Ultrasound

2.14.7 Emergencies in Radiology

2.14.8 Pharmacology of contrasts used

2.14.9 Positioning in Radiology

2.16. Nuclear Medicine 20 hours

Instrumentation

Radio pharmacy

Imaging Techniques

PET CT, Bone Scan, MIBG Scan, Iodine Scan,

Therapeutic Nuclear Medicine – Radio Iodine therapy, PRRT, MIBG Therapy

Radiation Safety

2.17. Research Methodology 10 hours

MPAMO 4

1. **CO1: Deatiled knowledge in haematology**
2. **CO2: knowledge in transfusion**
3. **CO3: Training in teaching skills**

2.16.1 Biostatistics

2.16.2 Clinical trials

2.16.3 Literature Review

Scientific writing
How to read a paper
How to present a paper

2.18. Procedures

Vene puncture

Ascitic Tapping

Pleural Tapping

Bone Marrow

LP & CSF

Apheresis

Blood banking

PICC and PICC Line Care

2.19. Training in Laboratory Services like

Biopsy

Processing

IHC

Karyotyping, FISH

PCR

Liquid Biopsy

Flow cytometry

Biochemistry

Tumour markers

Serum Protein Electrophoresis

Microbiology

Molecular Medicine

Antibiotic Stewardship

Infection control

Clinical

1. History taking
2. Physical Examination
3. Investigations
4. Diagnosis
5. Staging
6. Treatment decision
7. Review and management of reaction during treatment
8. Summary preparation
9. Follow up after treatment
10. Terminology

2.20 Role of Haematology Physician Assistant in Bone Marrow Transplant Transplant Counselling

2.21. Bone Marrow Transplant

Autologous/Alloegenic
Source of Stem Cells
Neutropenic Fever
Care of immunosuppressed patients
Graft vs Host Disease
Chimerism

2.22 Benign Haematology

RBC disorders
Hypoproliferative Anaemia
Haemolytic Anaemia
Peripheral Blood smear
Neutropenia

2.23 Pancytopenia

Inherited marrow failure syndrome
Acquired Marrow failure
Myelodisplasia

2.24 Coagulation disorder

VWD
Haemophilia

Factor VII deficiency

2.25. Disorders of Haemostasis

Deep vein Thrombosis

Thrombophilia states

2.26. Haematological Malignancies

Acute Leukemia

Chronic Leukemia

Myeloproliferative disorders

Chronic Lymphoproliferative disorder

Multiple Myeloma

2.27. Transplant Haematology

Principles of Autologous transplant

Conditioning Chemotherapy Clostridium defficles

Infections in Transplant

CMV

EBV

Graft vs Host disease Clinical manifestations

2.28. Transfusion

Component Separation

Uses of each component

Management of transfusion reactions

2.29. Rehabilitation of Oncology patients, home care, hospice care &

End of life

SCHEME OF EXAMINATION

M.Sc Physician Assistant – Medical Oncology Degree Examination

Distribution of Marks for each subject

Paper Code	Subject Name	Uni- ver- sity	Internal	Oral	Subject ject- Total	Total	Aggregate
FIRST YEAR							1000

I	Paper I – Basic Sciences as applied to Medical Oncology & Haematology	100	20	30	150	300
II	Paper II - Medical Oncology /Haematology- I (Central Nervous System, Head & Neck, Thoracic, Breast, Haematological Malignancies, Tumours of bone and soft tissue, Cancer in children,)	100	20	30	150	
SECOND YEAR						
III	Paper III – Medical Oncology /Haematology – II (Endocrine tumours, Lymphoreticular tumours, Gastro-Intestinal, Gynecological cancer, Male genital tumors, Urological tumors)	100	20	30	150	700
IV	Paper IV Recent advances in Oncology & Haematology	100	20	30	150	
V	Project	100	50	50	200	
VI	Practical +Viva (150 + 50)	100	50	50	200	

PATTERN OF QUESTION PAPERS

All the question paper shall be of standard type. Each theory paper will be of 3 hours duration and shall consist of ten questions carry equal mark with a maximum of 100 marks. Theory paper in all subjects will consist of ten questions of 10 marks each or two sub questions in a ten mark main question.

IMPORTANT TELEPHONE NUMBERS

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