REGULATIONS2016

Syllabus

For Courses affiliated to the

Kerala University of Health Sciences

Thrissur 680596

SUPER SPECIALITY COURSE IN MEDICINE

M Ch. Surgical Oncology

Course Code 226

(2016-17 admission onwards)

2016

2 COURSE CONTENT

2.1 Title of course:

M Ch Surgical Oncology

2.2 Objectives of course

The three year surgical oncology course aims to develop a highly qualified and competent professional in the field of oncology who is capable of diagnosis, evaluation of patients in scientific manner and incorporate multi-disciplinary approach in the management of cancer. The candidate will be trained in the nuances of oncological sciences like imaging, pathological diagnostic methods, judicious use of neo-adjuvant and adjuvant therapies and all types of oncological surgeries except brain tumor surgery. Candidate is expected to gain basic knowledge in molecular oncology, clinical and translation research methodology, epidemiological sciences, biostatistics and preventive oncology apart from radiatiotherapy techniques, radiobiology and medical oncology.

Surgical oncologist can be aptly defined as an oncologist who is trained to evaluate, diagnose and perform all types of oncological surgeries. The leadership qualities should be inculcated into the candidate during the course of study so that he or she may be able to head a multi-disciplinary team in oncological practice.

At the end of the course the student should have acquired:-

(1) Broad understanding of the principles of Basic Medical Sciences related to oncology

(2) Ability and skills to perform and interpret investigative procedures

(3) Skills in the clinical diagnosis, planning of investigations and manage common cancers by judicious surgical techniques

(4) Capabilities to take independent decisions in emergency situations, perform required procedures and manage complications

(5) Competence in intensive care with practical knowledge of working with resuscitative and monitoring equipments

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(6) Ability to critically appraise published literature, interpret data and to broaden his/her knowledge by keeping abreast with modern developments in surgical oncology and other areas of oncology

(7) Ability to search online, use information technology to his/her advantage and critically evaluate medical literature and draw his/her own conclusion.

(8) Ability to teach Post graduates, undergraduate and nursing students in the basic management of the cancer

(9) Ability to get acquainted with allied and general clinical disciplines to ensure appropriate and timely referral.

(10) Ability to conduct research.

(11) Ability to become a consultant and capability of organizing Multi-disciplinary oncology Departments.

2.3 Medium of instruction:

The medium of instruction for the course shall be English.

2.4 Course outline

As given under clause "Content of each subject in each year "of the curriculum

2.5 Duration

Every candidate seeking admission to the training programme to qualify for the degree of M Ch in the subjects shall pursue a regular course as a full time student, in the concerned Department under the guidance of a recognized super speciality teacher for a period of three years.

The course commences from 1st August in each year.

2.6 Syllabus

As given under clause "Content of each subject in each year " of the curriculum.

The concept of Health Care Counselling shall be incorporated in all relevant areas.

2.7 Total number of hours

As given under clause "Content of each subject in each year "of the curriculum.

2.8 Branches if any with definition

As given under clause "Content of each subject in each year "of the curriculum.

2.9 Teaching learning methods

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TRAINING PROGRAM

The training program will aim to give the candidate a sound training of cardiac diagnosis and management. During the period of training they shall take part in all the activities of the department including ward rounds, lectures, and seminars, teaching assignments, laboratory studies, surgical session and other duties assigned to them by the Head of the Department.

All candidates shall work as full time residents during the period of training.

The training program shall be updated as and when required. The training shall include:-

a) Active involvement in the diagnosis and management of patients both in the outpatient, coronary care unit and the wards.

b) Participation in lectures, seminars, journal clubs, clinical group discussions etc.

c) Exposure to basic and advanced diagnostic, therapeutic and laboratory techniques.

d) Exposure to biomedical statistics as applicable to basic research methodology

e) Post graduate students shall maintain log books of the work carried out by them. The log books shall be checked and assessed every 6 months by the faculty members, with a view to assure the progress the candidate has made and spot the inadequacies if any.

Out station training

Outstation training may be given if required. It should not exceed 2 months, the duration, center etc: - will be at the discretion of the Head of the department.

Teaching

All M Ch students should take part in the teaching of the post graduate degree students of related subjects, undergraduate medical students and paramedical students and allied health science students posted in the department by rotation.

PROFESSIONAL EXPOSURE RECOMMENDED

During the course of training, the candidate undergoes extensive training in following areas

1. Proper biopsy techniques
2. Appropriate use of diagnostic studies both scientifically and economically
3. Clinical reading of Xrays, CT scan,MRI and nuclear medicine studies
4. Endoscopic techniques- Upper GI, Colonoscopy, bronchoscopy, cystoscopy, nasopharyngoscopy, laryngoscopy

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5. Research methodology
6. Major and minor Oncologic surgeries
7. Management of morbidity
8. Basic and advanced pathological techniques
9. Proper documentation and record keeping
10. Palliative care and pain management
11. Basic and advanced laparoscopic oncological surgeries

At the end of three years, the following procedures should be performed or assisted by the candidate.

Endoscopy:

Endoscopy	Minimum number to be performed
Direct laryngopharyngoscopy	30
Nasopharyngoscopy	20
Oesophagogastroduodenoscopy	50
Colonoscopy	30
Cystoscopy	20

Surgeries to assist and perform under guidance:

Major surgeries	Minimum number to assist	Minimum number to perform under supervision
Gastrectomy with extended lymph node dissection	10	5
Esophagectomy	10	5
Ilio-inguinal block dissection	5	3
Modified radical mastectomy	20	20
Breast conservation surgery	20	20
Neck dissections	20	10
Composite resections	20	5
Surgery for soft tissue sarcoma and bone tumors	15	5

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Abdominoperineal resection/ LAR	20	10
Heaptobiliary-pancreatic resections	5	2
Uro-oncological resections	10	2
Lung resections	3	-

The clinical and academic programmes are considered most desirable for optimal training:

1. Journal club
2. Seminars
3. Clinical case discussions
4. Tumor board discussions/ Multidisciplinary board discussion
5. Mortality and morbidity audits

2.10 Content of each subject in each year

1. Essentials of Molecular Biology - Basic Principles, Genomics, Proteomics and

Cancer, Cancer genome, Telomeres and Telomerase, Programmed cell death, Signal transduction, Immunology, Cytogenetics, Cell Cycle, Cancer stem cells, invasion and metastases, antigenesis

2.Principles of Oncology: Etiology of cancer, Tobacco Carcinogenesis, Cancer Susceptibility syndromes, Etiology of cancer- Viruses, Inflammation, Chemical factors, Physical factors, Dietary factors, Obesity and physical factors

3. Cancer Immunology

4. Basic Epidemiology - epidemiologic methods, descriptive and analytical epidemiology.

Epidemiology of Cancer: Global cancer incidence, Changes in cancer mortality

5. Principles of Cancer management: Surgical oncology, Medical Oncology, Radiation Oncology and Biologic Therapy.

6. Principles of Health Services Research

7. Principles of Cancer Chemotherapy

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8. Pharmacology of Cancer Biotherapeutics - Interforne interlukins, hormonal therapy, differentiating agents, monoclonal antibodies, antiangiogenic factors, antisense agents, preventive vaccines etc.

9. Clinical Trials

10. Cancer Prevention - tobacco related cancers, diet, chemoprevention etc

11. Tobacco – Global menace, dependence, treatment, legislation and preventive strategies

12. Cancer Screening

13. Cancer Diagnosis - Molecular pathology and Cytology, Imaging,

Endoscopy, Laparoscopy, Nuclear medicine,

14. Specialised techniques in Cancer management- minimal access surgery, Vascular access, Isolated perfusion, intensity modulated radiation therapy, Interventional radiology, Radiofrequency thermal ablation, Functional imaging, Molecular imaging, Photodynamic therapy, recent advances in ablative techniques and biomarers.

15. Systemic Oncology:

1. Head and Neck Cancers

2. Lung Cancer

3. Medistinal neoplasms

4. Gastrointestinal tract cancers

5. Cancers of Genitourinary system

6. Gynaecologic cancers

7. Breast cancer

8. Endocrine Malignancies

9. Musculoskeletal tumours

10. Mesotheloma

11. Cancers of the skin

12. Malignant Melanoma

13. Central nervous system malignancies

14 Paediatric malignancies

15. Lymphomas and leukemias

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16. Plasma cell neoplasms

17. Pareneoplastic syndromes

18. Cancer of the unknown primary site

19. Peritoneal carcinomatosis

20 Cancer in immunosuppressed host

21. Oncologic emergencies - SVC syndrome, spinal cord compression,

Metabolic emergencies, urologic emergencies, increased intracranial tension etc

22. Treatment of metastatic cancer - brain, lung, bone, liver, malignant effusions and ascites.

23. Haemopoetic therapy - transfusion, grown factors, Autologous and Allogenic stem cell transplantation, cord blood stem cell transplantation

24. Infection in the cancer patient

25. Supportive care and quality of life - pain management, nutritional support, sexual problems, genetic counselling, psychological issues, community resources, care of the terminally ill patient.

26. Adverse effects of treatment – haematological toxicity, vascular events, nausea and vomiting. Oral complications, Pulmonary toxicity, cardiac toxicity, hair loss, gonadal dysfunction, second cancers, miscellaneous toxicity,Cancer Related Fatigue, Neurocognitive effects etc.

27. Communication to cancer patient

28. Rehabilitation of the cancer patient

29. Societal issues in Oncology

30. Complementary,Alternative and Integrative therapies

31. Oncology Nursing including various access

32. Ethical issues in Oncology

33. Information systems in Oncology

34. Alternative methods of cancer treatment

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35. Newer approaches in cancer treatment - Gene therapy, molecular therapy, cancer vaccines, image guided surgery, heavy particles in radiation therapy, Robotic surgery, Nanotechnology

36. Principles of Reconstructive Surgery

37. Principles of pain management and palliative care-Hospice

Paper I- Basic Sciences as applied to Surgical Oncology

Topics covered:

1. Essentials of Molecular Biology - Basic Principles, Genomics, Proteomics and Cancer, Cancer genome, Telomeres and Telomerase, Programmed cell death, Signal transduction, Immunology, Cytogenetics, Cell Cycle, Cancer stem cells, invasion and metastases, antigenesis

2.Principles of Oncology: Etiology of cancer, Tobacco Carcinogenesis, Cancer Susceptibility syndromes, Etiology of cancer- Viruses, Inflammation, Chemical factors, Physical factors, Dietary factors, Obesity and physical factors

3. Cancer Immunology

4. Basic Epidemiology - epidemiologic methods, descriptive and analytical epidemiology. Epidemiology of Cancer: Global cancer incidence, Changes in cancer mortality

5. Principles of Cancer management: Surgical oncology, Medical Oncology, Radiation Oncology and Biologic Therapy.

6. Principles of Health Services Research

7. Principles of Cancer Chemotherapy

8. Pharmacology of Cancer Biotherapeutics - Interforne interlukins, Hormonal therapy, differentiating agents, monoclonal antibodies, antiangiogenic factors, antisense agents, preventive vaccines etc.

9. Clinical Trials

10. Cancer Prevention - tobacco related cancers, diet, chemoprevention etc

11. Tobacco – Global menace, dependence, treatment, legislation and preventive strategies

12. Cancer Screening

13. Cancer Diagnosis - Molecular pathology and Cytology, Imaging, Endoscopy, Laparoscopy, Nuclear medicine,

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14. Specialised techniques in Cancer management- minimal access surgery, vascular access, Isolated perfusion, intensity modulated radiation therapy, Interventional radiology, Radiofrequency thermal ablation, Functional imaging, Molecular imaging, Photodynamic therapy, recent advances in ablative techniques and biomarers.

Paper II- Systemic Surgical Oncology:

Topics covered

1. Head and Neck Cancers
2. Lung Cancer
3. Medistinal neoplasms
4. Gastrointestinal tract cancers
5. Cancers of Genitourinary system
6. Gynaecologic cancers
7. Breast cancer
8. Endocrine Malignancies
9. Musculoskeletal tumours
10. Mesotheloma
11. Cancers of the skin
12. Malignant Melanoma
13. Central nervous system malignancies

14 Paediatric malignancies

15. Lymphomas and leukemias
16. Plasma cell neoplasms
17. Pareneoplastic syndromes
18. Cancer of the unknown primary site
19. Peritoneal carcinomatosis
20. Cancer in immunosuppressed host

Paper III: Surgical oncology and related topics

Topics covered

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1. Oncologic emergencies - SVC syndrome, spinal cord compression, metabolic emergencies, urologic emergencies, increased intracranial tension etc

2. Treatment of metastatic cancer - brain, lung, bone, liver, malignant Effusions and ascites.

3. Haemopoetic therapy - transfusion, grown factors, autologous and Allogenic stem cell transplantation, cord blood stem cell transplantation

4. Infection in the cancer patient

5. Supportive care and quality of life - pain management, nutritional support, sexual problems, genetic counselling, psychological issues, community resources, care of the terminally ill patient.

6. Adverse effects of treatment – haematological toxicity, vascular events, nausea and vomiting. Oral complications, Pulmonary toxicity, cardiac toxicity, hair loss, gonadal dysfunction, second cancers, miscellaneous toxicity, Cancer Related Fatigue, Neurocognitive effects etc.

7. Communication to cancer patient

8. Rehabilitation of the cancer patient

9. Oncology Nursing including various access

10. Principles of pain management and palliative care-Hospice

11. Ethical issues in Oncology

12. Societal issues in Oncology

13. Complementary, Alternative and Integrative therapies

Paper IV: Recent advances in surgical oncology

Topics covered

1. Information systems in Oncology and recent advances

2. Alternative methods of cancer treatment- Critical analysis

3. Newer approaches in cancer treatment - Gene therapy, molecular therapy, cancer vaccines, image guided surgery, heavy particles in radiation therapy, Robotic surgery, Nanotechnology

4. Principles of reconstructive Surgery and recent advances

5. Recent advances in Nutritional aspects in cancer

6. Recent land mark clinical trials and their impact in cancer management

7. Evolution of Targeted therapy and recent advances

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8. Other recent advances

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

MANDATORY POSTING FOR MCh SURGICAL ONCOLOGY STUDENT:

First year:

After 9 months of General surgical oncology posting, each candidate should have rotational posting as follows

1 week in Pathology

1 week in community Oncology and Tumour Registry

1week in nuclear medicine

1week in palliative care

Second year:

2 weeks posting in Medical oncology

2 weeks in radiotherapy

1 weeks in cancer research

Third year:

During third year, student should be sent to a reputed cancer centre within the state or outside the state for a period of one month (4 weeks) as an observer. Preferably two Centres for one month each.

The topics given under 2.9 may also be referred to.

2.13 Records

As given in clause "Logbook "

2.14 Dissertation: As per Dissertation Regulations of KUHS

Thesis is an absolute requirement for M Ch course and the candidate has to register the thesis synopsis in the University through proper channel within 6 months of admission. Thesis has to be submitted to the University for Evaluation at least 6 months prior to the conduct of final examination. Modifications and resubmission should be done before writing the examination. Even if the guide is transferred/ retired, the thesis has to be continued under

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his/her guidance or entrust to another guide in case the original person is not willing to continue. In extra ordinary situations change of guide and change of thesis topic is permissible with prior permission from the University. Only after accepting the thesis, the candidate will be eligible for writing the examination. In addition to this, the student has to present at least one paper/poster in a regional /national / international conference of the concerned speciality during his three year course or at least one publication in a peer reviewed journal. Research paper should be approved by the Institutional Review Board/ Institutional Ethical Committee.

Evaluation of Thesis

The thesis shall be evaluated by a minimum of three experts; one internal and two external experts, who shall not be the examiners for the Theory and Clinical examination of the concerned candidates and it may be accepted/ accepted with modifications/rejected. Only on the acceptance of the thesis by two experts out of three, the candidate shall be permitted to appear for the University examination. If the thesis is not accepted on evaluation by at least two experts, it shall be resubmitted with suggested modifications along with prescribed fees within the prescribed time stipulated by the University from time to time and it shall be re-evaluated by the same experts. If thesis is rejected by two experts, the candidate will lose first chance for appearing in the University examination and has to redo a fresh thesis for further evaluation.

2.15 Speciality training if any

As given in clause 2.10 of the curriculum.

2.16 Project work to be done if any

As stipulated by the Head of the Department

2.17 Any other requirements [CME, Paper Publishing etc.]

- Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
- Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms)

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or

- At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

2.18 Prescribed/recommended textbooks for each subject

As stipulated by HOD

2.19 Reference books

Sl.No.	*Name of Book*	*Authors*	*Edition*	*Publication*
1	Surgery of Liver, biliary tract and pancreas Vol.1 and 2	L.H.Blumgart Jacques Belghiti,William Jarnagii,Roneld DeMatteo,William Chepmen,Markus Buchler,Lucy Hann	4th	Saunders
2	Ashcraft's pediatric surgery	George W HolcombIII J Patrick Murphy	5th	Saunders
3	Surgery of the Anus,rectum and colon	Michel R B Keighley Norman Williams	3rd	Saunders
4	Campbell –Walsh urology	Wein,Kavossi,Novick	9th	Saunders
5	Pearsons' thoracic and esophageal surgery	G. Alexander Patterson MDF. Griffith Pearson MDJoel D. Cooper MDJean Deslauriers MD FRCPS(C)Thomas W. Rice MDJames D. Luketich MDAntoon E. M. R. Lerut MD PhD	3rd	Saunders

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6	Aesthetic plastic surgery	Serell J Asher,Duoglass Steinbech,Jenifer l Walden		Saunders
7	Holland frei Cancer Medicine	Hong,Bast,Hait,Kufe	8th	
8	Cancer,principles and practice of oncology	Devita,hellman,Rosenberg	8th	LWW
9	Head and neck ,surgery and oncology	Jatin Shah	3rd	Elsevier
10	Grabb and Smith's Plastic surgery	Charles H. Thorne, Scott P. Bartlett, Robert W. Beasley, Sherrell J. Aston, Geoffrey C. Gurtner, Scott L. Spear	6th	
11	General thoracic surgery	Sheilds,Locicero,Reed	7th	LWW
12	Comprehensive vascular and endovascular surgery	Hallet,Mills,Earnshaw	2nd	Mosby
13	Rothman-Simeone-The Spine	Herkowitz,Garfin,Esmont,Bell	6th	Elsevier
14	Comprehensive clinical nephrology	Floege Johnson Feehally	4th	Elsevier
15	Operative Neurosurgical techniques Indication,methods and results	SchmiDEK and Sweet	4th	Elsevier

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16	Sabiston and Spencer Surgery of chest	Frank W Sellke Pedro J del Nido Scott Swanson	8th	Saunders
17	Enzinger and Weiss Soft tissue tumors	Weis and Goldblun	8th	Mosby
18	Principles and practice of Gynecologic oncology	Barelett,Markman,Randall	5th	LWW
19	Diagnostic Histopathology of tumors	Christopher D M Fletcher	3rd	Elsevier
20	Rosai And Ackermen's Surgical Pathology	Juan Rosai	10th	Elsevier

2.20 Journals

- Journal of Clinical Oncology
- European Journal of Surgical oncology
- Cancer
- Journal of Surgical oncology
- Seminars in Surgical oncology
- North American Clinics of Surgical oncology
- Seminars in Oncology
- Seminars in Radiation oncology
- Pathology
- Seminars in Nuclear medicine
- American Journal of Surgical Pathology
- Nature Cancer reviews

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- Annals of Oncology
- Radiology

2.21 Logbook

A log book is mandatory and has to be maintained by all students and this has to be reviewed by HOD / Unit Chief of the department regularly (at least quarterly). Minimum number of each of the academic activities to be performed by the candidate should be outlined for each speciality. Model check list for journal review/seminars/topic presentation/ teaching skill etc: - is shown in the appendix. Periodic formative assessment has also to be done in the department by the super speciality teachers. Log book will be evaluated during the University examination by all the four examiners with a maximum total mark of 20 in the viva component (Check Lists appended).

Hand written log book should be maintained by the postgraduate during the entire course. It should include

1. Bio –Data
2. Details of Posting
3. Part I- Academic Activities
    - Thesis/ Research work done during the course
    - Abstract of thesis
    - Publications
    - Oral Presentation in Conferences
    - Poster presentation in Conferences
    - Conference/CME Participations
    - Evaluvation of postings
    - Evaluvation of Clinical case presentation
    - Evaluvaton of Journal review presentations
    - Evaluavtaion of teaching Skils
    - Evaluvation of Dissertation Presentation
    - Details of presentation in Academic Programs

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- Special Duties
- Miscellaneous

4. Part II- Procedures Performed
    - Major Procedures
    - Minor Procedures
5. Surgical Emergencies
6. Summary

Log book should be duly signed by head of the department and should be presented to the examiners at the time of final examination.

3.EXAMINATIONS

3.1 Eligibility to appear for exams

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

A candidate should appear for all the theory examinations and obtaining a minimum aggregate of 50% marks in theory part and practical part (Practical & Viva) separately shall be mandatory for passing the whole examination.

ELIGIBILITY FOR APPEARING IN FINAL EXAMINATION

1. A minimum of 80% attendance during each year of the course separately.
2. Successful Submission of completed Logbook.
3. Submission of Dissertation and its approval by the University.
4. Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
5. Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms).

or

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At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

6. The prescribed form (annexure 3) for each candidate should be filled up by concerned department and sent to KUHS for issuing hall ticket for the candidate to appear for the examination. If the candidate fails to meet the criteria, he will not be permitted to appear for the examination.

3.2 Schedule of Regular/Supplementary exams

Generally there shall be two university examinations in a year, one regular and one supplementary examinations with a usual gap of six months.

3.3 Scheme of examination showing maximum marks and minimum marks

There shall be theory, practical examination including viva voce at the end of the three year course. Theory examination shall consist of four papers (3 hours duration) including one on recent advances and each paper will carry a maximum of 100 marks. Each question paper shall consist of one essay question of 20 marks and 8 short essays of 10 marks each. There shall be a multiple evaluation of theory papers by two internal examiners and two external examiners and the average mark for each paper is taken as the final marks.

3.4 Papers in each year

Not Applicable

3.5 Details of theory exams

Theory examination shall consist of four papers (3 hours duration) including one on recent advances and each paper will carry a maximum of 100 marks. Each question paper shall consist of one essay question of 20 marks and 8 short essays of 10 marks each. As given in clause 25.

Paper I – Basic Sciences

Paper II – Systemic Surgical Oncology

Paper III – Surgical oncology and related topics

Paper IV – Recent Advances in Surgical Oncology

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3.6 Model question paper for each subject with question paper pattern

QP Code: **Reg.No:**

M.Ch (Surgical Oncology) Degree Examinations

(Model Question Paper)

Paper I – Basic Sciences

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever nec**essary

Essays: (20)

1. Describe the surgical segmental anatomy of the liver with the help of neat labelled diagram. Discuss the bilirubin metabolism in detail

Short essays: (8x10=80)

2. Metabolic emergencies in cancer.
3. Tobacco and cancer.
4. Thyroid hormone synthesis and role of recombinant TSH.
5. Humoral and cell mediated immunity in human malignant neoplasm.
6. FISH.
7. Mechanism of resistance to chemotherapy in cancers.
8. Febrile neutropenia.
9. Radiation sensitizers.

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QP Code: **Reg.No:**

M.Ch (Surgical Oncology) Degree Examinations

(Model Question Paper)

Paper II – Systemic Surgical Oncology

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the staging and management of differentiated thyroid cancer

Short essays: (8x10=80)

2. Principles of surgical technique of radical nephrectomy.
3. Bisphosphonates in metastatic breast cancer.
4. Lymphadenectomy for carcinoma stomach
5. Management of Wilm's tumor
6. Neo adjuvant chemotherapy in laryngeal cancer
7. Surgical management of epithelial ovarian cancer
8. Evaluation and management of castrate refactory prostate cancer.
9. Staging of bone sarcoma

QP Code: **Reg.No:**

M.Ch (Surgical Oncology) Degree Examinations

(Model Question Paper)

Paper III – Surgical oncology and related topics

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the metabolic emergencies in cancer in detail

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Short essays: (8x10=80)

2. Management of malignant pleural effusion

3. Radiation induced oral mucositis pathology and management

4. Surgical site infection definition and management

5. Febrile neutropenia

6. Management of cancer pain

7. Management of liver metastasis from colon cancer

8. Voice rehabilitation of post laryngectomy patient

9. AIDS related malignancies

QP Code: **Reg.No:**

M.Ch (Surgical Oncology) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances in Surgical Oncology

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the targeted therapy in breast cancer

Short essays: (8x10=80)

2. Advantages of robotic surgery

3. Newer techniques in the management of osteoradionecrosis of mandible

4. Role and technique of extra corporeal irradiation in management of bone tumours

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5. Proton therapy – advantages and disadvantage
6. Image guided surgery
7. Stem cells in oncology
8. RADPLAT regimen in head and neck cancer
9. Video assisted thoracoscopic surgery

3.7 Internal assessment component

Not applicable.

3.8 Details of practical/clinical exams

Practical/Clinical examination shall consist of:

i. 1 long case – 100 marks
ii. 2 short cases – 80 marks each = 160 marks
iii. Ward rounds – 40 marks
iv. Viva voce – 80 marks
v. Log book—20 marks

Total Marks Practicals & Viva Voce - 400

Long case discussion may take a maximum of 1 hr, short cases (total cases 2) - maximum 1 hr, ward rounds – maximum 30 minutes and Viva voce maximum of 1 hr. Maximum number of candidates that can be examined per day may be restricted to 3.

3.9 Number of examiners needed (Internal & External) and their qualifications

Examiners

1. All Examiners shall be a recognised super speciality teacher as per MCI norms. There shall be two internal examiners and two external examiners (exclusively from outside the state). In departments where there are more than 2 professors, the head of the department preferably be a constant member of the board of examiners, and the other professors shall be posted as internal examiners on rotation basis.

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2. Under exceptional circumstances, examinations may be held with 3 (three) examiners provided at least two of them are external examiners subject to the ratification of the pass board.
3. In the event of there being more than one centre in one city, the external examiners at all the centres in that city shall be the same. Where there is more than one centre of examination, the University shall appoint a Co-ordinator/Convenor to coordinate the examination on its behalf.

3.10 Details of viva

Viva Voce : **80 marks**

4. INTERNSHIP

4.1 Eligibility for internship

Not applicable for Medical Superspecality degree courses.

4.2 Details of internship, Duration

Not applicable for Medical Superspecality degree courses.

4.3 Model of Internship Mark lists

Not applicable for Medical Superspecality degree courses.

4.4 Extension rules

As per the existing KUHS rules.

4.5 Details of Training given

Not applicable for Medical Superspecality degree courses.

5. ANNEXURES

5.1 Check Lists for Monitoring: Log Book, Seminar Assessment etc.

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BIO DATA OF THE CANDIDATE

Name in full	
Date of Birth	
Gender	
Date of Joining Course	
Date of Completion of Course	
Blood Group	
Permannet Address	
Postal Address	
Tel NO.	
Email	
Any other information	

DETAILS OF POSTINGS

From	To	Duration	Clinic/Division/Unit	Signature of Head of Clinic/Division/Unit

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PART I- ACADEMIC ACTIVITIES

THESIS/RESEARCH WORK DONE DURING THE COURSE

Subject of Thesis	
Name of Guide/Guides	
Date of Submission	
Date of Approval	
OTHER RESEARCH ACTIVITIES	

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ABSTRACT OF THESIS

PUBLICATIONS

SL.NO	Authors, Titles, Journal,Year, Volume, Issue and Pages
1	
2	
3	
4	

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ORAL PRESENTATION IN CONFERENCES

Name of the Conference	Date	Venue	Title of Paper

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(Under the heading venue, please mention whether the conference is Local/State/National/International)

POSTER PRESENTATION IN CONFERENCES

Name of the Conference	Date	Venue	Title of Paper

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(Under the heading venue , please mention whether the conference is Local/State/National/International)

CONFERENCE/ CME PARTICIPATION

Name of the Conference	Date	Venue

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EVALUATION OF POSTINGS

POSTING IN : .....

DURATION : .....

NO.OF DAYS OF LEAVE AVAILED : .....

Sl.No	**Attribute**	**Score given**
1	Punctuality	
2	Initiative	
3	Proficiency of knowledge	
4	Competency in skills	
5	Willingness to take responsibilities	
6	Work up of cases	
7	Involvement in patient care	
8	Teamwork	
9	Leadership Qualities	
10	Communications	
TOTAL SCORE(maximum of 50)		
SCORING SYSYTEM: 0=Poor, 1=Below average , 2= Average , 3= Fair, 4= Good , 5= Excellent		

REMARKS :

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SIGNATURE OF HEAD

EVALUVATION OF SEMINAR PRESENTATION

DATE : .....

SEMINAR TOPIC : .....

NAME OF THE FACULTY : .....

SL.NO	**Items for observation during evaluation**	**Score given**
1	Understanding of subject	
2	Completeness of Preparation	
3	Clarity of Presentation	
4	Whether cross-references/ other publications have been consulted	
5	Ability to answer questions	
6	Time scheduling and appropriate use of audio-visual aids	
TOTAL SCORE(maximum of 30)		
SCORING SYSYTEM: 0=Poor, 1=Below average , 2= Average , 3= Fair, 4= Good , 5= Excellent		

REMARKS :

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SIGNATURE OF FACULTY

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EVALUVATION OF JOURNAL REVIEW PRESENTATION

DATE : .....

NMAE OF JOURNAL : .....

NAME OF THE FACULTY : .....

SL.NO	Items for observation during evaluation	Score given
1	Article Presented	
2	Clarity of Presentation	
3	Understanding of Scopes & objectives of the paper	
4	Whether cross-references/ other publications have been consulted	
5	Ability to discuss the paper and respond to questions	
6	Time scheduling and appropriate use of audio-visual aids	
TOTAL SCORE(maximum of 30)		
SCORING SYSYTEM: 0=Poor, 1=Below average , 2= Average , 3= Fair, 4= Good , 5= Excellent		

REMARKS :

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SIGNATURE OF FACULTY

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EVALUVATION OF TEACHING SKILL

DATE : .....

NAME OF THE TRAINEE : .....

NAME OF THE FACULTY : .....

SL.NO	Items for observation during evaluation	Score given
1	The Introduction	
2	The sequence of ideas	
3	The use of practical examples and /or illustrations	
4	Evokes audience interest in the subject	
5	Answer questions asked by the audience	
6	Effectiveness of the talk	
TOTAL SCORE(maximum of 30)		
SCORING SYSYTEM: 0=Poor, 1=Below average , 2= Average , 3= Fair, 4= Good , 5= Excellent		

REMARKS :

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SIGNATURE OF FACULTY

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EVALUVATION OF DISSERTATION PRESENTATION

DATE : .....

NAME PF THE TRAINEE : .....

NAME OF THE FACULTY : .....

SL.NO	**Items for observation during evaluation**	**Score given**
1	Interest shown in dissertation work	
2	Appropriate review	
3	Discussion with guide and other faculty	
4	Quality of protocol	
5	Preparation proforma	
6	Discussing with guide and other faculty	
7	Collection of case material	
8	Literature review	
9	Death of analysis and discussion	
10	Presentation of findings	
TOTAL SCORE(maximum of 25)		
SCORING SYSYTEM: 0=Poor, 1=Below average , 2= Average , 3= Fair, 4= Good , 5= Excellent		

REMARKS :

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SIGNATURE OF FACULTY

☆

DETAILS OF PRESENTATION IN ACADEMIC PROGRAMME

CPC/Morality Meet/Tumour Board

Date	**Subject**	**Signature of HOD/Chair**

☆

SPECIAL DUTIES(If any)

Date	**Nature**	**Verified by**

☆

MISCELLANEOUS

Date	Subject	Consultant

☆

PART II- PROCEDURES PERFORMED

Major procedures			
Date	**Hospital Number**	**Diagnosis**	**Procedure**

A-Assisted

P-Performed

SIGNATURE OF HOD/UNIT IN CHIEF

☆

Minor procedures			
Date	**Hospital Number**	**Diagnosis**	**Procedure**

A-Assisted P-Performed

SIGNATURE OF HOD/UNIT IN CHIEF

☆

ANALYSIS , MANAGEMENT AND OUTCOME OF SURGICAL EMERGENCIES

Date	Hospital NO.	Age/Sex	Diagnosis
Brief Note			

☆

SUMMARY

Name: .....

From: .....

To: .....

No.of Seminar/Symposia/Journal Clubs presented		
NO. of Seminar /Symposia/Journal Clubs attended		
No.of cases discussion presented		
No.of case discussion attended		
Cases presented in Tumour Boards/CPCs		
Research works		
Publications		
CME/Conference presentations.	Oral	Poster
CME/Conference attended		
Procedures/Medical/Surgical/Lab	Major	Minor
Year, month and date of appearing the exam		
Year , month and date of passing.		

☆

SIGNATURE OF HOD

ANNEXURE - 1

CHECK LIST 1 - EVALUATION OF CLINICAL WORK

Name of the Trainee: Date:

Name of the Faculty:

Sl. No.	**Items for observation during evaluation**	*Poor* *0*	*Below Average* *1*	*Average* *2*	*Good* *3*	*Very Good* *4*
1.	*Regularity of attendance*					
2.	*Punctuality*					
3.	*Interaction with colleagues and supportive staff*					
4.	*Maintenance of case records*					
5.	*Presentation of cases*					
6.	*Investigations work -up*					
7.	*Bed - side manners*					
8.	*Rapport with patients*					
9.	*Counseling patients relatives for interventional procedures*					
10.	*Overall quality of clinical work*					
	Total score					

☆

ANNEXURE - 2

CHECK LIST 2 . EVALUATION OF CLINICAL CASE PRESENTATION

Name of the Trainee: *Date:*

Name of the faculty:

Sl. No	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	**Completeness of history**					
2.	**Whether all relevant points elicited**					
3.	**Clarity of presentation**					
4.	**Logical order**					
5.	**Mentioned all positive and negative points of importance**					
6.	**Accuracy of general physical examination**					
7.	**Whether all physical signs elicited correctly**					
8.	**Diagnosis: whether it follows logically**					

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9.	**Investigations required** **In Relevant order**					
10	**Interpretation of Investigations**					
11	**Ability to discuss differential diagnosis.**					
12	**Discussion on management**					
	Grand Total					

ANNEXURE 3

CHECK LIST 3

EVALUATION OF SEMINAR PESENTATION

Name of the Trainee: Date:

Name of the Faculty:

Sl no	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1	***Whether other relevant publications consulted***					
2	***Whether cross - references have been consulted***					
3	***Completeness of Preparation***					

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4	***Clarity of Presentation***					
5	***Understanding of subject***					
6	***Ability to answer the questions***					
7	***Time scheduling***					
8	***Appropriate use of Audio - Visual aids***					
9	***Overall performance***					
10	***Any other observation***					
	Total score					

ANNEXURE - 4

CHECK LIST 4

EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Trainee: **D a t e :**

Name of the Faculty:

Sl. No	**Items for observation during presentation**	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Article chosen*					

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2.	*Extent of understanding of scope & objectives of the paper by the candidate*					
3.	*Whether cross-references have been consulted*					
4.	*Whether other relevant publications consulted*					
5.	*Ability to respond to questions on the paper/ subject*					
6.	*Audio - Visual aids used*					
7.	*Ability to discuss the paper*					
8.	*Clarity of presentation*					
9.	*Any other observation*					
	Total Score					

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ANNEXURE - 5

CHECK LIST 5

EVALUATION OF TEACHING SKILL

Name of the Trainee: **Date:**

Name of the faculty:

Sl. No.	**Items for observation**	**Strong Points**	**Weak Points**
1.	*Communication of the purpose of the talk*		
2.	*Evokes audience interest in the subject*		
3.	*The introduction*		
4.	*The sequence of ideas*		
5.	*The use of practical examples and / or illustrations*		
6.	*Speaking style (enjoyable, monotonous, etc. Specify)*		
7.	*Attempts audience participation*		
8.	*Summary of the main points at the end*		
9.	*Ask questions*		
10.	*Answer questions asked by the audience*		
11.	*Rapport of speaker with his audience*		
12.	*Effectiveness of the talk*		
13.	*Uses AV aids appropriately*		

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ANNEXURE - 6

CHECK LIST 6

EVALUATION OF DISSERTATION PRESENTATION

Name of the Trainee: Date:

Name of the faculty / Observer:

Sl.No	**Points to be considered**	**Poor** *0*	*Below Average* *1*	*Average* *2*	*Good* *3*	*Very Good* *4*
1.	*Interest shown in selecting topic*					
2.	*Appropriate review*					
3.	*Discussion with guide and other faculty*					
4.	*Quality of protocol*					
5.	*Preparation of Proforma*					
	Total Score					

☆

ANNEXURE - 7

CHECK LIST 7

CONTINUOUS EVALUATION OF DISSERTATION WORK

Name of the Trainee: **Date**

Name of the Faculty:

Sl. No.	**Items for observation during presentation**	**Poor**	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Periodic consultation with guide / co- guide*					
2.	*Regular collection of case material*					
3.	*Depth of Analysis / Discussion*					
4.	*Department presentation of findings*					
5.	*Quality of final output*					
6.	*Others*					
	Total score					

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ANNEXURE - 8

CHECK LIST 8

OVERALL ASSESSMENT SHEET

Name of the College: Date:

Check list no	***Particulars***	***0***	***1***	***2***	***3***	***4***
1	***Clinica lwork***					
2	***Clinical presentation***					
3	***Seminars***					
4	***Journal review***					
5	***Teaching skill***					
6	***Dissertation work***					
	TOTAL					

0- Poor 1- Below average 2- Average 3- Good 4- Very good

Signature of HOD Signature of Principal

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ANNEXURE - 9

TABLE 1

ACADEMIC ACTIVITIES ATTENDED

Name:

Admission Year: **College:**

Date	**Type of activity - Specify Seminar, Journal club, Presentation, UG teaching**	**Particulars**

☆

LOG BOOK

TABLE 2

ACADEMIC PRESENTATIONS MADE BY THE TRAINEE

Name :

Admission Year:

College:

Date	**Topic**	Type of activity - Specify Seminar, Journal club, Presentation, UG teaching

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LOG BOOK

TABLE 3

DIAGNOSTIC AND OPERATIVE PROCEDURES PERFORMED

Name

Date	*Name*	*OP No.*	*Procedure*	*Category* *O, A, PA, PI*

Key:

O - OBSERVED

A - ASSISTED A MORE SENIOR SURGEON

PA - PERFORMED PROCEDURE UNDER SUPERVISION

PI - PERFORMED INDEPENDENTLY

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APPENDIX 111 - FINAL EXAMINATION ELIGIBILITY FORM

(To be filled up the candidate)

Name of the candidate :

Date of Joining :

Identification number or registration number of university :

Course :

Institution :

Eligibility criteria :

Sl No	Parameter	Details	Proof enclosure
1.	Attendance	1st year (minimum 80%) 2nd year(minimum 80%) 3rd year(minimum 80%)	
2.	Thesis	Approved/Not Approved by the University	
3.	Log book	Successfully completed and submitted	
5.	Conferences attended	Number and category : Number of presentations:	
6.	Publications	Number published: Number submitted:	

All the informations provided above are true to the best of my knowledge and if found contrary, I am clearly aware that strict disciplinary actions will be initiated including debarring from examination.

Date Signature of the candidate :

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Place Name of the candidate :

Countersigned by:

Faculty as guide:

Name:

Designation:

APPROVAL OF HEAD OF THE DEPARTMENT

I , Dr……, herewith approve that the above candidate is eligible to appear for the final examination as per the documentary evidences provided and best of the knowledge and documents of the department.

Date Signature :

Place Name :

Designation :

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REGULATIONS2016

Syllabus

For Courses affiliated to the

Kerala University of Health Sciences

Thrissur 680596

SUPER SPECIALITY COURSE IN MEDICINE

M Ch. Neurosurgery

Course Code 231

(2016-17 admission onwards)

2016

2. COURSE CONTENT

2.1 Title of course:

MCh Neurosurgery

2.2 Objectives of course

Goal

The goal of postgraduate medical education shall be to produce competent specialists and/or Medical teachers.

i. Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy

ii. Who shall have mastered most of the competencies, pertaining to the speciality, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;

iii. Who shall be aware of the contemporary advances and developments in the discipline concerned.

iv. Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology

v. Who shall have acquired the basic skills in teaching , medical and paramedical professionals.

General objectives of Super Speciality training

At the end of the super speciality training in the discipline concerned, the student shall be able to:

i. Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health section.

ii. Practice the speciality concerned ethically and in step with the principles of primary health care.

iii. Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.

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iv. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measure/strategies.

v. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.

vi. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.

vii. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.

viii. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.

ix. Play the assigned role in the implementation of national health programme, effectively and responsibly.

x. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

xi. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

xii. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.

xiii. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.

xiv. Function as an effective leader of a health team engaged in health care, research or training.

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OBJECTIVES- MCh NEUROSURGERY

At the end of the training period for the degree of M.Ch. in Neurosurgery, a candidate should be able give advanced specialist training in the field of Neurosurgical disease and investigations.

2.3 Medium of Instruction

The medium of instruction for the course shall be English.

2.4 Course outline

Present in clause "Content of each subject in each year" of the curriculum.

2.5 Duration

Every candidate seeking admission to the training programme to qualify for the degree of M Ch in the subjects shall pursue a regular course as a full time student, in the concerned Department under the guidance of a recognized super speciality teacher for a period of three years.

2.6 Syllabus

Present in clause "Content of each subject in each year" of the curriculum

The concept of Health Care Counselling shall be incorporated in all relevant areas

2.7 Total number of hours

Present in clause "Content of each subject in each year" of the curriculum

2.8 Branches if any with definition

Not Applicable

2.9 Teaching learning methods

TRAINING PROGRAM

The training program will aim to give the candidate a sound training of neurologic diagnosis and management. During the period of training they shall take part in all the activities of the department including ward rounds, lectures, seminars, teaching assignments, laboratory studies, surgical session and other duties assigned to them by the Head of the Department.

All candidates shall work as full time residents during the period of training.

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The training program shall be updated as and when required. The training shall include:-

a) Active involvement in the diagnosis and management of patients both in the outpatient, casualty, neurosurgery intensive care unit and the wards.

b) Participation in lectures, seminars, journal clubs, clinical group discussions etc.

c) Participation in research work in neurosurgery.

d) Exposure to basic and advanced diagnostic, therapeutic and laboratory techniques.

e) Exposure to biomedical statistics as applicable to basic research methodology

f) Post graduate students shall maintain log books of the work carried out by them. The log books shall be checked and assessed every 6 months by the faculty members, with a view to assure the progress the candidate has made and spot the inadequacies if any.

Out station training

Outstation training may be given if required. It should not exceed 2 months, the duration, center etc: - will be at the discretion of the Head of the department.

Teaching

All M Ch students should take part in the teaching of the post graduate degree students of related subjects, CRRI trainees and paramedical students and allied health science students posted in the department by rotation.

2.10 Content of each subject in each year

1. Clinical Neuroanatomy:

    a) Dissection of whole brain & spinal cord, cranial nerves

    b) Histology of brain and Spinal cord

    c) Peripheral nerves

    d) Spine and skull osteology

    e) NeuroEmbryology

    f) Microneuroanatomy.

2. Clinical Neurophysiology:

    a) Peripheral nerves and muscles

        Receptor

        Nerve functions

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Conductive studies

b) Spinal cord localisation

c) Individual studies of:

Cerebellum

Cerebral lobes

Limbic system

Brain stem

C. S. F.

d) Posture, Tone etc.

3. Clinical Electrophysiology:

Basic priniciples of EEG, EMG, cranial nerve monitoring techniques, intraoperative electrophysiologic monitoring with specific reference to Nerve injuries. Epilepsy with special reference to neurosurgical conditions.

4. Neuropathology

Pathology of Brain Tumours, Histology of all tumours and tumor like conditions, spine and brain infections, congenital anomalies.

Essentials of tumours & histochemistry, gene markers and cytogenetics.

5. Neuroradiology:

Normal skull & spine, changes in skull and spine due to trauma, Space Occupying Lesions, special views.

Contrast studies – Myelography , Pneumoencephalography , Ventriculography Angiography, Isotopic scanning.

Newer diagnostic procedures – C.T. Scan, M.R.I & P.E.T . Scan and latest technological advances in neuroimaging.

6. Clinical Neurology-

Methods of clinical examination, General diagnostic principles, Localisation

With specific reference to function, Principles of Neuroendocrinology & spinal cord Levels and localisation.

7.a) Neruopharmacology and b) Neurobiochemistry

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8. Neuropthalmology and Neurotology

9. Neurosurgery:

Congenital anomalies of C. N. S

Infections of CNS- brain and spine

Pyogenic |

Tuberculous | Meningitis Brain Abscess

Fungal

HIB –AIDS and neurological system

Cerebrovascular Diseases: stroke care and management, Vascular anomalies, aneurysms, Intracerebral hemorrhage.

Neurotraumatology- Head Injuries, spine injuries:

Basic principles in diagnosis and management at various stages- casualty, ICU, operation theatre and Post traumatic sequelae.

Modern trends, Preventive aspects.

Neurocritical care-

Brain Tumours: Localisation, Pathology, Principles in management, Approaches to space occupying lesions, surgical techniques, and surgical approaches, avoidance of complications. (Brain tumors, spine tumors, tumor like conditions, cysts and similar lesions in the cranium)

Skull base surgery

Surgery of spine and Spinal cord – Laminectomy & Disc Surgery

Spinal instrumentation procedures and Spinal fusions

CV junction surgeries

Psychosurgery.

Functional neurosurgery- epilepsy surgery, surgery for movement disorders, pain management and spasticity.

Stereotaxy and Stereotactic neurosurgery- radiosurgery

Peripheral nerve surgeries- trauma, tumors and infections.

Neuronavigation and image guided neurosurgery.

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Radiotherapy and chemotherapy.

Pediatric neurosurgery- hydrocephalus, surgeries for congenital anomalies of brain and spine, In-utero neurosurgical procedures.

Use of operating instruments-Loupe, Operating microscopes, Stereotactic device, CUSA, LASER. Neuroendoscopy, intraoperative ultrasonography, intraoperative neuromonitoring devices.

Neuroanesthesiology with basics in anesthetic instruments, drugs and chemicals, monitoring devices.

Minimally invasive neurosurgery and its applications in various aspects of neurology- Spine and brain surgery, Endoscopy in neurosurgery and its applications, Endovascular interventions.

Brain death, Coma and organ transplantation.

SYLLABUS PRACTICALS

The postgraduate students work as full time residents and will not be allowed private practice. An amount will be provided as stipend every month. They are required to be residents and be 'in service' all 24 hrs, to attend emergency cases. More responsibility would be assigned as they gain more experience and they will responsible for the primary care of the admitted cases, in steps of increasing levels of responsibility.

1 month to be spent in Neuropathology. 1 month to be spent in studying Electrophysiology and neurology which will be guided by the Head of the Neurology. The candidates are to be sent to 2 reputed outstation neuro surgical centres for a period of one month each. The candidates will publish at least one article on an original work in any of the recognised journals, and present papers compulsorily in at least- one national conference or two state conferences during the three year course.

They keep a log book regarding the operative procedures they have done independently and have assisted. They take part in the teaching of M. S. General

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Surgery students, B. Sc/ M.SC Nursing Students, CRRI trainees posted in the Department by rotation. They are encouraged to take part in institutional Research Projects. They must be responsible for proper record keeping of the department, to the satisfaction of the HOD.

Three internal assessments will be conducted.

1st - covering basic sciences neurology (neuro anatomy, Neurosphysiology, neuro pharmacology) in relation to Neurosurgery – at the end of first year

2nd – above + covering investigations – at the end of second year.

3rd - covering full subject – at the end of 3 years.

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

Supervised skill training as part of residency programme.

2.13 Records

Operation notes, case sheet writing, record and register maintenance of OP, IP, and Operation theatre in addition to 2.21

2.14 Dissertation: As per Dissertation Regulations of KUHS

Thesis is an absolute requirement for M Ch course and the candidate has to register the thesis synopsis in the University through proper channel within 6 months of admission. Thesis has to be submitted to the University for Evaluation at least 6 months prior to the conduct of final examination. Modifications and resubmission should be done before writing the examination. Even if the guide is transferred/ retired, the thesis has to be continued under his/her guidance or entrust to another guide in case the original person is not willing to continue. In extra ordinary situations change of guide and change of thesis topic is permissible with prior permission from the University. Only after accepting the thesis, the candidate will be eligible for writing the examination. In addition to this, the student has to present at least one paper/poster in a regional /national / international conference of the concerned speciality during his three year

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course or at least one publication in a peer reviewed journal. Research paper should be approved by the Institutional Review Board/ Institutional Ethical Committee.

Evaluation of Thesis

The thesis shall be evaluated by a minimum of two experts; one internal and one external expert, who shall not be the examiners for the Theory and Clinical examination of the concerned candidates and it may be accepted/ accepted with modifications/rejected. Only on the acceptance of the thesis by two experts out of three, the candidate shall be permitted to appear for the University examination. If the thesis is not accepted on evaluation by at least one expert, it shall be resubmitted with suggested modifications along with prescribed fees within the prescribed time stipulated by the University from time to time and it shall be re-evaluated by the same experts. If thesis is rejected by two experts, the candidate will lose first chance for appearing in the University examination and has to redo a fresh thesis for further evaluation.

2.15 Speciality training if any-

Present in clause 2.10 of the curriculum

2.16 Project work to be done if any

Present in clause 2.10 of the curriculum

2.17 Any other requirements [CME, Paper Publishing etc.]

- Preferably should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
- Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms)

or

- At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

2.18 Prescribed/recommended textbooks for each subject

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1. Youman's Neurological Surgery
2. Wilkin's Rengachary Neurosurgery
3. Schmidek and Sweet operative neurosurgical technique
4. Hand book of Neurosurgery
5. De Jong's Neurological Examinations
6. Paul Brazis Localizations in Clinical Neurology
7. Appuzzo Avoidance of Complications in Neurosurgery
8. Appuzzo Surgery of The third Ventricle
9. Clinical Neuro Anatony Richard S Snell
10. Rhoton Text Book of Microneurosurgery

2.19 Reference books

To be desided by the BoS from time to time.

2.20 Journals

- Journal Of Neurosurgery- AANS, British,
- Journal of spine surgery-AANS
- Neurology India.

2.21 Logbook

A log book is mandatory and has to be maintained by all students and this has to be reviewed by HOD / Unit Chief of the department regularly (6 months interval). Minimum number of each of the academic activities to be performed by the candidate should be outlined for each speciality. Model check list for journal review/seminars/topic presentation/ teaching skill etc: - is shown in the appendix. Periodic formative assessment has also to be done in the department by the super speciality teachers. Log book will be evaluated during the University examination by all the four examiners with a maximum total mark of 20 in the viva component *(Check Lists appended).*

3.EXAMINATIONS

3.1 Eligibility to appear for exams

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

A candidate should appear for all the theory examinations and obtaining a minimum aggregate of 50% marks in theory part and practical part (Practical & Viva) separately shall be mandatory for passing the whole examination.

ELIGIBILITY FOR APPEARING IN FINAL EXAMINATION

i. A minimum of 80% attendance during each year of the course separately.

ii. Successful Submission of completed Logbook.

iii. Submission of Dissertation and its approval by the University.

iv. Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.

v. Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms).

or

At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

vi. The prescribed form (annexure 3) for each candidate should be filled up by concerned department and sent to KUHS for issuing hall ticket for the candidate to appear for the examination. If the candidate fails to meet the criteria, he will not be permitted to appear for the examination.

3.2 Schedule of Regular/Supplementary exams

Generally there shall be two university examinations in a year, one regular and one supplementary examination with a usual gap of six months.

3.3 Scheme of examination showing maximum marks and minimum marks

☆

There shall be theory, practical examination including viva voce at the end of the three year course. Theory examination shall consist of four papers (3 hours duration) including one on recent advances and each paper will carry a maximum of 100 marks. Each question paper shall consist of one essay question of 20 marks and 8 short essays of 10 marks each. There shall be a multiple evaluation of theory papers by two internal examiners and two external examiners and the average mark for each paper is taken as the final marks.

EXAMINATION PATTERN- MCH NEUROSURGERY

UNIVERSITY EXAMINATION includes a written, clinical examinations, and oral examination

Written: Four papers each of three hours duration

1 - Basic Sciences

2 - General Principles and Applied Neurosurgery

3 - Cerebro spinal trauma and peripheral nerve injuries

4 - Recent Advances

Marks- 400 for all the papers together

Clinical examinations

Long case – 1 hour

Short cases -2 cases 15 minutes each to be picked at random.

Ward / ICU rounds and clinical scenario discussion.

Oral examinations (Viva voce)

Neuropathology slides, Neuroradiology specimens, Instruments, pharmacology etc.

3.4 Papers in each year

Not applicable as the course is a residency programme.

3.5 Details of theory exams

Present in clause 2.10

☆

3.6 Model question paper for each subject with question paper pattern

QP Code: **Reg.No.:……**

M.Ch (Neuro Surgery) Degree Examinations

(Model Question Paper)

Paper I – Basic Sciences

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Draw the visual pathway and discuss the field defects at different levels

Short essays: (8x10=80)

2. Prolactinoma
3. Pathophysiology of cerebral oedma
4. Optic nerve glioma
5. Draw a labelled diagram of brachial plexus
6. Harvey cushing
7. Pathogenesis of syringomyelia
8. Mode of actions of antioedema drugs
9. Brain death

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QP Code: **Reg.No.:……**

M.Ch (Neuro Surgery) Degree Examinations

(Model Question Paper)

Paper II – General Principals and Applied Neurosurgery

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Classification and pathology of pineal tumours with surgical approaches

Short essays: (8x10=80)

2. Neurocysticercosis
3. Empty sella syndrome
4. Desmoplastic medulloblastoma
5. Moya moya disease
6. Diabetes insipidus
7. Aetiopathogenesis and classification of ACM
8. Carotico cavernous fistula (CCF)
9. Transcranial Doppler

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QP Code: **Reg.No.:……**

M.Ch (Neuro Surgery) Degree Examinations

(Model Question Paper)

Paper III – Cerebrospinal Trauma and Peripheral Nerve Injuries

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Post traumatic CSF rhinorrhoea – diagnosis, management and complication

Short essays: (8x10=80)

2. Post traumatic epilepsy
3. Odontoid fracture
4. Gama knife in neurosurgery
5. Spiral neurenteric cyst
6. Arachnoid cyst
7. Colloid cyst anterior 3rd ventricle
8. Carotid endarterectomy
9. Stages of brain abscess – Radiology and management

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QP Code: **Reg.No.:……**

M.Ch (Neuro Surgery) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Classification of vascular malformation of CNS. Discuss various treatment options.

Short essays: (8x10=80)

2. Magnetic response spectroscopy(MRS)
3. Neuro navigation
4. Cervical disc replacements
5. Tumour markers in brain tumour
6. Cerebral salt wasting syndrome
7. Cerebral revascularization
8. Simpson grading of meningioma excision. Modern principles to know assessment of recurrences
9. DBS in Parkinson disease

****

3.7 Internal assessment component

Not applicable.

3.8 Details of practical/clinical practical exams

Practical/Clinical examination shall consist of:

i. 1 long case – 100 marks
ii. 2 short cases – 80 marks each = 160 marks

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iii. Ward rounds – 40 marks
iv. Viva voce – 80 marks

v. Log book -20

Total Marks Practicals & Viva Voce - 400

Long case discussion may take a maximum of 1 hr, short cases (total cases 2) - maximum 1 hr, ward rounds – maximum 30 minutes and Viva voce maximum of 1 hr. Maximum number of candidates that can be examined per day may be restricted to 3.

3.9 Number of examiners needed (Internal & External) and their qualifications

Examiners

1. All Examiners shall be a recognised super speciality teacher as per MCI norms. There shall be two internal examiners (from affiliated colleges of KUHS) and two external examiners (exclusively from outside the state). In departments where there are more than 2 professors, the head of the department preferably be a constant member of the board of examiners, and the other professors shall be posted as internal examiners on rotation basis.

2. Under exceptional circumstances, examinations may be held with 3 (three) examiners provided at least two of them are external examiners subject to the ratification of the pass board.

3. In the event of there being more than one centre in one city, the external examiners at all the centres in that city shall be the same. Where there is more than one centre of examination, the University shall appoint a Co-ordinator/Convenor to coordinate the examination on its behalf.

3.10 Details of viva

Viva Voce : **80 marks**

Viva –to include specimens, imaging, instruments, drugs and other equipments routinely used.

4.INTERNSHIP

4.1 Eligibility for internship

Not applicable for Medical Superspecality degree courses.

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4.2 Details of internship

Not applicable for Medical Superspecality degree courses.

4.3 Model of Internship Mark lists

Not applicable for Medical Superspecality degree courses.

4.4 Extension rules

As per the existing KUHS rules.

4.5 Details of Training given

Not applicable for Medical Superspecality degree courses.

5.ANNEXURES

5.1 Check Lists for Monitoring: Log Book, Seminar Assessment etc.

ANNEXURE - 1

CHECK LIST 1 - EVALUATION OF CLINICAL WORK

Name of the Trainee: Date:

Name of the Faculty:

Sl. No.	**Items for observation during evaluation**	*Poor* *0*	*Below Average* *1*	*Average* *2*	*Good* *3*	*Very Good* *4*
1.	*Regularity of attendance*					
2.	*Punctuality*					
3.	*Interaction with colleagues and supportive staff*					

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4.	*Maintenance of case records*					
5.	*Presentation of cases*					
6.	*Investigations work -up*					
7.	*Bed - side manners*					
8.	*Rapport with patients*					
9.	*Counseling patients relatives for interventional procedures*					
10.	*Overall quality of clinical work*					
	Total score					

ANNEXURE - 2

CHECK LIST 2 EVALUATION OF CLINICAL CASE PRESENTATION

Name of the Trainee: *Date:*

Name of the faculty:

Sl. No	**Items for observation during presentation**	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	**Completeness of history**					
2.	**Whether all relevant points**					

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	elicited					
3.	**Clarity of presentation**					
4.	**Logical order**					
5.	**Mentioned all positive and negative points of importance**					
6.	**Accuracy of general physical examination**					
7.	**Whether all physical signs elicited correctly**					
8.	**Diagnosis: whether it follows logically**					
9.	**Investigations required** **In Relevant order**					
10	**Interpretation of Investigations**					
11	**Ability to discuss differential diagnosis.**					
12	**Discussion on management**					
	Grand Total					

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ANNEXURE 3

CHECK LIST 3

EVALUATION OF SEMINAR PESENTATION

Name of the Trainee: Date:

Name of the Faculty:

Sl no	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1	***Whether other relevant publications consulted***					
2	***Whether cross - references have been consulted***					
3	***Completeness of Preparation***					
4	***Clarity of Presentation***					
5	***Understanding of subject***					
6	***Ability to answer the questions***					
7	***Time scheduling***					
8	***Appropriate use of Audio - Visual aids***					

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9	***Overall performance***					
10	***Any other observation***					
	Total score					

ANNEXURE - 4

CHECK LIST 4

EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Trainee: **D a t e :**

Name of the Faculty:

Sl. No	**Items for observation during presentation**	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Article chosen*					
2.	*Extent of understanding of scope & objectives of the paper by the candidate*					
3.	*Whether cross-references have been consulted*					
4.	*Whether other relevant publications consulted*					
5.	*Ability to respond to questions on the paper/ subject*					
6.	*Audio - Visual aids used*					
7.	*Ability to discuss the paper*					

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8.	*Clarity of presentation*					
9.	*Any other observation*					
	Total Score					

ANNEXURE - 5

CHECK LIST 5

EVALUATION OF TEACHING SKILL

Name of the Trainee: **Date:**

Name of the faculty:

Sl. No.	**Items for observation**	**Strong Points**	**Weak Points**
1.	*Communication of the purpose of the talk*		
2.	*Evokes audience interest in the subject*		
3.	*The introduction*		
4.	*The sequence of ideas*		
5.	*The use of practical examples and / or illustrations*		
6.	*Speaking style (enjoyable, monotonous, etc. Specify)*		
7.	*Attempts audience participation*		
8.	*Summary of the main points at the end*		
9.	*Ask questions*		
10.	*Answer questions asked by the audience*		

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11.	*Rapport of speaker with his audience*		
12.	*Effectiveness of the talk*		
13.	*Uses AV aids appropriately*		

ANNEXURE - 6

CHECK LIST 6

EVALUATION OF DISSERTATION PRESENTATION

Name of the Trainee: Date:

Name of the faculty / Observer:

Sl.No	**Points to be considered**	**Poor** *0*	*Below Average* *1*	*Average* *2*	*Good* *3*	*Very Good* *4*
1.	*Interest shown in selecting topic*					
2.	*Appropriate review*					
3.	*Discussion with guide and other faculty*					
4.	*Quality of protocol*					
5.	*Preparation of Proforma*					
	Total Score					

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ANNEXURE - 7

CHECK LIST 7

CONTINUOUS EVALUATION OF DISSERTATION WORK

Name of the Trainee: **Date**

Name of the Faculty:

Sl. No.	**Items for observation during presentation**	**Poor**	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Periodic consultation with guide / co- guide*					
2.	*Regular collection of case material*					
3.	*Depth of Analysis / Discussion*					
4.	*Department presentation of findings*					
5.	*Quality of final output*					
6.	*Others*					
	Total score					

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ANNEXURE - 8

CHECK LIST 8

OVERALL ASSESSMENT SHEET

Name of the College: Date:

Check list no	***Particulars***	***0***	***1***	***2***	***3***	***4***
1	***Clinica lwork***					
2	***Clinical presentation***					
3	***Seminars***					
4	***Journal review***					
5	***Teaching skill***					
6	***Dissertation work***					
	TOTAL					

0- Poor 1- Below average 2- Average 3- Good 4- Very good

Signature of HOD Signature of Principal

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ANNEXURE - 9

TABLE 1

ACADEMIC ACTIVITIES ATTENDED

Name:

Admission Year: **College:**

Date	**Type of activity - Specify Seminar, Journal club, Presentation, UG teaching**	**Particulars**

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LOG BOOK

TABLE 2

ACADEMIC PRESENTATIONS MADE BY THE TRAINEE

Name :

Admission Year:

College:

Date	**Topic**	Type of activity - Specify Seminar, Journal club, Presentation, UG teaching

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LOG BOOK

TABLE 3

DIAGNOSTIC AND OPERATIVE PROCEDURES PERFORMED

Name

Date	*Name*	*OP No.*	*Procedure*	*Category* *O, A, PA, PI*
		!		

Key:

O - OBSERVED

A - ASSISTED A MORE SENIOR SURGEON

PA - PERFORMED PROCEDURE UNDER SUPERVISION

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PI - PERFORMED INDEPENDENTLY

APPENDIX 111 - FINAL EXAMINATION ELIGIBILITY FORM

(To be filled up the candidate)

Name of the candidate :

Date of Joining :

Identification number or registration number of university :

Course :

Institution :

Eligibility criteria :

Sl No	Parameter	Details	Proof enclosure
1.	Attendance	1st year (minimum 80%) 2nd year(minimum 80%) 3rd year(minimum 80%)	
2.	Thesis	Approved/Not Approved by the University	
3.	Log book	Successfully completed and submitted	
5.	Conferences attended	Number and category : Number of presentations:	
6.	Publications	Number published: Number submitted:	

All the informations provided above are true to the best of my knowledge and if found contrary, I

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am clearly aware that strict disciplinary actions will be initiated including debarring from examination.

Date Signature of the candidate :

Place Name of the candidate :

Countersigned by:

Faculty as guide:

Name:

Designation:

APPROVAL OF HEAD OF THE DEPARTMENT

I , Dr……, herewith approve that the above candidate is eligible to appear for the final examination as per the documentary evidences provided and best of the knowledge and documents of the department.

Date Signature :

Place Name :

Designation :

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REGULATIONS2016

Syllabus

For Courses affiliated to the

Kerala University of Health Sciences

Thrissur 680596

SUPER SPECIALITY COURSE IN MEDICINE

M Ch.Paediatric Surgery

Course Code 232

(2016-17 admission onwards)

2016

2. COURSE CONTENT

2.1 Title of course:

M Ch Paediatric Surgery

2.2 Objectives of course

Instructional goals

At the end of the training the candidate should have acquired knowledge, abilities and attitudes to be able to function as a pediatric surgeon in a teaching/non teaching hospital with confidence and competence to diagnose and manage surgical conditions of infancy and childhood. He/She would also have acquired skills to identify, plan and carry out surgical treatment and the ability to transfer knowledge and skills of his specialty and thus fulfill the function of a teacher.

Instructional objectives

At the end of the course the student should have acquired:

i) A broad understanding of the principles of basic sciences related to Paediatric Surgery.

ii) Ability and skills to perform and interpret investigative procedures relating to Paediatric Surgery.

iii) Skills in the clinical diagnosis and management, with capabilities to take independent decisions in emergency situations, perform major paediatric surgical operation and guide postoperative treatment and manage complications, thereof.

iv) Competence in intensive care of newborn infants before and after surgery with practical knowledge of working with resuscitative and monitoring equipments.

v) Ability of self learning critically appraise published literature, interpret data and to broaden his knowledge by keeping abreast with modern developments in Paediatric Surgery.

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vi) Ability to identify, outline and initiate research projects relating to his specialty and draw relevant/ pertinent scientific conclusions.

- Ability to search online, use information technology to his advantage, and critically evaluate medical literature and draw own conclusion.
- Ability to impart instructions and transfer knowledge and skills to postgraduates and undergraduate and nursing students in the basic management of surgical diseases of infancy and childhood.
- Necessary knowledge of basic pediatric health care and principles of management of common ailments of childhood related to Paediatric Surgery
- Keep abreast of Government's latest policies and procedures as related to health care.

2.3 Medium of instruction:

The medium of instruction for the course shall be English.

2.4 Course outline

As given under clause 2.10 of the curriculum.

2.5 Duration

Every candidate seeking admission to the training programme to qualify for the degree of M Ch in the subjects shall pursue a regular course as a full time student, in the concerned Department under the guidance of a recognized super speciality teacher for a period of three years. The course commences from 1st August in each year.

2.6 Syllabus

As given under clause 2.10 of the curriculum.

The concept of Health Care Counselling shall be incorporated in all relevant areas

2.7 Total number of hours

As given under clause 2.10 of the curriculum.

2.8 Branches if any with definition

As given under clause 10 of the curriculum.

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2.9 Teaching learning methods

TRAINING PROGRAM

The training program will aim to give the candidate a sound training of diagnosis and management. During the period of training they shall take part in all the activities of the department including ward rounds, lectures, seminars, teaching assignments, laboratory studies, surgical session and other duties assigned to them by the Head of the Department.

All candidates shall work as full time residents during the period of training.

The training program shall be updated as and when required. The training shall include:-

a) Active involvement in the diagnosis and management of patients both in the outpatient, intensive care unit and the wards.

b) Participation in lectures, seminars, journal clubs, clinical group discussions etc.

c) Participation in research work in pediatric surgery.

d) Exposure to basic and advanced diagnostic, therapeutic, laboratory and surgical techniques.

e) Exposure to biomedical statistics as applicable to basic research methodology

f) Post graduate students shall maintain log books of the work carried out by them. The log books shall be checked and assessed every 6 months by the faculty members, with a view to assure the progress the candidate has made and spot the inadequacies if any.

Out station training

Outstation training may be given if required. It should not exceed 2 months, the duration, center etc: - will be at the discretion of the Head of the department.

Teaching

All M Ch students should take part in the teaching of the post graduate degree students of related subjects, undergraduate medical students and paramedical students and allied health science students posted in the department by rotation.

Educational methods Lectures

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Teaching experience	Demonstrations
Case discussions Journal clubs Seminars	
Research methods	Projects leading to the degree - Clinical - Experimental - laboratory based - Other projects
Clinical case studies Epidemiologic studies Statistical methods	Literature search, Critical evaluation of published material
Assessment/evaluation of performance	Day to day performance Academic exercises work Outpatient/special clinics Operation theatre End term assessments Final examination
Attitudes	- Punctuality -Behaviour -Keenness -Motivation and initiative - Reliability

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- Aptitude for research

2.10 Content of each subject in each year

I. General knowledge of basic medical sciences as applied to Paediatric Surgery:

Developmental Anatomy and physiology.

Applied and regional anatomy.

Physiology as applied to children.

Neonatal physiology, metabolism and pathology.

General pathology-with special emphasis on paediatric surgical conditions.

Pharmacokinetics in paediatrics and neonates.

Biochemical and metabolic considerations as related to paediatric surgery.

Foetal anatomy physiology and pathology.

II. Growth & Development as related to paediatric surgery.

III. Genetics as applied to Pediatric surgery: parent counseling.

IV. Knowledge of common Paediatric medical conditions and their treatment.

V. Neonatal surgery.

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VI. Management of congenital malformations as related to paediatric surgery.

VII. Organization of intensive care unit, referral & transfer services.

VIII. Specialized investigative procedure: Principle, technique and interpretation of results.

IX. Pathology of surgical conditions of childhood and broad knowledge of microscopic appearances.

X. Systemic and Regional paediatric surgery. Including Paediatric Urology, Plastic Surgery, Thoracic Surgery and principles of management of common congenital neurosurgical problems relevant to Paediatric Surgery practice

XI. Paediatric operative surgery.

XII. Trauma in children-including burns. Initial management of Trauma and management of chest and abdominal trauma.

XIII. Malignancy in childhood –Solid organ tumors except intracranial, spinal and bone tumors. Surgical management and basic knowledge of chemotherapy and radiation therapy.

XIV. Recent advances like tissue engineering and gene therapy as relevant to as related to paediatric surgery

XV. Principles of solid organ transplantion excluding heart.

There are some items common to the teaching of Pediatrics and can be jointly taken up. Similarly rotation through Paediatric, Newborn ICU and genetics may be planned. (optional).

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CURRICULUM FOR M Ch COURSE IN PAEDIATRIC SURGERY

The list below is only a guideline and not comprehensive.

All candidates admitted to M Ch course in paediatric surgery should be proficient in the following areas at the end of the training period.

A. Basic Sciences (relevant to Pediatric Surgery)

Ethics

Molecular biology

Genetics

Embryology Growth & Development

Fetal medicine (diagnosis and management of surgically correctable lesions)

Physiology as applicable to paediatric surgery (including neonatal physiology, Monitoring, acid-base etc.)

Respiratory physiology (including ventilatory support)

Metabolism and nutrition (including principles and practice of parenteral nutrition) Hematology (including coagulation defects and transfusion medicine)

B. Training of surgery

B (I). Neonatal Surgery

Special Anatomy and Physiology as applicable to fetus and newborn

- Surgical technique
- Pre and post operative management
- Ventilatory/respiratory care

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- Monitoring
- Investigative Procedures

B (II). General Paediatric Surgery

Wound healing Infections and sepsis Organ transplantation

Anesthesia (including pain relief)

Trauma (including burns)

Head and neck (excluding ophthalmic, neuro surgical and otorhinolaryngologic disorders)

Abdomen

Umbilicus Abdominal Wall defects

Hernia

Testis

Vascular Malformations

Hemangioma

Lymphangiomas

Peripheral arterio-venous disorders

Soft Tissue Lesions

Conjoined Twinning

Oncology excluding intra cranial and bone tumors.

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B (III). Imaging Techniques

Knowledge of principles of various imaging techniques and their application in Paediatric Surgery like ultrasound, conventional and specialized Radiology, CT and MRI and Nuclear scans. Basic knowledge of radiation biology.

B (IV). Genitourinary Tract

Anatomy and physiology Congenital anomalies

Kidney

Ureter Bladder

Urethra

Genitalia

Obstructive uropathy

Vesicoureteral reflux,

Megaureter

Urinary tract infections

Urolithiasis

Renal vein thrombosis, renovascular hypertension

Urinary diversion and undiversion, bladder augmentation

Functional disorders of bladder

Hypospadias and epispadias extrophy complex

Other disorders of urethra, penis and scrotum

Ambiguous genitalia and disorders of sexual differentiation

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Inguinoscrotal anomalies

Endoscopy, laparoscopy, Urodynamic studies

B (V). Gastrointestinal, Pancreatic, Hepatobiliary

Anatomy and physiology

Congenital anomalies

Esophagus

Stomach

Smallbowel

Largebowel

Anorectum

Liver and biliary tree

Pancreas

Spleen

Oesophagus

Oesophageal burns, strictures, replacement

Oesophageal manometry and pH studies

Gastro esophageal reflux

Meconium ileus

Disorders of rotation and fixation

Intestinal obstruction due to various causes

GI Bleeding

Ascites

Necrotising enterocolitis

Short Bowel syndrome

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Inflammatory bowel

disease

Peritonitis and other infections

Tumors

Gastrointestinal

Hepato-biliary

Pancreatic

Portal Hypertension

Anorectal manometry

Endoscopy and Laparoscopy and its applications.

B (VI). Thoracic

Anatomy and Physiology

Chest wall deformities

Tumors

Aero-digestive tract- Foreign bodies

Infection of lung and pleura

Congenital Malformation

Breast

Chest wall

Diaphragm

Mediastinum

Lungs and pleura

Aero-Digestive tract

Thoracoscopy and endoscopy

B (VII). Surgical staplers & Endoscopy

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B (VIII). Plastic Surgery

Principles, anatomy (relevant)

Burns management and sequel

Cleft lip and Palate,

Choanal Atresia Syndactyly

Skin graft, z-plasty

B (IX). Neurosurgery

Basic knowledge of Anatomy and physiology of brain, CSF pathways and spine

B (X). Oncologic Surgery

Physiologic effects mode of actions, synergism of chemotherapy

- Biopsies
- Curative/palliative resections

Use of energy devices (CUSA, Lasers, Vessel Sealing Devices etc)

Basic principles and safety measures of use of surgical instruments and equipments.

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

As given in clause 2.10 of the curriculum. Practical training in surgical techniques can depend on the availability of cases in the department.

2.13 Records

As given in clause2. 21.

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2.14 Dissertation: As per Dissertation Regulations of KUHS

Thesis is an absolute requirement for M Ch course and the candidate has to register the thesis synopsis in the University through proper channel within 6 months of admission. Thesis has to be submitted to the University for Evaluation at least 6 months prior to the conduct of final examination. Modifications and resubmission should be done before writing the examination. Even if the guide is transferred/ retired, the thesis has to be continued under his/her guidance or entrust to another guide in case the original person is not willing to continue. In extra ordinary situations change of guide and change of thesis topic is permissible with prior permission from the University. Only after accepting the thesis, the candidate will be eligible for writing the examination. In addition to this, the student has to present at least one paper/poster in a regional /national / international conference of the concerned speciality during his three year course or at least one publication in a peer reviewed journal. Research paper should be approved by the Institutional Review Board/ Institutional Ethical Committee.

Evaluation of Thesis

The thesis shall be evaluated by a minimum of three experts; one internal and two external experts, who shall not be the examiners for the Theory and Clinical examination of the concerned candidates and it may be accepted/ accepted with modifications/rejected. Only on the acceptance of the thesis by two experts out of three, the candidate shall be permitted to appear for the University examination. If the thesis is not accepted on evaluation by at least two experts, it shall be resubmitted with suggested modifications along with prescribed fees within the prescribed time stipulated by the University from time to time and it shall be re-evaluated by the same experts. If thesis is rejected once again by two experts, the candidate will lose first chance for appearing in the University examination and has to redo a fresh thesis for further evaluation.

2.15 Speciality training if any

As given in clause 2.10 of the curriculum.

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2.16 Project work to be done if any

As stipulated by the Head of the Department.

2.17 Any other requirements [CME, Paper Publishing etc.]

- Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
- Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms)

or

- At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

2.18 Prescribed/recommended textbooks for each subject

1. Pediatric surgery by Arnold C Coran Etal

2. The Kelalis-King-Belman Clinical Pediatric Urology by Steven G Docimo

3. Newborn surgery by Prem Puri

4. Text book of paediatric surgery by Ashcraft

5. Paediatric Urology by Gerhart

6. Operative paediatric Surgery by Spitz

7. Atlas of Paediatric laparoscopy and thoracoscopy

8. Paediatric Sugery by D K Gupta

2.19 Reference books

1. Anorectal malformations in children by A. M. Holschneider, J M Hutson

2. Hirschprung's disease and allied disorders by Alexander M Holschneider

3. Langman's medical embryology by T W Sadler

4. Pediatric Thoracic Surgery by Dakshesh

5. Pediatric Neurogenic Bladder dysfunction Ciro Esposito

6. The sugery of childhood tumors by Robert Corachi

7. Essential of Pediatric Endoscopic Surgery A K Saxena

8. Surgical treatment of Colorectal problems in children by A Pena

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9. Hinman paediatric urology

10. Campbell Walsh Urology

11. Any other book decided by the Department where the student is trained

2.20 Journals

- Journal of Paediatric Surgery
- Journal of Paediatric Urology
- Seminars in Paediatric Surgery
- Journal of Indian Association of Paediatric Surgery.
- Paediatric Surgery international

2.21 Logbook

A log book is mandatory and has to be maintained by all students and this has to be reviewed by HOD / Unit Chief of the department regularly (at least quarterly). Minimum number of each of the academic activities to be performed by the candidate should be outlined for each speciality. Model check list for journal review/seminars/topic presentation/ teaching skill etc: - is shown in the appendix. Periodic formative assessment has also to be done in the department by the super speciality teachers. Log book will be evaluated during the University examination by all the four examiners with a maximum total mark of 20 in the viva component (Check Lists appended).

3. EXAMINATIONS

3.1 Eligibility to appear for exams

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

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A candidate should appear for all the theory examinations and obtaining a minimum aggregate of 50% marks in theory part and practical part (Practical & Viva) separately shall be mandatory for passing the whole examination.

ELIGIBILITY FOR APPEARING IN FINAL EXAMINATION

i. A minimum of 80% attendance during each year of the course separately.

ii. Successful Submission of completed Logbook.

iii. Submission of Dissertation and its approval by the University.

iv. Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.

v. Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms).

or

At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

vi. The prescribed form (annexure 3) for each candidate should be filled up by concerned department and sent to KUHS for issuing hall ticket for the candidate to appear for the examination. If the candidate fails to meet the criteria, he will not be permitted to appear for the examination.

3.2 Schedule of Regular/Supplementary exams

Generally there shall be two university examinations in a year, one regular and one supplementary examination with a usual gap of six months.

3.3 Scheme of examination showing maximum marks and minimum marks

There shall be theory, practical examination including viva voce at the end of the three year course. Theory examination shall consist of four papers (3 hours duration) including one on recent advances and each paper will carry a maximum of 100 marks. Each question paper shall consist of one essay question of 20 marks and 8 short essays of 10

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marks each. There shall be a multiple evaluation of theory papers by two internal examiners and two external examiners and the average mark for each paper is taken as the final marks.

3.4 Papers for theory Examination

Paper - I Basic Medical Sciences relevant to Paediatric Surgery	- 100
Paper-II Practice of General Paediatric surgery	- 100
Paper-III Practice of subspecialities of Paediatric surgery	- 100
Paper-IV Recent advances in Paediatric surgery	- 100

3.5 Details of theory exams

Duration: Three hours each

As given under 3.3 and 3.4

3.6 Model question paper for each subject with question paper pattern

QP Code: **Reg.No.:……**

M.Ch (Paediatric Surgery) Degree Examinations

(Model Question Paper)

Paper I – Basic Medical Sciences Relevant to Paediatric Surgery

Time: 3 hrs **Max marks:100**

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: **(20)**

1. Discuss the anatomy of Pelvic floor in relation to anorectal malformation in children

Short essays: **(8x10=80)**

2. Mechanism of testicular descend in the embryo

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3. Physiology of CSF production and circulation

4. Steroid metabolism in relation to disorders of sexual development

5. Pharmacotherapy in congenital diaphragmatic hernia

6. Histopathology in hirschsprungs disease

7. Pain management in children

8. Vascular access in children

9. William E. Ladd

QP Code: **Reg. No.:……**

M.Ch (Paediatric Surgery) Degree Examinations

(Model Question Paper)

Paper II – Practice of General Paediatric Surgery

Time: 3 hrs **Max marks:100**

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: **(20)**

1. Discuss the etiopathogenesis, clinical features, investigations ,and management of Intussusception In children

Short essays: **(8x10=80)**

2. Congenital inguinal hernia

3. Primary peritonitis

4. Paediatric trauma score

5. Duodenal “Wind sock”

6. Foreign body bronchus

7. Barotrauma

8. Torsion testis

9. Management of 30% burns in children

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QP Code: **Reg.No.:……**

M.Ch (Paediatric Surgery) Degree Examinations

(Model Question Paper)

Paper III – Practice of superspecialities of paediatric surgery

Time: 3 hrs **Max marks:100**

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: **(20)**

1. Discuss the classification, clinical feature, investigation and management of vesico ureteric reflux in children.

Short essays: **(8x10=80)**

2. Meningomyelocele
3. Management of CTEV
4. Craniofacial anomalies
5. Sacro coccygeal teratoma
6. Zueler –Wilson syndrome
7. Gastroschisis
8. Antenatally detected hydronephrosis
9. Congenital lobar emphysema

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QP Code: **Reg.No.:……**

M.Ch (Paediatric Surgery) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances in paediatric surgery

Time: 3 hrs **Max marks:100**

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: **(20)**

1. Discuss the recent advances in genetics regarding Wilms tumour

Short essays:

(8x10=80)

2. ECMO
3. Foetal surgery
4. VATS in paediatric surgery
5. Role of Nitric oxide in paediatric surgery
6. Robotic surgery
7. Lipoprotein X
8. Scope of Stem cell therapy in paediatric surgery
9. Surgical management of HIV positive children

3.7 Internal assessment component

Not applicable.

3.8 **Details of practical/clinical exams**

Practical/Clinical examination shall consist of:

i. 1 long case – 100 marks

ii. 2 short cases – 80 marks each = 160 marks

iii. Ward rounds – 40 marks

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iv. Viva voce – 80 marks

v. Log book – 20 marks

Total Marks Practicals & Viva Voce - 400

Long case discussion may take a maximum of 1 hr, short cases (total cases 2) - maximum 1 hr, ward rounds – maximum 30 minutes and Viva voce maximum of 1 hr. Maximum number of candidates that can be examined per day may be restricted to 3.

3.9 Number of examiners needed (Internal & External) and their qualifications

Examiners

1. All Examiners shall be a recognised super speciality teacher as per MCI norms. There shall be two internal examiners (from affiliated colleges of KUHS) and two external examiners (exclusively from outside the state). In departments where there are more than 2 professors, the head of the department preferably be a constant member of the board of examiners, and the other professors shall be posted as internal examiners on rotation basis.

2. Under exceptional circumstances, examinations may be held with 3 (three) examiners provided at least two of them is an external examiner subject to the ratification of the pass board.

3. In the event of there being more than one centre in one city, the external examiners at all the centres in that city shall be the same. Where there is more than one centre of examination, the University shall appoint a Co-ordinator/Convenor to coordinate the examination on its behalf.

3.10 Details of viva:

Viva Voce : **80 marks**

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4.INTERNSHIP

4.1 Eligibility for internship

Not applicable for Medical Superspecality degree courses.

4.2 Details of internship

Not applicable for Medical Superspecality degree courses.

4.3 Model of Internship Mark lists

Not applicable for Medical Superspecality degree courses.

4.4 Extension rules

As per the existing KUHS rules

4.5 Details of Training given

Not applicable for Medical Superspecality degree courses.

5.ANNEXURES

5.1 Check Lists for Monitoring : Log Book , Seminar Assessment etc. to be formulated by the curriculum committee of the concerend Institution

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REGULATIONS2016

SYLLABUS

For Courses affiliated to the

Kerala University of Health Sciences

Thrissur 680596

SUPER SPECIALITY COURSE IN MEDICINE

M Ch.Plastic and Reconstructive Surgery

Course Code 233

(2016-17 admission onwards)

2016

2. COURSE CONTENT

2.1 Title of course:

M Ch Plastic and Reconstructive Surgery

2.2 Objectives of course

Goal

The goal of postgraduate medical education shall be to produce competent specialists and/or Medical teachers.

i. Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy

ii. Who shall have mastered most of the competencies, pertaining to the speciality, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;

iii. Who shall be aware of the contemporary advances and developments in the discipline concerned.

iv. Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology

v. Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

General objectives of Super Speciality training

At the end of the super speciality training in the discipline concerned, the student shall be able to:

i. Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health section.

ii. Practice the speciality concerned ethically and in step with the principles of primary health care.

iii. Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.

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iv. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measure/strategies.

v. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.

vi. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.

vii. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.

viii. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.

ix. Play the assigned role in the implementation of national health programme, effectively and responsibly.

x. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

xi. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

xii. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.

xiii. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.

xiv. Function as an effective leader of a health team engaged in health care, research or training.

2.3 Medium of instruction:

The medium of instruction for the course shall be English.

2.4 Course outline

As given under clause 2.10 of the curriculum.

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2.5 Duration

Every candidate seeking admission to the training programme to qualify for the degree of M Ch in the subjects shall pursue a regular course as a full time student, in the concerned Department under the guidance of a recognized super speciality teacher for a period of three years. The course commences from 1st August in each year.

2.6 Syllabus

As given under clause "Content of each subject in each year" of the curriculum.

2.7 Total number of hours

As given under clause "Content of each subject in each year" of the curriculum.

The concept of Health Care Counselling shall be incorporated in all relevant areas

2.8 Branches if any with definition

As given under clause "Content of each subject in each year" of the curriculum.

2.9 Teaching learning methods

TRAINING PROGRAM

The training program will aim to give the candidate a sound training of cardiac diagnosis and management. During the period of training they shall take part in all the activities of the department including ward rounds, lectures, seminars, teaching assignments, laboratory studies, surgical session and other duties assigned to them by the Head of the Department.

All candidates shall work as full time residents during the period of training.

The training program shall be updated as and when required. The training shall include:-

a) Active involvement in the diagnosis and management of patients both in the outpatient, coronary care unit and the wards.

b) Participation in lectures, seminars, journal clubs, clinical group discussions etc.

c) Participation in research work in cardiology.

d) Exposure to basic and advanced diagnostic, therapeutic and laboratory techniques.

e) Exposure to biomedical statistics as applicable to basic research methodology

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f) Post graduate students shall maintain log books of the work carried out by them. The log books shall be checked and assessed every 6 months by the faculty members, with a view to assure the progress the candidate has made and spot the inadequacies if any.

Out station training

Outstation training may be given if required. It should not exceed 2 months, the duration, center etc: - will be at the discretion of the Head of the department.

Teaching

All M Ch students should take part in the teaching of the post graduate degree students of related subjects, undergraduate medical students and paramedical students and allied health science students posted in the department by rotation.

2.10 Content of each subject in each year

Basic Science

1. Embryology and development of human tissues
2. Genetics and congenital abnormalities
3. Mechanism of healing of tissues, factors affecting the healing
4. Infection and its management
5. General principles of Surgery
6. The suture materials and suture techniques
7. Clinical examination of various systems and clinical photography
8. General anesthesia pre and post-operative care for general anesthesia
9. Local, regional and other nerve blocks
10. Hypotensive and hypothermic anesthesia
11. Management of benign and malignant lesions of skin.
12. Wound healing, wound care, dressings and splints
13. Fluid and electrolyte balance, acid base balance
14. Shock and pulmonary failure, blood transfusions, ventilatory support and critical care

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15. Assessment of trauma, vascular emergencies embolism

General Topics

1. History of Plastic Surgery
2. Scope of Plastic Surgery
3. Tissue distortion, tissue loss and its management
4. Tissue culture, Transplantation biology and its applications
5. Plastic Surgery instruments and equipments
6. Maintenance of medical records, informed consent
7. Applications of computer and related programs
8. Social psychological, ethical and medico legal aspects communication skills
9. Implants, orthotics and prosthesis and applied to Plastic Surgery
10. Tissue expansion and tissue distraction
11. Management of Leprosy, leprosy deformities and leprosy reconstructive surgery
12. Endoscopic Plastic Surgery
13. Advances, recent advances and current trends in Plastic Surgery
14. Principles of surgical audit, understanding journal and review articles, text books and reference books, critical assessment of articles
15. Research methodology and biostatistics
16. Arteriovenous malformations, varicose veins, chronic venous insufficiency
17. Meningomyelocoele, encephalocoele, spinal fusion defects, ventral defects, anorectal anomalies

Principal aspects of Plastic Surgery

Skin

1. Anatomy and functions of skin
2. Diseases and other conditions affecting skin
3. Skin grafts, its take and behavior

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4. Scars, unstable scars and scar contracture

5. Hypertrophic scars and Keloids

6. Vascular territories

7. Flaps, anatomy and physiology, classification and applications

8. Pedicled skin flaps and tube pedicle

Head and Neck

1. Embryology, anatomy, growth and development of face and facial skeleton

2. Structure and development of teeth

3. Temporomandibular joint and its dysfunction

4. Fractures of facial skeleton, management, sequel and subsequent surgery

5. Reconstruction of ear, eyelid, lip, nose, cheek and soft tissues of face

6. Congenital deformities of face and syndromes

7. Cleft lip and palate, embryogenesis, management, orthodontics, velopharyngeal incompetence and speech therapy

8. Craniofacial abnormalities, clefts, syndromes, microsomia, synostosis and hypertelorism Ptosis of eyelids

9. Facial Paralysis

10. Orthognathic surgery

11. Surgery of neck associated with congenital and acquired deformities

12. Rhinoplasty – corrective, aesthetic and reconstructive

13. Benign and malignant lesions and tumors of head and neck, tumor biology, management including chemotherapy, adjuvant therapy and radiotherapy

14. Reconstruction of mandible, maxilla and other bony defects

15. Prosthetic rehabilitation

16. Reconstruction of upper aerodigestive system

Trunk

1. Congenital and acquired defects of thorax and abdomen and its reconstruction

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2. Decubitus ulcers and its management

3. Breast, anatomy, physiology, growth, development hormone influence, abnormalities, diseases, surgery and reconstruction, Gynecomastia

4. Reconstruction of full thickness defects of thorax and abdomen

Lower extremity

1. Anatomy and biomechanics of locomotor system

2. Functional anatomy of foot

3. Congenital and acquired deformities of lower extremity

4. Management of tissue defects following trauma

5. Lymphedema

Genitourinary

1. Embryology and anatomy of the male and female genitourinary system and genitalia, undescended testis

2. Hypospadias, epispadias and ectopia vesicae, urinary diversion

3. Reconstruction of external genitalia

4. Vaginoplasty

5. Intersex

6. Infertility, vasectomy, tuboplasty, reconstruction

Hand

1. Embryology and anatomy of hand and upper extremity

2. Clinical examination of hand and general principles of hand surgery

3. Acute hand injuries

4. Tendon injuries

5. Nerve injuries

6. Brachial plexus injuries

7. Fractures and dislocations of hand

8. Injuries and disorders of nail

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9. Electro diagnostic tests

10. Ischemic conditions and vasospastic disorders

11. Nerve compression syndromes

12. Surgery of spastic and tetraplegic hand

13. Infections and diseases of hand and its management

14. Congenital abnormalities of hand and its management

15. Tendon transfers

16. Lymphoedema

17. Benign and malignant tumors of hand

18. Rehabilitation of hand, physiotherapy, occupation therapy, splintage and prosthesis

19. Rheumatoid arthritis

20. Vascular malformations, tumors

21. Reconstruction of thumb

22. Reconstruction of mutilated hand

23. Innervated flaps

Micro-surgery

1. Principles of micro-surgery, micro vascular surgery and its applications

2. Replantations and revascularization surgery

3. Microvascular tissue transfer

Burns

1. Thermal, Electrical, Chemical, Radiation, Burns

2. Burns shock, Pathophysiology, treatment, wound care, nutrition, sequel

3. Post burn contractures, deformities and its management

4. Tangential excision, skin cover, allograft, homograft, xenograft and its application in burns

5. Planning for burns care in disaster

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6. Organization of Burns care unit

7. Rehabilitation following burns, psychological and social impact

Aesthetic Surgery

1. Chemical peeling, dermabrasion, laser treatment

2. Blepharoplasty

3. Surgery of ageing face

4. Body contouring, liposuction, abdominoplasty, hernioplasty

5. Reduction and augmentation mammoplasty

6. Hair transplant

7. Orthognathic aesthetic surgery

2.11 No: of hours per subject

Not applicable as the course is a Residency programme.

2.12 Practical training

As given in clause "Content of each subject in each year" of the curriculum.

2.13 Records

As given in clause 2.21.

2.14 Dissertation: As per Dissertation Regulations of KUHS

Thesis is an absolute requirement for M Ch course and the candidate has to register the thesis synopsis in the University through proper channel within 6 months of admission. Thesis has to be submitted to the University for Evaluation at least 6 months prior to the conduct of final examination. Modifications and resubmission should be done before writing the examination. Even if the guide is transferred/ retired, the thesis has to be continued under his/her guidance or entrust to another guide in case the original person is not willing to continue. In extra ordinary situations change of guide and change of thesis topic is permissible with prior permission from the University. Only after accepting the thesis, the candidate will be eligible for writing the examination. In addition to this, the student has to present at least one paper/poster in a regional /national / international conference of the concerned speciality

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during his three year course or at least one publication in a peer reviewed journal. Research paper should be approved by the Institutional Review Board/ Institutional Ethical Committee.

Evaluation of Thesis

The thesis shall be evaluated by a minimum of three experts; one internal and two external experts, who shall not be the examiners for the Theory and Clinical examination of the concerned candidates and it may be accepted/ accepted with modifications/rejected. Only on the acceptance of the thesis by two experts out of three, the candidate shall be permitted to appear for the University examination. If the thesis is not accepted on evaluation by at least two experts, it shall be resubmitted with suggested modifications along with prescribed fees within the prescribed time stipulated by the University from time to time and it shall be re-evaluated by the same experts. If thesis is rejected by two experts, the candidate will lose first chance for appearing in the University examination and has to redo a fresh thesis for further evaluation.

2.15 Speciality training if any

As given in clause "Content of each subject in each year" of the curriculum.

2.16 Project work to be done if any

As stipulated by the Head of the Department.

2.17 Any other requirements [CME, Paper Publishing etc.]

- Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
- Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms)

or

- At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

2.18 Prescribed/recommended textbooks for each subject

As stipulated by Head of the Department.

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2.19 Reference books

Suggested Books

1. Plastic surgery, 6 Vol set - Peter C Neligan
2. Plastic Surgery, - Grabb and Smith's
3. Fundamental techniques of Plastic surgery - Mc Gregor
4. Green's Operative Hand surgery, 2Vol
5. Current therapy in Plastic surgery - Joseph G. McCarthy
6. Grabb's Encyclopedia of flaps, 3Vol
7. Flaps and Reconstructive Surgery -,Wei Mardini

Reference Books

1. Perforator Flaps ,Anatomy, Technique & Clinical Applications - Phillip N Blondeel
2. Atlas of Microsurgical Composite Tissue Transplantation - Donald Serafin
3. Local Flaps in Facial Reconstruction - Baker
4. Brachial Plexus Injuries - Alain Gilbert
5. Aesthetic Rejuvenation , A regional approach
6. Cosmetic Facial surgery- Joe Niamtu
7. Atlas of Rhinoplasty – Gilbert Aiach
8. Advanced Cosmetic Otoplasty – Melvin A Shiffman
9. Craniofacial Surgery- Seth R Thaller
10. Campbell's Operative Orthopedics ,Vol 4
11. Atlas of Human anatomy- Frank H Netter

2.20 Journals

1. Plastic and Reconstructive Surgery , Wolters Kluwer Health
2. Journal of Plastic, Reconstructive & Aesthetic Surgery –Elsevier
3. British Journal of Plastic Surgery - ScienceDirect.com
4. Plastic Surgery Clinics
5. Indian Journal of Plastic Surgery
6. Indian Journal of Burns
7. European Journal of Plastic Surgery
8. Hand Clinics
9. Journal of Hand Surgery
10. Journal of Hand and Microsurgery - Springer
11. The American Journal of Cosmetic Surgery

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2.21 Logbook

A log book is mandatory and has to be maintained by all students and this has to be reviewed by HOD / Unit Chief of the department regularly (at least quarterly). Minimum number of each of the academic activities to be performed by the candidate should be outlined for each speciality. Model check list for journal review/seminars/topic presentation/ teaching skill etc: - is shown in the appendix. Periodic formative assessment has also to be done in the department by the super speciality teachers. Log book will be evaluated during the University examination by all the four examiners with a maximum total mark of 20 in the viva component *(Check Lists appended).*

3.EXAMINATIONS

3.1 Eligibility to appear for exams

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

A candidate should appear for all the theory examinations and obtaining a minimum aggregate of 50% marks in theory part and practical part (Practical & Viva) separately shall be mandatory for passing the whole examination.

ELIGIBILITY FOR APPEARING IN FINAL EXAMINATION

i. A minimum of 80% attendance during each year of the course separately.

ii. Successful Submission of completed Logbook.

iii. Submission of Dissertation and its approval by the University.

iv. Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.

v. Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms).

or

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At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

vi. The prescribed form (annexure 3) for each candidate should be filled up by concerned department and sent to KUHS for issuing hall ticket for the candidate to appear for the examination. If the candidate fails to meet the criteria, he will not be permitted to appear for the examination.

3.2 Schedule, ie, approximate months of Regular/Supplementary exams

Generally there shall be two university examinations in a year, one regular and one supplementary examinations with a usual gap of six months.

3.3 Scheme of examination showing maximum marks and minimum marks

There shall be theory, practical examination including viva voce at the end of the three year course. Theory examination shall consist of four papers (3 hours duration) including one on recent advances and each paper will carry a maximum of 100 marks. Each question paper shall consist of one essay question of 20 marks and 8 short essays of 10 marks each. There shall be a multiple evaluation of theory papers by two internal examiners and two external examiners and the average mark for each paper is taken as the final marks

3.4 Papers in each year

Not applicable as the course is a residency programme.

3.5 Details of theory exams

Paper - I Basic Sciences relevant to Plastic Surgery	- 100
Paper-II Principles and practice of plastic surgery	- 100
Paper-III Operative Surgery and emergency management	- 100
Paper-IV Recent advances in plastic surgery	- 100

Present in clause 2.10

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3.6 Model question paper for each subject with question paper pattern

QP Code: **Reg.No.:……**

M.Ch (Plastic and Reconstructive Surgery) Degree Examinations

(Model Question Paper)

Paper I – Basic Sciences relevant to plastic surgery

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the effects of radiation and explain the management of radiation injuries.

Short essays: (8x10=80)

2. Principles of nerve grafting
3. Fascio cutaneous flaps
4. Blood supply of tendons
5. Wound care in burns
6. Nerve blocks in the upper limb
7. Gingivo periosteoplasty and alveolar bone grafting
8. Delay phenomenoen
9. Porous polyethylene implant

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QP Code: **Reg.No.:……**

M.Ch (Plastic and Reconstructive Surgery) Degree Examinations

(Model Question Paper)

Paper II – Principles and Practice of Plastic Surgery

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss in detail the aetiology, diagnosis, evaluation and management of velopharyngeal incompetence

Short essays: (8x10=80)

2. Reconstruction of vermillion
3. Ectropion of lower eyelid
4. Lagophthalmos
5. 'W' Plasty for scar revision
6. Surgery for genital lymphedema
7. Free flap reconstruction of Breast
8. Techniques for vaginoplasty
9. Radial club hand

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QP Code: **Reg.No.:……**

M.Ch (Plastic and Reconstructive Surgery) Degree Examinations

(Model Question Paper)

Paper III – Operative Surgery and Emergency Management

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the principles in the management of amputation of thumb.Discuss the procedures to reconstruct the thumb amputated at the level of mid metacarpal.

Short essays: (8x10=80)

2. Parascapular flap
3. Pan facial fractures
4. Cross finger flap
5. Male pattern baldness
6. Intermediate management of burn victim
7. Rombergs disease
8. Tendon transfer for foot drop
9. Fasciectomy in upper limb.

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QP Code: **Reg.No.:……**

M.Ch (Plastic and Reconstructive Surgery) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances in Plastic Surgery

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Describe recent trends in evaluation and management of bilateral cleft lip and palate with protruding premaxilla

Short essays: (8x10=80)

2. Endoscopic brow lift
3. Fascial fillers
4. Digital imaging and photography in plastic surgery
5. Naso endoscopy
6. Dorsal metacarpal artery flap
7. Nerve transfers in brachial plexus injuries
8. Free functioning muscle transfer
9. Bone morphogenic protein

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3.7 Internal assessment component

Not applicable.

3.8 Details of practical/clinical exams

Practical/Clinical examination shall consist of:

i. 1 long case – 100 marks
ii. 2 short cases – 80 marks each = 160 marks
iii. Ward rounds – 40 marks
iv. Viva voce – 80 marks
v. Log book—20 marks

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Total Marks Practicals & Viva Voce - 400

Long case discussion may take a maximum of 1 hr, short cases (total cases 2) - maximum 1 hr, ward rounds – maximum 30 minutes and Viva voce maximum of 1 hr. Maximum number of candidates that can be examined per day may be restricted to 3.

3.9 Number of examiners needed (Internal & External) and their qualifications

Examiners

1. All Examiners shall be a recognised super speciality teacher as per MCI norms. There shall be two internal examiners (from affiliated colleges of KUHS) and two external examiners (exclusively from outside the state). In departments where there are more than 2 professors, the head of the department preferably be a constant member of the board of examiners, and the other professors shall be posted as internal examiners on rotation basis.

2. Under exceptional circumstances, examinations may be held with 3 (three) examiners provided at least twoof them is an external examiner subject to the ratification of the pass board.

3. In the event of there being more than one centre in one city, the external examiners at all the centres in that city shall be the same. Where there is more than one centre of examination, the University shall appoint a Co-ordinator/Convenor to coordinate the examination on its behalf.

3.10 Details of viva

Viva Voce : **80 marks**

4.INTERNSHIP

4.1 Eligibility for internship

Not applicable for Medical Superspecality degree courses.

4.2 Details of internship

Not applicable for Medical Superspecality degree courses.

4.3 Model of Internship Mark lists

Not applicable for Medical Superspecality degree courses.

4.4 Extension rules

As per the existing KUHS rules.

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4.5 Details of Training given

Not applicable for Medical Superspecality degree courses.

5 ANNEXURES

5.1 Check Lists for Monitoring: Log Book, Seminar Assessment etc.

ANNEXURE - 1

CHECK LIST 1 - EVALUATION OF CLINICAL WORK

Name of the Trainee: Date:

Name of the Faculty:

Sl. No.	**Items for observation during evaluation**	*Poor* *0*	*Below Average* *1*	*Average* *2*	*Good* *3*	*Very Good* *4*
1.	*Regularity of attendance*					
2.	*Punctuality*					
3.	*Interaction with colleagues and supportive staff*					
4.	*Maintenance of case records*					
5.	*Presentation of cases*					
6.	*Investigations work -up*					
7.	*Bed - side manners*					
8.	*Rapport with patients*					
9.	*Counseling patients relatives*					

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	for interventional procedures					
10.	*Overall quality of clinical work*					
	Total score					

ANNEXURE - 2

CHECK LIST 2 EVALUATION OF CLINICAL CASE PRESENTATION

Name of the Trainee: *Date:*

Name of the faculty:

Sl. No	**Items for observation during presentation**	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	**Completeness of history**					
2.	**Whether all relevant points elicited**					
3.	**Clarity of presentation**					
4.	**Logical order**					
5.	**Mentioned all positive and negative points of importance**					
6.	**Accuracy of general physical examination**					
7.	**Whether all physical signs elicited correctly**					

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8.	**Diagnosis: whether it follows logically**					
9.	**Investigations required** **In Relevant order**					
10	**Interpretation of Investigations**					
11	**Ability to discuss differential diagnosis.**					
12	**Discussion on management**					
	Grand Total					

ANNEXURE 3

CHECK LIST 3

EVALUATION OF SEMINAR PESENTATION

Name of the Trainee: Date:

Name of the Faculty:

Sl no	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1	***Whether other relevant publications consulted***					
2	***Whether cross - references have been consulted***					

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3	***Completeness of Preparation***					
4	***Clarity of Presentation***					
5	***Understanding of subject***					
6	***Ability to answer the questions***					
7	***Time scheduling***					
8	***Appropriate use of Audio - Visual aids***					
9	***Overall performance***					
10	***Any other observation***					
	Total score					

ANNEXURE - 4

CHECK LIST 4

EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Trainee: **D a t e :**

Name of the Faculty:

		0	*1*	*2*	*3*	*4*
1.	*Article chosen*					
2.	*Extent of understanding of scope & objectives of the paper by the candidate*					

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3.	*Whether cross-references have been consulted*					
4.	*Whether other relevant publications consulted*					
5.	*Ability to respond to questions on the paper/ subject*					
6.	*Audio - Visual aids used*					
7.	*Ability to discuss the paper*					
8.	*Clarity of presentation*					
9.	*Any other observation*					
	Total Score					

ANNEXURE - 5

CHECK LIST 5

EVALUATION OF TEACHING SKILL

Name of the Trainee: **Date:**

Name of the faculty:

Sl. No.	**Items for observation**	**Strong Points**	**Weak Points**
1.	*Communication of the purpose of the talk*		

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2.	*Evokes audience interest in the subject*		
3.	*The introduction*		
4.	*The sequence of ideas*		
5.	*The use of practical examples and / or illustrations*		
6.	*Speaking style (enjoyable, monotonous, etc. Specify)*		
7.	*Attempts audience participation*		
8.	*Summary of the main points at the end*		
9.	*Ask questions*		
10.	*Answer questions asked by the audience*		
11.	*Rapport of speaker with his audience*		
12.	*Effectiveness of the talk*		
13.	*Uses AV aids appropriately*		

ANNEXURE - 6

CHECK LIST 6

EVALUATION OF DISSERTATION PRESENTATION

Name of the Trainee: Date:

Name of the faculty / Observer:

Sl.No	**Points to be considered**	**Poor** *0*	*Below Average 1*	*Average 2*	*Good 3*	*Very Good 4*
1.	*Interest shown in selecting topic*					
2.	*Appropriate review*					

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3.	*Discussion with guide and other faculty*					
4.	*Quality of protocol*					
5.	*Preparation of Proforma*					
	Total Score					

ANNEXURE - 7

CHECK LIST 7

CONTINUOUS EVALUATION OF DISSERTATION WORK

Name of the Trainee: **Date**

Name of the Faculty:

Sl. No.	**Items for observation during presentation**	**Poor**	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Periodic consultation with guide / co- guide*					
2.	*Regular collection of case material*					
3.	*Depth of Analysis / Discussion*					

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4.	*Department presentation of findings*					
5.	*Quality of final output*					
6.	*Others*					
	Total score					

ANNEXURE - 8

CHECK LIST 8

OVERALL ASSESSMENT SHEET

Name of the College: Date:

Check list no	***Particulars***	***0***	***1***	***2***	***3***	***4***
1	***Clinica lwork***					
2	***Clinical presentation***					
3	***Seminars***					
4	***Journal review***					
5	***Teaching skill***					
6	***Dissertation work***					
	TOTAL					

0- Poor 1- Below average 2- Average 3- Good 4- Very good

Signature of HOD Signature of Principal

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ANNEXURE - 9

TABLE 1

ACADEMIC ACTIVITIES ATTENDED

Name:

Admission Year: **College:**

Date	**Type of activity - Specify Seminar, Journal club, Presentation, UG teaching**	**Particulars**

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LOG BOOK

TABLE 2

ACADEMIC PRESENTATIONS MADE BY THE TRAINEE

Name :

Admission Year:

College:

Date	**Topic**	Type of activity - Specify Seminar, Journal club, Presentation, UG teaching

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LOG BOOK

TABLE 3

DIAGNOSTIC AND OPERATIVE PROCEDURES PERFORMED

Name

Date	*Name*	*OP No.*	*Procedure*	*Category* *O, A, PA, PI*
		!		

Key:

O - OBSERVED

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A - ASSISTED A MORE SENIOR SURGEON

PA - PERFORMED PROCEDURE UNDER SUPERVISION

PI - PERFORMED INDEPENDENTLY

APPENDIX 111 - FINAL EXAMINATION ELIGIBILITY FORM

(To be filled up the candidate)

Name of the candidate :

Date of Joining :

Identification number or registration number of university :

Course :

Institution :

Eligibility criteria :

Sl No	Parameter	Details	Proof enclosure
1.	Attendance	1st year (minimum 80%) 2nd year(minimum 80%) 3rd year(minimum 80%)	
2.	Thesis	Approved/Not Approved by the University	
3.	Log book	Successfully completed and submitted	
5.	Conferences attended	Number and category :	

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		Number of presentations:	
6.	Publications	Number published: Number submitted:	

All the informations provided above are true to the best of my knowledge and if found contrary, I am clearly aware that strict disciplinary actions will be initiated including debarring from examination.

Date Signature of the candidate :
Place Name of the candidate :
Countersigned by:
Faculty as guide:
Name:
Designation:

APPROVAL OF HEAD OF THE DEPARTMENT

I , Dr……, herewith approve that the above candidate is eligible to appear for the final examination as per the documentary evidences provided and best of the knowledge and documents of the department.

Date Signature :
Place Name :
Designation :

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REGULATIONS2016

Syllabus

For Courses affiliated to the

Kerala University of Health Sciences

Thrissur 680596

SUPER SPECIALITY COURSE IN MEDICINE

M Ch. Surgical Gastroenterology

Course Code 234

(2016-17 admission onwards)

2016

2. COURSE CONTENT

2.1 Title of course:

M.Ch Surgical Gastroenterology

2.2 Objectives of course

i. Knowledge

a. Understand etiology, pathophysiology and diagnose gastrointestinal surgical problems on the basis of history and clinical examination.

b. Interpret laboratory investigations, endoscopic and radiological finding in a logical manner and arrive at a reasonable diagnosis.

c. Advice the patient appropriate treatment on the basis of (a) and (b) above

d. Be proficient in the proper selection of patients for surgery, the timing of surgery, the pre-operative work up and post-operative care.

e. Manage emergency situations related to the gastrointestinal system such as gastro intestinal bleeding, scute abdomen, abdominal trauma etc.

f. Be proficient in the monitoring and management of the critically ill patient

g. Continuously update knowledge and skills and keep abreast of the latest advances after critically analyzing its risks and benefits

h. Teach undergraduate and Postgraduate students

i. Carry out medical research i.e. plan clinical trials and laboratory research

ii. Skills

a. Perform elective complex gastrointestinal surgeries in a graded manner, suchas pancreato-duodoenecomies, Colorectal surgery, esophageal resections,

basic laparoscopic surgeries and have exposure to advanced laparoscopic and minimally invasive procedures.

b. Be proficient in the pre-operative work up and post-operative care of the urgical patient including invasive monitoring and life support systems

c. Have exposure to interventional radiological procedures and be involved in the decision making process.

iii. Ethical Principals

a. Follow high standards of ethical practice

b. Respect patients rights and privileges, his / her right to information and privacy as well as right to seek second opinion

c. He should able to work as member of a team and also provide leadership where necessary.

2.3 Medium of instruction:

The medium of instruction for the course shall be English.

2.4 Course outline

Present in clause 2.10 of the curriculum

2.5 Duration

Every candidate seeking admission to the training programme to qualify for the degree of M Ch in the subjects shall pursue a regular course as a full time student, in the concerned Department under the guidance of a recognized super speciality teacher for a period of three years. The course commences from 1st August in each year.

2.6 Syllabus

Present in clause 2.10

The concept of Health Care Counselling shall be incorporated in all relevant areas

2.7 Total number of hours

Present in clause 2.10 of the curriculum

2.8 Branches if any with definition

Present in clause 2.10 of the curriculum

2.9 Teaching learning methods

TRAINING PROGRAM

The training program will aim to give the candidate a sound training of cardiac diagnosis and management. During the period of training they shall take part in all the activities of the department including ward rounds, lectures, seminars, teaching assignments, laboratory studies, surgical session and other duties assigned to them by the Head of the Department.

All candidates shall work as full time residents during the period of training.

The training program shall be updated as and when required. The training shall include:-

a) Active involvement in the diagnosis and management of patients both in the outpatient, coronary care unit and the wards.

b) Participation in lectures, seminars, journal clubs, clinical group discussions etc.

c) Participation in research work in Surgical gastroenterology.

d) Exposure to basic and advanced diagnostic, therapeutic and laboratory techniques.

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e) Exposure to biomedical statistics as applicable to basic research methodology

f) Post graduate students shall maintain log books of the work carried out by them. The log books shall be checked and assessed every 6 months by the faculty members, with a view to assure the progress the candidate has made and spot the inadequacies if any.

Out station training

Outstation training may be given if required. It should not exceed 2 months, the duration, center etc: - will be at the discretion of the Head of the department.

Teaching

All M Ch students should take part in the teaching of the post graduate degree students of related subjects, undergraduate medical students and paramedical students and allied health science students posted in the department by rotation.

2.10 Content of each subject in each year

The syllabus will cover all undamental and Applied aspects of Surgical Gastroenterology. It will cover Embrology, Basic Science concerned with GI Tract and the whole fields of surgery of the Alimentary Tract and its current advances. It would be an exercise in futility to lay down a syllabus, in the strictest sense, for MCh in a Superspeciality . However, a rough guideline is given below for the candidates, Teachers and Examiners. Nevertheless, the point is stressed that all aspects of the GI tract , both normal and pathological, will have to be learnt by the candidate.

Basic Sciences (Pertaining to Gastro-enterology)

Anatomy:

It includes surgical anatomy and applied aspects of endoscopic and imageological anatomy too.

Physiology:

Clinical physiology pertaining to GI tract and applied aspects of clinical care physiology.

Pathology:

Both gross and microscopic pathology are included. An insight into the Genetic aspects and experimental field of pathology is mandatory.

Clinical pharmacology as applied to GI tract.

Microbiology and virology as applied to GI tract.

Clinical aspect of biochemistry as applied to GI tract.

Surgical Gastro-enterology:

Congenital and Acquired diseases of the entre GI tract:

1. Oesophagus
2. Stomach and Duodenum
3. Small gut
4. Appendix
5. Colon, Rectum and Anal canal
6. Liver and Biliary tract
7. Pancreas
8. Spleen

Trauma and its related special problems are covered. The entry gamut of investigative modalities pertaining to each system or Organ are included , with stress on interventional procedures.

Recent advances and current concepts in surgical Gastroenterology:

The trainees are instructed to keep track of the recent advances and current trends, those taking place in the field of Gastroenterology. An up to date knowledge in the field

through journals, CD-ROM's Internet etc is expected. Awareness on the current concepts and the controversies are essential

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

The MCh Trainees are residents and will be in direct contact with the patients. They will be responsible for the complex work up and follow up of all patients. Practical training through full participation in the regular work in the department is emphasized. The training will be oriented to equip them with adequate skill and know-how to perform procedures. There shall be opportunities to familiarize themselves with other investigational modalities such as contrast radiography, CT scan etc.. They will also get training in Gastrointestinal Pathology and the trainees will be exposed to other disciplines like Biochemistry, Pathology, Microbiology, Oncology and Imageology. Operations will be relegated to them in a phased manner depending upon the progress. Based on the periodic assessment more and more responsibilities will be assigned to them. Facilities for dissection on cadavers and to carry out experimental surgical work on animals will be provided to them. Journal clubs, seminars and symposia will be held regularly in addition to combined clinical meeting with GE Medicine, Oncology as well as clinico-Patholegical conferences with Pathology Department. The MCh trainee will present at least one paper per year in a National conference, will attend all relevant CMEs conducted on Gastroenterology by registered academic bodies and will be expected to publish one original article in an indexed journal.

2.13 Records

Present in clause2. 21.

2.14 Dissertation: As per Dissertation Regulations of KUHS

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Thesis is an absolute requirement for M Ch course and the candidate has to register the thesis synopsis in the University through proper channel within 6 months of admission. Thesis has to be submitted to the University for Evaluation at least 6 months prior to the conduct of final examination. Modifications and resubmission should be done before writing the examination. Even if the guide is transferred/ retired, the thesis has to be continued under his/her guidance or entrust to another guide in case the original person is not willing to continue. In extra ordinary situations change of guide and change of thesis topic is permissible with prior permission from the University. Only after accepting the thesis, the candidate will be eligible for writing the examination. In addition to this, the student has to present at least one paper/poster in a regional /national / international conference of the concerned speciality during his three year course or at least one publication in a peer reviewed journal. Research paper should be approved by the Institutional Review Board/ Institutional Ethical Committee.

Evaluation of Thesis

The thesis shall be evaluated by a minimum of three experts; one internal and two external experts, who shall not be the examiners for the Theory and Clinical examination of the concerned candidates and it may be accepted/ accepted with modifications/rejected. Only on the acceptance of the thesis by two experts out of three, the candidate shall be permitted to appear for the University examination. If the thesis is not accepted on evaluation by at least two experts, it shall be resubmitted with suggested modifications along with prescribed fees within the prescribed time stipulated by the University from time to time and it shall be re-evaluated by the same experts. If thesis is rejected by two experts, the candidate will lose first chance for appearing in the University examination and has to redo a fresh thesis for further evaluation.

2.15 Speciality training if any

Present in clause 2. 12 of the curriculum

2.16 Project work to be done if any

As stipulated by the Head of Department.

2.17 Any other requirements [CME, Paper Publishing etc.]

- Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
- Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms)

or

- At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

2.18 Prescribed/recommended textbooks for each subject

As stipulated by the Head of Department.

2.19 Reference books

As stipulated by the Head of Department.

2.20 Journals

- Journal of GI Surgery
- Surgical Clinics of North America
- New England Journal of Medicine
- Digestive Surgery
- British Journal of Surgery

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- Annals of Surgery
- Gut
- Lancet
- World Journal of Surgery
- Transplantation

2.21 Logbook

A log book is mandatory and has to be maintained by all students and this has to be reviewed by HOD / Unit Chief of the department regularly (at least quarterly). Minimum number of each of the academic activities to be performed by the candidate should be outlined for each speciality. Model check list for journal review/seminars/topic presentation/ teaching skill etc: - is shown in the appendix. Periodic formative assessment has also to be done in the department by the super speciality teachers. Log book will be evaluated during the University examination by all the four examiners with a maximum total mark of 20 in the viva component *(Check Lists appended).*

3.EXAMINATIONS

3.1 Eligibility to appear for exams

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

A candidate should appear for all the theory examinations and obtaining a minimum aggregate of 50% marks in theory part and practical part (Practical & Viva) separately shall be mandatory for passing the whole examination.

ELIGIBILITY FOR APPEARING IN FINAL EXAMINATION

i. A minimum of 80% attendance during each year of the course separately.

ii. Successful Submission of completed Logbook.

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iii. Submission of Dissertation and its approval by the University.

iv. Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.

v. Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms).

or

At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

vi. The prescribed form (annexure 3) for each candidate should be filled up by concerned department and sent to KUHS for issuing hall ticket for the candidate to appear for the examination. If the candidate fails to meet the criteria, he will not be permitted to appear for the examination.

3.2 Schedule of Regular/Supplementary exams

Generally there shall be two university examinations in a year, one regular and one supplementary examinations with a usual gap of six months.

3.3 Scheme of examination showing maximum marks and minimum marks

There shall be theory, practical examination including viva voce at the end of the three year course. Theory examination shall consist of four papers (3 hours duration) including one on recent advances and each paper will carry a maximum of 100 marks. Each question paper shall consist of one essay question of 20 marks and 8 short essays of 10 marks each. There shall be a multiple evaluation of theory papers by two internal examiners and two external examiners and the average mark for each paper is taken as the final marks.

3.4 Papers in each year

Not applicable

3.5 Details of theory exams

Theory:

Paper I : Basic Medical Science as applied to Surgical Gastroenterology.

Paper II : Basic Principles of Surgical Gastroenterology.

Paper III :Principles of surgical gastro enterology

Paper IV : Recent advances

Present in clause 3.3.

3.6 Model question paper for each subject with question paper pattern

QP Code: **Reg.No.:……**

M.Ch (Gastrointestinal surgery) Degree Examinations

(Model Question Paper)

Paper I – Basic Medical Science as applied to Surgical Gastroenterology

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the surgical anatomy of the pancreaticobiliary duct junction and the various anomalies related to it

Short essays: (8x10=80)

2. Pathophysiology of intrahepatic calculi

3. Voge Jestin's hypothesis.

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4. Anticoma measures.

5. Pathology of adenocarcinoma stomach

6. Acinitobacter

7. Anorectal malformation

8. PDGFR

9. Xanthogranulomatous cholecystitis

****

QP Code: **Reg.No.:……**

M.Ch (Gastrointestinal surgery) Degree Examinations

(Model Question Paper)

Paper II – Principles of Surgical Gastroenterology

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the evaluation and management of acute lower Gl bleeding.

Short essays: (8x10=80)

2. Post operative adhesions.

3. Tertiary peritonitis.

4. Failed anti reflex surgery.

5. Complications of ERCP

6. Acute mesenteric venous thrombosis

7. Anterior resection syndrome

8. Bowel lengthening procedures

9. Anal incontinence

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P Code: **Reg.No.:……**

M.Ch (Gastrointestinal surgery) Degree Examinations

(Model Question Paper)

Paper III – Principles of Surgical Gastroenterology

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Classify biliary injuries and discuss the management of biliary injuries recognized intra operatively

Short essays: (8x10=80)

2. Mechanical bowel preparation in colorectal surgery.
3. Mechanism of action of topical hemostats.
4. Posthepatectomy liver dysfunction.
5. Management of pouchitis.
6. Solitary rectal ulcer syndrome
7. Gallbladder perforation
8. Colovesical fistula
9. Seton.

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QP Code: **Reg.No.:……**

M.Ch (Gastrointestinal surgery) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss critically the benefits and hazards of various energy devices used in abdominal surgery

Short essays: (8x10=80)

2. Radiation proctitis
3. Ileal brake
4. Insitu liver transaction
5. Surgical anatomy of caudate lobe, liver
6. Pros and cons of various organ preservatives.
7. Step – up approach in necrotizing pancreatitis
8. Moderately severe acute pancreatitis.
9. Topical hemostats.

****

3.7 Internal assessment component

Not applicable.

3.8 Details of practical/clinical exams

. ***Practical/Clinical examination shall consist of:***

i. 1 long case – 100 marks
ii. 2 short cases – 80 marks each = 160 marks

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iii. Ward rounds – 40 marks

iv. Viva voce – 80 marks

v. Log book—20 marks

Total Marks Practicals & Viva Voce - 400

Long case discussion may take a maximum of 1 hr, short cases (total cases 2) - maximum 1 hr, ward rounds – maximum 30 minutes and Viva voce maximum of 1 hr. Maximum number of candidates that can be examined per day may be restricted to 3.

3.9 Number of examiners needed (Internal & External) and their qualifications

Examiners

1. All Examiners shall be a recognised super speciality teacher as per MCI norms. There shall be two internal examiners (from affiliated colleges of KUHS) and two external examiners (exclusively from outside the state). In departments where there are more than 2 professors, the head of the department preferably be a constant member of the board of examiners, and the other professors shall be posted as internal examiners on rotation basis.
2. Under exceptional circumstances, examinations may be held with 3 (three) examiners provided at least two of them is an external examiner subject to the ratification of the pass board.
3. In the event of there being more than one centre in one city, the external examiners at all the centres in that city shall be the same. Where there is more than one centre of examination, the University shall appoint a Co-ordinator/Convenor to coordinate the examination on its behalf.

3.10 Details of viva:

Viva Voce : **80 marks**

4.INTERNSHIP

4.1 Eligibility for internship

Not applicable for Medical Superspecality degree courses.

4.2 Details of internship

Not applicable for Medical Superspecality degree courses.

4.3 Model of Internship Mark lists

Not applicable for Medical Superspecality degree courses.

4.4 Extension rules

As per the existing KUHS rules.

4.5 Details of Training given

Not applicable for P.G. Medical degree/diploma courses.

5. ANNEXURES

5.1 Check Lists for Monitoring: Log Book, Seminar Assessment etc.

ANNEXURE - 1

CHECK LIST 1 - EVALUATION OF CLINICAL WORK

Name of the Trainee: Date:

Name of the Faculty:

Sl. No.	**Items for observation during evaluation**	*Poor* *0*	*Below Average* *1*	*Average* *2*	*Good* *3*	*Very Good* *4*
1.	*Regularity of attendance*					
2.	*Punctuality*					
3.	*Interaction with colleagues and supportive staff*					
4.	*Maintenance of case records*					
5.	*Presentation of cases*					
6.	*Investigations work -up*					
7.	*Bed - side manners*					
8.	*Rapport with patients*					
9.	*Counseling patients relatives for interventional procedures*					
10.	*Overall quality of clinical work*					
	Total score					

ANNEXURE - 2

CHECK LIST 2 EVALUATION OF CLINICAL CASE PRESENTATION

Name of the Trainee: *Date:*

Name of the faculty:

Sl. No	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	**Completeness of history**					
2.	**Whether all relevant points elicited**					
3.	**Clarity of presentation**					
4.	**Logical order**					
5.	**Mentioned all positive and negative points of importance**					
6.	**Accuracy of general physical examination**					
7.	**Whether all physical signs elicited correctly**					
8.	**Diagnosis: whether it follows logically**					

9.	**Investigations required** **In Relevant order**					
10	**Interpretation of Investigations**					
11	**Ability to discuss differential diagnosis.**					
12	**Discussion on management**					
	Grand Total					

ANNEXURE 3

CHECK LIST 3

EVALUATION OF SEMINAR PESENTATION

Name of the Trainee: Date:

Name of the Faculty:

Sl no	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1	***Whether other relevant publications consulted***					
2	***Whether cross - references have been consulted***					
3	***Completeness of Preparation***					

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4	***Clarity of Presentation***					
5	***Understanding of subject***					
6	***Ability to answer the questions***					
7	***Time scheduling***					
8	***Appropriate use of Audio - Visual aids***					
9	***Overall performance***					
10	***Any other observation***					
	Total score					

ANNEXURE - 4

CHECK LIST 4

EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Trainee: **D a t e :**

Name of the Faculty:

Sl. No	**Items for observation during presentation**	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Article chosen*					
2.	*Extent of understanding of scope & objectives of the*					

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	paper by the candidate					
3.	*Whether cross-references have been consulted*					
4.	*Whether other relevant publications consulted*					
5.	*Ability to respond to questions on the paper/ subject*					
6.	*Audio - Visual aids used*					
7.	*Ability to discuss the paper*					
8.	*Clarity of presentation*					
9.	*Any other observation*					
	Total Score					

ANNEXURE - 5

CHECK LIST 5

EVALUATION OF TEACHING SKILL

Name of the Trainee: **Date:**

Name of the faculty:

Sl. No.	**Items for observation**	**Strong Points**	**Weak Points**
1.	*Communication of the purpose of the talk*		

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2.	*Evokes audience interest in the subject*		
3.	*The introduction*		
4.	*The sequence of ideas*		
5.	*The use of practical examples and / or illustrations*		
6.	*Speaking style (enjoyable, monotonous, etc. Specify)*		
7.	*Attempts audience participation*		
8.	*Summary of the main points at the end*		
9.	*Ask questions*		
10.	*Answer questions asked by the audience*		
11.	*Rapport of speaker with his audience*		
12.	*Effectiveness of the talk*		
13.	*Uses AV aids appropriately*		

ANNEXURE - 6

CHECK LIST 6

EVALUATION OF DISSERTATION PRESENTATION

Name of the Trainee: Date:

Name of the faculty / Observer:

Sl.No	**Points to be considered**	**Poor** *0*	*Below Average 1*	*Average 2*	*Good 3*	*Very Good 4*
1.	*Interest shown in selecting topic*					

2.	*Appropriate review*					
3.	*Discussion with guide and other faculty*					
4.	*Quality of protocol*					
5.	*Preparation of Proforma*					
	Total Score					

ANNEXURE - 7

CHECK LIST 7

CONTINUOUS EVALUATION OF DISSERTATION WORK

Name of the Trainee: **Date**

Name of the Faculty:

Sl. No.	**Items for observation during presentation**	**Poor**	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Periodic consultation with guide / co- guide*					
2.	*Regular collection of case material*					
3.	*Depth of Analysis / Discussion*					

4.	*Department presentation of findings*					
5.	*Quality of final output*					
6.	*Others*					
	Total score					

ANNEXURE - 8

CHECK LIST 8

OVERALL ASSESSMENT SHEET

Name of the College: Date:

Check list no	***Particulars***	***0***	***1***	***2***	***3***	***4***
1	***Clinica lwork***					
2	***Clinical presentation***					
3	***Seminars***					
4	***Journal review***					
5	***Teaching skill***					
6	***Dissertation work***					
	TOTAL					

0- Poor 1- Below average 2- Average 3- Good 4- Very good

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Signature of HOD Signature of Principal

ANNEXURE - 9

TABLE 1

ACADEMIC ACTIVITIES ATTENDED

Name:

Admission Year: **College:**

Date	**Type of activity - Specify Seminar, Journal club, Presentation, UG teaching**	**Particulars**

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LOG BOOK

TABLE 2

ACADEMIC PRESENTATIONS MADE BY THE TRAINEE

Name :

Admission Year:

College:

Date	**Topic**	Type of activity - Specify Seminar, Journal club, Presentation, UG teaching

☆

LOG BOOK

TABLE 3

DIAGNOSTIC AND OPERATIVE PROCEDURES PERFORMED

Name

Date	*Name*	*OP No.*	*Procedure*	*Category* *O, A, PA, PI*
		!		

Key:

O - OBSERVED

A - ASSISTED A MORE SENIOR SURGEON

PA - PERFORMED PROCEDURE UNDER SUPERVISION

PI - PERFORMED INDEPENDENTLY

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APPENDIX 111 - FINAL EXAMINATION ELIGIBILITY FORM

(To be filled up the candidate)

Name of the candidate :

Date of Joining :

Identification number or registration number of university :

Course :

Institution :

Eligibility criteria :

Sl No	Parameter	Details	Proof enclosure
1.	Attendance	1st year (minimum 80%) 2nd year(minimum 80%) 3rd year(minimum 80%)	
2.	Thesis	Approved/Not Approved by the University	
3.	Log book	Successfully completed and submitted	
5.	Conferences attended	Number and category : Number of presentations:	
6.	Publications	Number published: Number submitted:	

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All the informations provided above are true to the best of my knowledge and if found contrary, I am clearly aware that strict disciplinary actions will be initiated including debarring from examination.

Date Signature of the candidate :

Place Name of the candidate :

Countersigned by:

Faculty as guide:

Name:

Designation:

APPROVAL OF HEAD OF THE DEPARTMENT

I , Dr……, herewith approve that the above candidate is eligible to appear for the final examination as per the documentary evidences provided and best of the knowledge and documents of the department.

Date Signature :

Place Name :

Designation :

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REGULATIONS2016

Syllabus

For Courses affiliated to the

Kerala University of Health Sciences

Thrissur 680596

SUPER SPECIALITY COURSE IN MEDICINE

M Ch.Cardiovascular and Thoracic Surgery

Course Code 235

(2016-17 admission onwards)

2016

2. COURSE CONTENT

2.1 Title of course:

M Ch Cardiovascular and Thoracic surgery

2.2 Objectives of course

Instructional goals

The goal of postgraduate medical education shall be to produce competent specialists and/or Medical teachers.

1. Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy

2. Who shall have mastered most of the competencies, pertaining to the speciality, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;

3. Who shall be aware of the contemporary advances and developments in the discipline concerned.

4. Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology

5. Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

Instructional objectives

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At the end of the super speciality training in the discipline concerned, the student shall be able to:

1. Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health section.

2. Practice the speciality concerned ethically and in step with the principles of primary health care.

3. Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.

4. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measure/strategies.

5. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.

6. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.

7. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.

8. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.

9. Play the assigned role in the implementation of national health programme, effectively and responsibly.

10. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

11. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

12. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.

13. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.

14. Function as an effective leader of a health team engaged in health care, research or training.

2.3 Medium of instruction:

The medium of instruction for the course shall be English.

2.4 Course outline

As given under clause “Content of each subject in each year “ of the curriculum.

2.5 Duration

Every candidate seeking admission to the training programme to qualify for the degree of M Ch in the subjects shall pursue a regular course as a full time student, in the concerned Department under the guidance of a recognized super speciality teacher for a period of three years. Ordinarily, this duration of course shall be not be curtailed. The course commences from the date on which the first candidate joins the course.

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2.6 Syllabus

As given under clause “Content of each subject in each year “ of the curriculum.

The concept of Health Care Counselling shall be incorporated in all relevant areas

2.7 Total number of hours

As given under clause “Content of each subject in each year “ of the curriculum.

2.8 Branches if any with definition

Not applicable as the course is a residency programme

2.9 Teaching learning methods

TRAINING PROGRAM

The training program will aim to give the candidate a sound training of cardiac diagnosis and management. During the period of training they shall take part in all the activities of the department including ward rounds, lectures, seminars, teaching assignments, laboratory studies, surgical session and other duties assigned to them by the Head of the Department.

All candidates shall work as full time residents during the period of training.

The training program shall be updated as and when required. The training shall include:-

a) Active involvement in the diagnosis and management of patients both in the outpatient, coronary care unit and the wards.

b) Participation in lectures, seminars, journal clubs, clinical group discussions etc.

c) Participation in research work in cardiology.

d) Exposure to basic and advanced diagnostic, therapeutic and laboratory techniques.

e) Exposure to biomedical statistics as applicable to basic research methodology

f) Post graduate students shall maintain log books of the work carried out by them. The log books shall be checked and assessed every 6 months by the faculty members, with a view to assure the progress the candidate has made and spot the inadequacies if any.

Out station training

Outstation training may be given if required. It should not exceed 2 months, the duration, center etc: - will be at the discretion of the Head of the department.

Teaching

All M Ch students should take part in the teaching of the post graduate degree students of related subjects, undergraduate medical students and paramedical students and allied health science students posted in the department by rotation.

2.10 Content of each subject in each year

Curriculum & Syllabus:

Topics covered include:

CARDIAC SURGERY

Fundamentals

Surgical Anatomy of the Heart

Cardiac Surgical Anatomy and Physiology

Cardiac Surgical Pharmacology

Pathology of Cardiac Surgery

Cardiac Surgical Imaging

Risk Stratification and Co morbidity

Statistical Treatment of Surgical Outcome Data

Perioperative/Intraoperative Care

Preoperative Evaluation for Cardiac Surgery

Cardiac Anesthesia

Extracorporeal Circulation

Transfusion Therapy and Blood Conservation

Deep Hypothermic Circulatory Arrest

Myocardial Protection

Postoperative Care of Cardiac Surgery Patients

Cardiopulmonary Resuscitation

Temporary Mechanical Circulatory Support

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Late Complications of Cardiac Surgery

Ischemic Heart Disease

Indications for Revascularization

Myocardial Revascularization with Percutaneous Devices

Myocardial Revascularization with Cardiopulmonary Bypass

Myocardial Revascularization without Cardiopulmonary Bypass

Myocardial Revascularization with Carotid Artery Disease

Myocardial Revascularization after Acute Myocardial Infarction

Minimally Invasive Myocardial Revascularization

Coronary Artery Reoperations

Transmyocardial Laser Revascularization and Extravascular

Angiogenesis Techniques to Increase Myocardial Blood flow

Surgical Treatment of Complications of Acute Myocardial Infarction:

Postinfarction Ventricular Septal Defect and Free Wall Rupture

Ischemic Mitral Regurgitation

Left Ventricular Aneurysm

Valvular Heart Disease

Pathophysiology of Aortic Valve Disease

Aortic Valve Replacement with a Mechanical Cardiac Valve Prosthesis

Bioprosthetic Aortic Valve Replacement: Stented Valves

Stentless Aortic Valve Replacement: Autograft/Homograft

Stentless Aortic Valve Replacement: Porcine and Pericardial

Aortic Valve Repair and Aortic Valve-Sparing Operations

Surgical Treatment of Aortic Valve Endocarditis

Minimally Invasive Aortic Valve Surgery

Percutaneous Aortic Valve Interventions

Pathophysiology of Mitral Valve Disease

Mitral Valve Repair

Mitral Valve Replacement

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Surgical Treatment of Mitral Valve Endocarditis

Minimally Invasive and Robotic Mitral Valve Surgery

Percutaneous Catheter-Based Mitral Valve Repair

Tricuspid Valve Disease

Multiple Valve Disease

Reoperative Valve Surgery

Valvular and Ischemic Heart Disease

Diseases of the Great Vessels

Aortic Dissection

Ascending Aortic Aneurysms

Aneurysms of the Aortic Arch

Descending and Thoracoabdominal Aortic Aneurysms

Endovascular Therapy for the Treatment of Thoracic Aortic Disease

Pulmonary Embolism and Pulmonary Thromboendarterectomy

Trauma to the Great Vessels

Surgery for Cardiac Arrhythmias

Cardiac Rhythm Disturbance

Interventional Therapy for Atrial and Ventricular Arrhythmias

Surgical Treatment of Atrial Fibrillation

Surgical Implantation of Pacemakers and Automatic Defibrillators

Other Cardiac Conditions and Operations

Adult Congenital Heart Disease

Pericardial Disease

Cardiac Neoplasms

Hypertrophic Obstructive Cardiomyopathy

Heart Failure

Critical Care

Transplant and Circulatory Support

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Immunobiology of Heart and Heart-Lung Transplantation

Heart Transplantation

Mechanical Circulatory Support & Total Artificial Heart

Nontransplant Surgical Options for Heart Failure

Tissue Engineering for Cardiac Valve Surgery

Stem Cell-Induced Regeneration of Myocardium

CONGENITAL HEART SURGERY

Atrial Septal Defect and Partial Anomalous Pulmonary Venous Connection

Total Anomalous Pulmonary Venous Connection

Cor Triatriatum

Unroofed Coronary Sinus Syndrome

Atrioventricular Septal Defect

Ventricular Septal Defect

Congenital Sinus of Valsalva Aneurysm

Aortico-Left Ventricular Tunnel

Patent Ductus Arteriosus

Ventricular Septal Defect with Pulmonary Stenosis or Atresia

Pulmonary Stenosis or Atresia and Intact Ventricular Septum

Tricuspid Atresia and Management of Single-Ventricle Physiology

Ebstein Anomaly

Truncus Arteriosus

Aortopulmonary Window

Origin of Right or Left Pulmonary Artery from Ascending Aorta

Anomalies of the Coronary Arteries

Congenital Aortic Stenosis

Coarctation of the Aorta and Interrupted Aortic Arch

Aortic Atresia and Other Forms of Hypoplastic Left Heart Physiology

Congenital Mitral Valve Disease

Vascular Ring and Sling

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Complete Transposition of the Great Arteries

Double Outlet Right or Left Ventricle

Congenitally Corrected Transposition of the Great Arteries and Other

Forms of Atrioventricular Discordant Connection

Double Inlet Ventricle and Atretic Atrioventricular Valve

Anatomically Corrected Malposition of the Great Arteries

Atrial Isomerism

Critical Care

Cardiovascular Engineering

Concept of flow, pressure gradient, heart as pump, prosthetic heart valves, extracorporeal circulation, biocompatibility, materials in cardiovascular application, medical physics, electronics in transucers, clinical monitoring and medical imaging

Biostatistics

Methodology and design of clinical research

Statistical Inference

Biostatistics for clinical Research-sample size, statistical approach, statistical significance, sensitivity, specificity, Univariate and multivariate analysis, acturial survival

THORACIC SURGERY

The Lung, Pleura, Diaphragm and Chest Wall

Anatomy of the Thorax

Embryology of the Lungs

Ultrastructure and Morphometry of the Human Lung

Cellular and Molecular Biology of the Lung

Surgical Anatomy of the Lungs

Lymphatics of the Lungs

Pulmonary Gas Exchange

Mechanics of Breathing

Thoracic Imaging

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Radiographic Evaluation of the Lungs and Chest

Computed Tomography of the Lungs, Pleura, and Chest Wall

Magnetic Resonance Imaging of the Thorax

Positron Emission Tomography in Chest Diseases

Radionuclide Studies of the Lung

Diagnostic Procedures

Laboratory Investigations in the Diagnosis of Pulmonary Diseases

Molecular Diagnostic Studies in Pulmonary Disease

Bronchoscopic Evaluation of the Lungs and Tracheobronchial Tree

Invasive Diagnostic Procedures

Video-Assisted Thoracic Surgery as a Diagnostic Tool

Assessment of the Thoracic Surgical Patient

Pulmonary Physiologic Assessment of Operative Risk

Preoperative Cardiac Evaluation of the Thoracic Surgical Patient

Anesthetic Management of the General Thoracic Surgical Patient

Preanesthetic Evaluation and Preparation

Conduct of Anesthesia

The Shared Airway: Management of the Patient with Airway Pathology

Anesthesia for Pediatric General Thoracic Surgery

Pulmonary Resections

Thoracic Incisions

General Features of Pulmonary Resections

Technical Aspects of Lobectomy

Sleeve Lobectomy

Pneumonectomy and Its Modifications

Tracheal Sleeve Pneumonectomy

Segmentectomy and Lesser Pulmonary Resections

Emphysema Surgery

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Instruments and Techniques of Video-Assisted Thoracic Surgery

Video-Assisted Thoracic Surgery for Wedge Resection, Lobectomy, And Pneumonectomy

Median Sternotomy and Parasternal Approaches to the Lower Trachea and Main Stem Bronchi

Extended Resection of Bronchial Carcinoma in the Superior Anterior Approach to Superior Sulcus Lesions

Complications of Pulmonary Resection

Management of Perioperative Cardiac Events

Postoperative Management of The General Thoracic Surgical Patient

General Principles of Postoperative Care

Mechanical Ventilation of the Surgical Patient

Chest Wall

Chest Wall Deformities

Infections of the Chest Wall

Thoracic Outlet Syndrome

Thoracoscopic Sympathectomy

Anterior Transthoracic Approaches to the Spine

Chest Wall Tumors

Chest Wall Reconstruction

The Diaphragm

Embryology and Anatomy of the Diaphragm

Diaphragmatic Function, Diaphragmatic Paralysis, and Eventration of the Diaphragm

Pacing of the Diaphragm

Congenital Posterolateral Diaphragmatic Hernias and Other Less Common Hernias of the Diaphragm in Infants and Children

Foramen of Morgagni Hernia

Tumors of the Diaphragm

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The Pleura

Anatomy of the Pleura

Reabsorption of Gases from the Pleural Space

Pneumothorax

Physiology of Pleural Fluid Production and Benign Pleural Effusion

Parapneumonic Empyema

Postsurgical Empyema

Tuberculous and Fungal Infections of the Pleura

Fibrothorax and Decortication of the Lung

Thoracoplasty: Indications and Surgical Considerations

Anatomy of the Thoracic Duct and Chylothorax

Localized Fibrous Tumors of the Pleura

Diffuse Malignant Mesothelioma

Technique of Extrapleural Pneumonectomy for Diffuse Malignant

Pleural Mesothelioma

Uncommon Tumors of the Pleura

Malignant Pleural Effusions

Malignant Pericaradial Effusions

Thoracic Trauma

Blunt and Penetrating Injuries of the Chest Wall, Pleura, and Lungs

Barotrauma and Inhalation Injuries

Acute Respiratory Distress Syndrome

Management of Foreign Bodies of the Airway

Diaphragmatic Injuries

The Trachea

Tracheostomy

Surgical Anatomy of the Trachea and Techniques of Resection and Reconstruction

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Management of Nonneoplastic Diseases of the Trachea

Benign and Malignant Tumors of the Trachea

Compression of the Trachea by Vascular Rings

Congenital, Structural, and Inflammatory Diseases of the Lung

Congenital Lesions of the Lung

Pulmonary Complications of Cystic Fibrosis

Congenital Vascular Lesions of the Lungs

Chronic Pulmonary Emboli

Bullous and Bleb Diseases of the Lung

Emphysema of the Lung and Lung Volume Reduction Operations

Bacterial Infections of the Lungs and Bronchial Compressive Disorders

Pulmonary Tuberculosis and Other Myocbacterial Diseases of The Lungs

Surgery for the Management of *Mycobacterium Tuberculosis* and Nontuberculous Myocbacterial Infections of the Lung

Thoracic Mycotic and Actinomycotic infections of the Lung

Pleuropulmonary Amebiasis

Hydatid Disease of the Lung

Pulmonary Paragonimiasis and Its Surgical Compliations

Solitary Pulmonary Nodule

Diffuse Lung Disease

Lung Transplantation

Statistical Analysis and Trial Design

Statistical Analysis

Clinical Trial Design

Carcinoma of the Lung

Lung Cancer: Epidemiology and Carcinogenesis

Screening for Long Cancer: Challenges for Thoracic Surgery

Investigation and Management of Nodules Less than One Centimeter in Size

Pathology of Carcinoma of the Lung

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Present Concepts in the Molecular Biology of Lung Cancer

Clinical Presentation of Lung Cancer

Radiologic Evaluation of Lung Cancer

Diagnosis and Staging of Lung Cancer

Surgical Treatment of Non-Small Cell Lung Cancer

Mediastinal Lymph Node Dissection

Endoluminal Management of Malignant Airway Disease

Basic Principles of Radiation Therapy in Carcinoma of the Lung

Radiation Therapy for Carcinoma of the Lung

Chemotherapy of Non-Small Cell Lung Cancer

Multimodality Therapy for Non-Small Cell Lung Cancer

Novel Systemic Therapy for Advanced Non-Small Cell Lung cancer

Small Cell Lung Cancer

Novel Strategies for Lung Cancer Immunotherapy

Other Tumors of the Lung

Carcinoid Tumors

Adenoid Cystic Carcinoma and Other Primary Salivary Gland-Type Tumors of the Lung

Benign Tumors of the Lung

Uncommon Primary Malignant Tumors of the Lung

Secondary Tumors of the Lungs

Lung Tumors in the Immunocompromised Host

Mediastinum

Anatomy

The Mediastinum, Its Compartments, and the Mediastinal Lymph Nodes

The Thymus

Mediastinal Parathyroids

Neuogenic Structures of the Mediastinum

Noninvasive Investigations

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Radiographic, Computed Tomographic, and Magnetic Resonance

Investigation of the Mediastinum

Radionuclide Studies of the Meciastinum

Mediastinal Tumor Markers

Invasive Diagnostic Investigations and Surgical Approaches

Cervical Substernal "Extended" Mediastinoscopy

Sternotomy and Thoracotomy for Mediastinal Disease

Posterior Mediastinotomy

Video-Assisted Thoracic Surgery for Mediastinal Tumors and Cysts And Other Diseases within the Mediastinum

Mediastinal Infections, Overview of Mass Lesions in the Mediastinum and Control of Vascular Obstructing Symptomatology

Acute and Chronic Mediastinal Infections

Overview of Primary Mediastinal Tumors and Cysts

Diagnostic Investigation of Mediastinal Masses

Lesions Masquerading as Primary Mediastinal Tumors or Cysts

Vascular Masses of the Mediastinum

Superior Vena Cava Syndrome: Clinical Features, Diagnosis, and Treatment

Vein Grafts for the Superior Vena Cava

The Use of Prosthetic Grafts for the Replacement of the Superior Vena Cava

Primary Mediastinal Tumors

Myasthenia Gravis

Standard Thymectomy

Transcervical Thymectomy

Video-Assisted Thymectomy

Extended Transsternal Thymectomy

Transcervical-Transsternal Maximal Thymectomy for Myasthenia Gravis

Evaluation of Results of Thymectomy for Nonthymomatous Myasthenia Gravis

Benign Lymph Node Disease Involving the Mediastinum

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Biological Markers and Pathology of Mediastinal Lymphomas

Diagnosis and Treatment of Mediastinal Lymphomas

Benign Germ Cell Tumors of the Mediastinum

Primary Seminomas of the Mediastinum

Nonseminomatous Malignant Germ Cell Tumors of the Mediastinum

Poorly Differentiated Carcinoma of the Mediastinum

Benign and Malignant Neurogenic Tumors of the Mediastinum in Children and Adults

Excision of Hourglass Tumors of the Paravertegral Sulcus

Mediastinal Paragangliomas and Pheochromocytomas

Mesenchymal Tumors of the Mediastinum

Mediastinal Parathyroid Adenomas and Carcinomas

Mediastinal Cysts

Foregut Cysts of the Mediastinum in Infants and Children

Foregut Cysts of the Mediastinum

Gastroenteric Cysts and Neurenteric Cysts in Infants and Children

Mesothelial and Other Less Common Cysts of the Mediastinum

Critical Care

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

Operative Experience

The total operative experience must be recorded in the Trainee logbook, which will be assessed every six months by the programme director. It is emphasized that these numbers are only a general guide

Year 1

Assistant to 25 open Heart cases

Perform the following under supervision:

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1.	Sternotomy	10
2.	Closure of Sternotomy	10
3.	Vein harvest	25
4	Cannulation for cardiopulmonary bypass	2

Year 2

First assistant at 50 open Heart cases

Perform the following under supervision:

1.	Cannulation for cardiopulmonary bypass	10
2.	Sternotomy and closure	20
3.	ASD closure	5
4.	Proximal Anastomosis in CABG	10
5.	Vein harvest	25
6.	IMA harvests	5

Year 3

First assistant at 100 Open Heart cases

Perform the following under supervision:

1.	Proximal Anastomosis in CABG	10
2.	IMA harvest	15
3.	ASD Closure	5
4.	MVR	5
5.	AVR	2

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Thoracic and Vascular surgery requirements in 3 yrs

1.	Asst to Major procedures	25
2.	Perform Lobectomy/Pneumonectomy	5
3.	Assistant to Major vascular Procedures	10

2.13 Records

As per clause 2.21

2.14 Dissertation:As per Dissertation Regulations of KUHS

Thesis is an absolute requirement for M Ch course and the candidate has to register the thesis synopsis in the University through proper channel within 6 months of admission. Thesis has to be submitted to the University for Evaluation at least 6 months prior to the conduct of final examination. Modifications and resubmission should be done before writing the examination. Even if the guide is transferred/ retired, the thesis has to be continued under his/her guidance or entrust to another guide in case the original person is not willing to continue. In extra ordinary situations change of guide and change of thesis topic is permissible with prior permission from the University. Only after accepting the thesis, the candidate will be eligible for writing the examination. In addition to this, the student has to present at least one paper/poster in a regional /national / international conference of the concerned speciality during his three year course or at least one publication in a peer reviewed journal. Research paper should be approved by the Institutional Review Board/ Institutional Ethical Committee.

Evaluation of Thesis

The thesis shall be evaluated by a minimum of three experts; one internal and two external experts, who shall not be the examiners for the Theory and Clinical examination of the concerned candidates and it may be accepted/ accepted with modifications/rejected. Only on the acceptance of the thesis by two experts out of three, the candidate shall be permitted to appear for the University examination. If the thesis is not accepted on evaluation by at least two experts, it shall be resubmitted with suggested modifications along with prescribed fees within the prescribed time stipulated by the University from time to time and it shall be re-

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evaluated by the same experts. If thesis is rejected by two experts, the candidate will lose first chance for appearing in the University examination and has to redo a fresh thesis for further evaluation.

2.15 Speciality training if any

As given under clause "Content of each subject in each year " of the curriculum

2.16 Project work to be done if any

As stipulated by the Head of Institution.'

2.17 Any other requirements [CME, Paper Publishing etc.]

- Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
- Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms)

or

- At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

2.18 Prescribed/recommended textbooks for each subject

1. Kirklin/Barratt-Boyes - Cardiac Surgery : By John Webster Kirklin, Nicholas T. C Kouchoukos, Jill A. Rhead, Eugene H. Blackstone, Brian G. Barratt-Boyes, Donald B. Doty, Frank L. Hanley, Robert B. Karp –Churchill-Livingstone.
2. Mastery of Cardiothoracic Surgery : By Larry R. Kaiser, Irving L. Kron, Thomas L. Spray.
3. Text Book of Adult Cardiac Surgery : By Lawrence. M. Cohn, MD.
4. The Johns Hopkins Manual of Cardiothoracic Surgery : by David DaihoYuh, Luca A.Vricella, William A.Baumgartner.
5. Surgery of the Chest : by David C. Sabiston, Jr., Spencer – Saunders.
6. The Evolution of Cardiac Surgery : by Harris B. Shumacker.
7. Adult Cardiac Surgery : by Robert M. Bojar.
8. Surgery for Congenital Heart Defects : by Stark.J, De Leval.M – Saunders.

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9. Moss & Adams'Heart Disease in Infants, Children, & Adolescents : by Hugh.D.Allen , David.J.Driscoll, Robert.E.Shaddy, Timothy.F.Feltes – Lippincott, William & Wilkins.
10. Atlas of Cardiothoracic Surgery : by David C. Sabiston, Stanley M. Coffman, Robert G. Gordon .
11. Atlas of Cardiothoracic Surgery : by L. Henry Edmunds, William I. Norwood, David W. Low.
12. The History of Cardiothoracic Surgery from Early Times : by Raymond Hurt.
13. General Thoracic Surgery : by Thomas W. Shields, Joseph LoCicero, Ronald B Ponn ,Valerie W Rusch.
14. Thoracic Surgery : by F. Griffith Pearson.
15. Techniques in General Thoracic Surgery : by Raleigh Maurice Hood.
16. Landmarks in Cardiac Surgery : by Stephen Westaby, Cecil Bosher.
17. Complications in Cardiothoracic Surgery: Avoidance and Treatment : by Alex G. Little.
18. Techniques in Cardiac Surgery : by Denton A. Cooley, George J. Reul, O.Howard Frazier.
19. Cardiopulmonary Bypass: Principles and Practice : by Glenn P. Gravlee, Richard E. Davis, Alfred H. Stammers, Ross M Ungerleider.
20. Vascular Surgery : by Robert B. Rutherford.
21. Vascular Surgery- A Comprehensive Review : by Wesley S. Moore.
22. Wylie's Atlas of Vascular Surgery : by Ronald J. Stoney, David J. Effeney.
23. Complications in Cardiothoracic Surgery : by John A. Waldhausen, Mark B. Orringer.
24. Cardiac Surgery: Safeguards and Pitfalls in Operative Technique : by Siavosh Khonsari.
25. Marino's The ICU Book : by Paul.L.Marino.

2.19 Reference books

As stipulated by the Head of Department.

2.20 Journals

1. Indian Journal of Thoracic and Cardiovascular Surgery
2. Annals of Thoracic Surgery
3. European Journal of Cardiothoracic Surgery

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4. Asian Cardiovascular & Thoracic Annals
5. Journal of Thoracic and Cardiovascular Surgery
6. Operative Techniques in Thoracic and Cardiovascular Surgery
7. Pediatric Cardiac Surgery Annual
8. Seminars in Thoracic and Cardiovascular Surgery
9. American Heart Journal
10. Circulation
11. Chest
12. Heart, Lung and Circulation
13. Journal of the American College of Cardiology
14. Journal of Cardiac Surgery
15. Journal of Cardiothoracic Surgery
16. Journal of Cardiothoracic and Vascular Anesthesia
17. Journal of Vascular Surgery
18. Texas Heart Institute Journal
19. The Thoracic and Cardiovascular Surgeon
20. Journal of Heart Valve disease

2.21 Logbook

A log book is mandatory and has to be maintained by all students and this has to be reviewed by HOD / Unit Chief of the department regularly (at least quarterly). Minimum number of each of the academic activities to be performed by the candidate should be outlined for each speciality. Model check list for journal review/seminars/topic presentation/ teaching skill etc: - is shown in the appendix. Periodic formative assessment has also to be done in the department by the super speciality teachers. Log book will be evaluated during the University examination by all the four examiners with a maximum total mark of 20 in the viva component *(Check Lists appended).*

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3.EXAMINATION

3.1 Eligibility to appear for exams

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

A candidate should appear for all the theory examinations and obtaining a minimum aggregate of 50% marks in theory part and practical part (Practical & Viva) separately shall be mandatory for passing the whole examination.

ELIGIBILITY FOR APPEARING IN FINAL EXAMINATION

1. A minimum of 80% attendance during each year of the course separately.
2. Successful Submission of completed Logbook.
3. Submission of Dissertation and its approval by the University.
4. Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
5. Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms).

or

At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

6. The prescribed form (annexure 3) for each candidate should be filled up by concerned department and sent to KUHS for issuing hall ticket for the candidate to appear for the examination. If the candidate fails to meet the criteria, he will not be permitted to appear for the examination.

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3.2 Schedule of Regular/Supplementary exams

Generally there shall be two university examinations in a year, one regular and one supplementary examinations with a usual gap of six months.

3.3 Scheme of examination showing maximum marks and minimum marks

There shall be theory, practical examination including viva voce at the end of the three year course. Theory examination shall consist of four papers (3 hours duration) including one on recent advances and each paper will carry a maximum of 100 marks. Each question paper shall consist of one essay question of 20 marks and 8 short essays of 10 marks each. There shall be a multiple evaluation of theory papers by two internal examiners and two external examiners and the average mark for each paper is taken as the final marks.

3.4 Papers in each year

Not applicable as the course is a residency programme.

3.5 Details of theory exams

Paper 1- Basic Science relevant to Cardiothoracic Surgery- 100 Marks

Paper II- Natural History, Diagnosis , Management Prognosis and Rehabilitation of Congential or Acquired Conditions Pertaining to General Thoracic Surgery-100 Marks.

Paper III – Natural History, Diagnosis, Management Prognosis and Rehabilitation & Recent Advances of Congenital or Acquired Heart Diseases and Diseases of Major Blood Vessels - 100 Marks.

Paper IV – Recent Advances in Cardiac, General Thoracic and Vascular Surgery - 100 Marks.

- Theory- 400 Marks
- Viva Voce -80 Marks

Theory Examination : Consist of four papres, each paper consisting of one structured long.

Essay for 20 marks , and eight short essays carrying ten marks each.

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3.6 Model question paper for each subject with question paper pattern

QP Code: **Reg.No.:……**

M.Ch (Cardio Vascular and Thoracic Surgery) Degree Examinations

(Model Question Paper)

Paper I – Basic Medical Sciences Relevant to Thoracic Surgery

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss in detail the surgical anatomy of right ventricle. Describe the anatomic components of tetralogy of fallot

Short essays: (8x10=80)

2. Non-sternotomy cardiac surgery
3. Broncho-pulmonary segments
4. PET scanning carcinoma lung
5. No-reflow phenomenon
6. Cox-proportional hazards regres

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QP Code: **Reg.No.:……**

M.Ch (Cardio Vascular and Thoracic Surgery) Degree Examinations

(Model Question Paper)

Paper II – Natural History, Diagnosis, Management, Prognosis and Rehabilitation of Congenital or Acquired Conditions Pertaining to General Thoracic Surgery

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Describe the present concepts in the molecular biology of lung cancer. Describe in detail the surgical treatment of non-small –cell lung cancer (20)

Short essays: (8x10=80)

2. Kartagenus syndrome
3. Gene therapy in Ca.Lung
4. Pectus excavatum
5. Chylothoax
6. Oesophageal motility studies
7. Pulmonary sequestration.
8. Diaphragm pacing.
9. Pulmonary function tests

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QP Code: **Reg.No.:……**

M.Ch (Cardio Vascular and Thoracic Surgery) Degree Examinations

(Model Question Paper)

Paper III – Natural History, Diagnosis, Management Prognosis and Rehabilitation & Recent Advances of Congenital or Acquired Heart Diseases and Major Blood Vessels

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. What is total arterial revascularisation. What are the conduits used for CABG. What is off pump CABG. Mention its advantages and disadvantages over on pump CABG (20)

Short essays: (8x10=80)

2. Atrial isomerism
3. Myxoma heart
4. Modified konnon operation
5. Pulmonary thrombo-endartrectomy
6. Preserving native mitral valve
7. Selection of prosthetic heart valves.
8. Fontan circulation.
9. Arterial switch operation.

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QP Code: **Reg.No.:……**

M.Ch (Cardio Vascular and Thoracic Surgery) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances in Cardiac General Thoracic and Vascular Surgery

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the novel technique of aortic valuloplasty. Describe COMVAR (20)

Short essays: (8x10=80)

2. Anti-thrombotic therapy in prosthetic heart valves.
3. Tracheal stents
4. Chimney graft
5. Indications and complications of PA catheterisation
6. Temporary ventricular assist devices
7. Current status of syntax trial
8. ECMO
9. Robotic heart surgery

3.7 Internal assessment component

Not applicable.

3.8 Details of practical/clinical exams

Practical/Clinical examination shall consist of:

i. 1 long case – 100 marks
ii. 2 short cases – 80 marks each = 160 marks
iii. Ward rounds – 40 marks
iv. Viva voce – 80 marks

v. Log book—20 marks

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Total Marks Practicals & Viva Voce - 400

Long case discussion may take a maximum of 1 hr, short cases (total cases 2) - maximum 1 hr, ward rounds – maximum 30 minutes and Viva voce maximum of 1 hr. Maximum number of candidates that can be examined per day may be restricted to 3.

3.9 Number of examiners needed (Internal & External) and their qualifications

Examiners

1. All Examiners shall be a recognised super speciality teacher as per MCI norms. There shall be two internal examiners (from affiliated colleges of KUHS) and two external examiners (exclusively from outside the state). In departments where there are more than 2 professors, the head of the department preferably be a constant member of the board of examiners, and the other professors shall be posted as internal examiners on rotation basis.
2. Under exceptional circumstances, examinations may be held with 3 (three) examiners provided at least two of them is an external examiner subject to the ratification of the pass board.

4 In the event of there being more than one centre in one city, the external examiners at all the centres in that city shall be the same. Where there is more than one centre of examination, the University shall appoint a Co-ordinator/Convenor to coordinate the examination on its behalf.

3.10 Details of viva

Viva Voce : 80 marks

4.INTERNSHIP

4.1 Eligibility for internship

Not applicable for Medical Superspecality degree courses.

4.2 Details of internship

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Not applicable for Medical Superspecality degree courses.

4.3 Model of Internship Mark lists

Not applicable for Medical Superspecality degree courses.

4.4 Extension rules

As per the existing KUHS rules.

4.5 Details of Training given

Not applicable for Medical Superspecality degree courses.

5.ANNEXURES

5.1 Check Lists for Monitoring: Log Book, Seminar Assessment etc.

ANNEXURE - 1

CHECK LIST 1 - EVALUATION OF CLINICAL WORK

Name of the Trainee: Date:

Name of the Faculty:

Sl. No.	**Items for observation during evaluation**	*Poor* *0*	*Below Average* *1*	*Average* *2*	*Good* *3*	*Very Good* *4*
1.	*Regularity of attendance*					
2.	*Punctuality*					
3.	*Interaction with colleagues and supportive staff*					
4.	*Maintenance of case records*					
5.	*Presentation of cases*					
6.	*Investigations work -up*					

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7.	*Bed - side manners*					
8.	*Rapport with patients*					
9.	*Counseling patients relatives for interventional procedures*					
10.	*Overall quality of clinical work*					
	Total score					

ANNEXURE - 2

CHECK LIST 2 EVALUATION OF CLINICAL CASE PRESENTATION

Name of the Trainee: *Date:*

Name of the faculty:

Sl. No	**Items for observation during presentation**	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	**Completeness of history**					
2.	**Whether all relevant points elicited**					
3.	**Clarity of presentation**					
4.	**Logical order**					
5.	**Mentioned all positive and negative points of importance**					
6.	**Accuracy of general physical examination**					

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7.	**Whether all physical signs elicited correctly**					
8.	**Diagnosis: whether it follows logically**					
9.	**Investigations required** **In Relevant order**					
10	**Interpretation of Investigations**					
11	**Ability to discuss differential diagnosis.**					
12	**Discussion on management**					
	Grand Total					

ANNEXURE 3

CHECK LIST 3

EVALUATION OF SEMINAR PESENTATION

Name of the Trainee: Date:

Name of the Faculty:

Sl no	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1	***Whether other relevant publications consulted***					
2	***Whether cross - references have been consulted***					

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3	***Completeness of Preparation***					
4	***Clarity of Presentation***					
5	***Understanding of subject***					
6	***Ability to answer the questions***					
7	***Time scheduling***					
8	***Appropriate use of Audio - Visual aids***					
9	***Overall performance***					
10	***Any other observation***					
	Total score					

ANNEXURE - 4

CHECK LIST 4

EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Trainee: **D a t e :**

Name of the Faculty:

Sl. No	**Items for observation during presentation**	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Article chosen*					

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2.	*Extent of understanding of scope & objectives of the paper by the candidate*					
3.	*Whether cross-references have been consulted*					
4.	*Whether other relevant publications consulted*					
5.	*Ability to respond to questions on the paper/ subject*					
6.	*Audio - Visual aids used*					
7.	*Ability to discuss the paper*					
8.	*Clarity of presentation*					
9.	*Any other observation*					
	Total Score					

ANNEXURE - 5

CHECK LIST 5

EVALUATION OF TEACHING SKILL

Name of the Trainee: **Date:**

Name of the faculty:

Sl. No.	**Items for observation**	**Strong Points**	**Weak Points**
1.	*Communication of the purpose of the talk*		
2.	*Evokes audience interest in the subject*		

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3.	*The introduction*		
4.	*The sequence of ideas*		
5.	*The use of practical examples and / or illustrations*		
6.	*Speaking style (enjoyable, monotonous, etc. Specify)*		
7.	*Attempts audience participation*		
8.	*Summary of the main points at the end*		
9.	*Ask questions*		
10.	*Answer questions asked by the audience*		
11.	*Rapport of speaker with his audience*		
12.	*Effectiveness of the talk*		
13.	*Uses AV aids appropriately*		

ANNEXURE - 6

CHECK LIST 6

EVALUATION OF DISSERTATION PRESENTATION

Name of the Trainee: Date:

Name of the faculty / Observer:

Sl.No	**Points to be considered**	**Poor** *0*	*Below Average 1*	*Average 2*	*Good 3*	*Very Good 4*
1.	*Interest shown in selecting topic*					
2.	*Appropriate review*					
3.	*Discussion with guide and other faculty*					

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4.	*Quality of protocol*					
5.	*Preparation of Proforma*					
	Total Score					

ANNEXURE - 7

CHECK LIST 7

CONTINUOUS EVALUATION OF DISSERTATION WORK

Name of the Trainee: **Date**

Name of the Faculty:

Sl. No.	**Items for observation during presentation**	**Poor**	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Periodic consultation with guide / co- guide*					
2.	*Regular collection of case material*					
3.	*Depth of Analysis / Discussion*					
4.	*Department presentation of findings*					
5.	*Quality of final output*					
6.	*Others*					
	Total score					

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ANNEXURE - 8

CHECK LIST 8

OVERALL ASSESSMENT SHEET

Name of the College: Date:

Check list no	***Particulars***	***0***	***1***	***2***	***3***	***4***
1	***Clinica lwork***					
2	***Clinical presentation***					
3	***Seminars***					
4	***Journal review***					
5	***Teaching skill***					
6	***Dissertation work***					
	TOTAL					

0- Poor 1- Below average 2- Average 3- Good 4- Very good

Signature of HOD Signature of Principal

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ANNEXURE - 9

TABLE 1

ACADEMIC ACTIVITIES ATTENDED

Name:

Admission Year: **College:**

Date	**Type of activity - Specify Seminar, Journal club, Presentation, UG teaching**	**Particulars**

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LOG BOOK

TABLE 2

ACADEMIC PRESENTATIONS MADE BY THE TRAINEE

Name :

Admission Year:

College:

Date	**Topic**	Type of activity - Specify Seminar, Journal club, Presentation, UG teaching

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LOG BOOK

TABLE 3

DIAGNOSTIC AND OPERATIVE PROCEDURES PERFORMED

Name

Date	*Name*	*OP No.*	*Procedure*	*Category* *O, A, PA, PI*
		!		

Key:

O - OBSERVED

A - ASSISTED A MORE SENIOR SURGEON

PA - PERFORMED PROCEDURE UNDER SUPERVISION

PI - PERFORMED INDEPENDENTLY

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APPENDIX 111 - FINAL EXAMINATION ELIGIBILITY FORM

(To be filled up the candidate)

Name of the candidate :

Date of Joining :

Identification number or

registration number

of university :

Course :

Institution :

Eligibility criteria :

Sl No	Parameter	Details	Proof enclosure
1.	Attendance	1st year (minimum 80%) 2nd year(minimum 80%) 3rd year(minimum 80%)	
2.	Thesis	Approved/Not Approved by the University	
3.	Log book	Successfully completed and submitted	
5.	Conferences attended	Number and category : Number of presentations:	
6.	Publications	Number published: Number submitted:	

All the informations provided above are true to the best of my knowledge and if found contrary, I am clearly aware that strict disciplinary actions will be initiated including debarring from examination.

Date Signature of the candidate :

Place Name of the candidate :

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Countersigned by:

Faculty as guide:

Name:

Designation:

APPROVAL OF HEAD OF THE DEPARTMENT

I , Dr……, herewith approve that the above candidate is eligible to appear for the final examination as per the documentary evidences provided and best of the knowledge and documents of the department.

Date Signature :

Place Name :

Designation :

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REGULATIONS2016

SYLLABUS

For Courses affiliated to the

Kerala University of Health Sciences

Thrissur 680596

SUPER SPECIALITY COURSE IN MEDICINE

M Ch. Genito Urinary Surgery

Course Code 238

(2016-17 admission onwards)

2016

2. COURSE CONTENT

2.1 Title of course:

M Ch Genitourinary Surgery

2.2 Objectives of course

Goal

The goal of postgraduate medical education shall be to produce competent specialists and/or Medical teachers.

i. Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy

ii. Who shall have mastered most of the competencies, pertaining to the speciality, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;

iii. Who shall be aware of the contemporary advances and developments in the discipline concerned.

iv. Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology

v. Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

General objectives of Super Speciality training

At the end of the super speciality training in the discipline concerned, the student shall be able to:

i. Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health section.

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ii. Practice the speciality concerned ethically and in step with the principles of primary health care.

iii. Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.

iv. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measure/strategies.

v. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.

vi. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.

vii. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.

viii. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.

ix. Play the assigned role in the implementation of national health programme, effectively and responsibly.

x. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

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xi. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

xii. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyze relevant published research literature.

xiii. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.

xiv. Function as an effective leader of a health team engaged in health care, research or training.

The objective of M Ch (Urology) degree course is to produce highly competent medical manpower in Urology. The training ingredients should provide in-depth knowledge of the entire urology and relevant basic allied subjects. The course is expected to bring about a change in attitude towards better scientific approach with logic and analysis. More stress should be given to development of psychomotor skills. This should culminate in shaping of a shrewd clinician, confident surgeon and a knowledgeable teacher insured to basic research methodology. Basis of an ideal training programme will be a powerful urology service complete in every sense. Today, a urology-teaching department should include complete adult and pediatric urology services with fully developed subspecialities such as gynaecologic urology, urooncology, neuro-urology, andrology & sexual dysfunction, newer modalities of stone management like endourological techniques and extracorporeal shock wave lithortripsy and renal transplantation.

2.3 Medium of instruction:

The medium of instruction for the course shall be English.

2.4 Course outline

As given under clause “Content of each subject in each year “ of the curriculum.

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2.5 Duration

Every candidate seeking admission to the training programme to qualify for the degree of M Ch in the subjects shall pursue a regular course as a full time student, in the concerned Department under the guidance of a recognized super speciality teacher for a period of three years. The course commences from 1st August in each year.

2.6 Syllabus

As given under clause "Content of each subject in each year of the curriculum.

The concept of Health Care Counselling shall be incorporated in all relevant areas

2.7 Total number of hours

As given under clause "Content of each subject in each year of the curriculum.

2.8 Branches if any with definition

As given under clause "Content of each subject in each year of the curriculum.

2.9 Teaching learning methods

TRAINING PROGRAM

The training program will aim to give the candidate a sound training of cardiac diagnosis and management. During the period of training they shall take part in all the activities of the department including ward rounds, lectures, seminars, teaching assignments, laboratory studies, surgical session and other duties assigned to them by the Head of the Department.

All candidates shall work as full time residents during the period of training.

The training program shall be updated as and when required. The training shall include:-

a) Active involvement in the diagnosis and management of patients both in the outpatient, coronary care unit and the wards.

b) Participation in lectures, seminars, journal clubs, clinical group discussions etc.

c) Participation in research work in cardiology.

d) Exposure to basic and advanced diagnostic, therapeutic and laboratory techniques.

e) Exposure to biomedical statistics as applicable to basic research methodology

f) Post graduate students shall maintain log books of the work carried out by them. The log books shall be checked and assessed every 6 months by the faculty members, with a view to assure the progress the candidate has made and spot the inadequacies if any.

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Out station training

Outstation training may be given if required. It should not exceed 2 months, the duration, center etc: - will be at the discretion of the Head of the department.

Teaching

All M Ch students should take part in the teaching of the post graduate degree students of related subjects, undergraduate medical students and paramedical students and allied health science students posted in the department by rotation.

TRAINING & TEACHING METHODOLOGY

Besides didactic lectures (delivered by the faculty members, national & international visiting teachers, seminar symposium and journal clubs is to be be organized. Problem oriented training to be given in the form of case discussions, ward rounds, inter-disciplinary meetings and department statistical meetings.

Every candidate is supposed to discuss a minimum of 2 clinico-pathological conferences. Practical is to be imparted by full time residency training programme, where a trainee will be given full responsibility of the patients. He will be encouraged to improve and develop his decision-making ability under supervision of teachers.

In course Training

Since it will be a full time residency cum M Ch course, a candidate will be responsible for the total care of the patients. He will be encouraged to take independent decisions. Every day there will be atleast one hour academic activity to a maximum of 10 hours/week in which all the faculty members & residents will participate. Case discusser will take place weekly with 3rd year resident as a moterator.

Other academic activities like journal clubs, seminars, group discussions statistical meetings will be a fortnightly feature where deaths, complications, operations and consultations rendered will be discussed.

Consultation to the other department and in emergency will only be attended by the IInd & IIIrd year Senior Residents. Consultations given to other departments should also be

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discussed every morning with the respective consultants. In OPD a candidate will see the cases independently and will make all the pertinent notes. In problematic cases and a special referral, it is mandatory to show the case to the respective consultant. A candidate will not be allowed to provide independent consultations for first six months.

A candidate will have to attend all postmortem examination done for the department. Interdepartmental meetings like uroradiology, uronephrology, uroradiotherapy & medical oncology, uropathology, uroimaging will provide an opportunity for open discussion on a common subject and it will also provide an opportunity to learn views of the specialists on these subjects.

2.10 Content of each subject in each year

It will cover wide spectrum of the diseases of urogenital system & retroperitorium. Apart from the clinical aspect of these subjects, candidate has to acquire indepth knowledge of the related basic subjects like applied; anatomy; embryology, physiology; biochemistry, pharmacology; pathology, microbiology ,epidemiology, immunology etc.

1. Anatomy and Embryology of GU tracts, adrenal & retroperitoneum.
2. Applied physiology and biochemistry pertaining to Urology, Nephrology, renal transplantation and renovascular hypertension.
3. Investigative urology & Genito-urinary radiology and imaging including nuclear medicine.
4. Male Infertility, Andrology and Urological endocrinology.
5. Sexual dysfunction- investigations and management.
6. Perioperative care, management of urological complications and care of the critically ill patients.
7. Urodynamics and Neurology.
8. Genito-urinary trauma.
9. Urolithiasis-Medical, Biochemical & Surgical aspects.
10. Uro-oncology-Adult & Paediatric
11. Reconstructive Urology.
12. Paediatric Urology-congenital malformations and acquired diseases.
13. Urinary tract infections and sexually transmitted diseases.

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14. Obstructive Uropathy.

15. Renal transplantation (including transplant immunology medical & surgical aspects).

16. Renovascular Hypertension.

17. Gynaecological urology.

18. Newer developments in urology.

19. Operative Urology-open & endoscopic

20. Endourology

21. Behavioural and social aspects of urology.

22. Neonatal problems in Urology.

23. Electrocoagulation, lasers, fibre optics, instruments, catheters, endoscopes etc.

24. Retroperitoneal Diseases & Management.

25. Medical aspects of the kidney diseases.

26. Laparoscopic Urologic Surgery.

Apart from above mentioned subjects, each candidate should have basic knowledge of the following:

1. Biostatistics & Epidemiology.

2. Computer Sciences.

3. Experimental & Research methodlogy and Evidence Based Medicine.

4. Scientific presentation.

5. Cardio-pulmonary resuscitation.

6. Ethics in medicine.

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

TRAINING IN OPERATIVE UROLOGY

Special attention to be paid to improve the operative skill of the candidate. He shall be trained to take independent operative decisions. In a time bound schedule an opportunity will be accorded to perform all the major open as well as endoscopic procedures so as to let him develop mastery in the essential procedures. Candidates will be required to maintain a

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logbook of operative procedures with details of, if any, and their management. This will be reviewed every three months. Completed logbook is to be submitted before the practical examination and will be reviewed by the external examiners.

First Two Years

Each Candidate should spent time for basic research specially related to animal laboratory or in collaboration with basic department i.e. biochemistry, biotechnology and ratholog.

0-6 Months

A candidate is supposed to master following procedures.

1. **Cystourethroscopy,** filiform, dilatation, retrograde pyelography. Interpretation of normal and abnormal findings in relation to gross inflammations, obstructive and neoplastic changes in the lower urinary tract.

2. **Minor Urological Procedures:**

Needle biopsy of the prostate, dilatation, trocar cystostomy, open cystostomy, orchiectomy, circumcision, meatotomy/Meatoplasty Arterio-verous shunts, Excision of urethral caruncle.

3. **Uro-Radiological & Imaging Techniques:**

During this period a candidate should perform various uroradiological & Imaging procedures like Retrograde Urethrograms & Micturating, Cystourethrogram, cystogram, triplecystogram, nephrostogram, Whitaker test, sinogram, vasoseminography, antegrade pyelograpy, interpretation of Ultrasound & computerized tomography scans and renography, renal angiography including Digital Substration Angiography & venography.

06-09 Months

A candidate should learn, perform and interpret urodynamic studies like Cystometrogram, electro

myography & Urethral pressure profile & Video urodynamics. He will also perform and interpret various

tests of sexual dysfunction such as dynamic cavernosography, papavarin test, Penil-Brachial Index,

Noctornal penile tumescene, regiscan, sacral latency period and other evoked potential studies.

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9-23 Months

He will assist and perform following procedures.

(a) Endoscopic Surgery:

Internal urothrotomy, Bladder neck Incesion, Litholopaxy, cystolithotripsy, insertion & retrieval of bladder & ureteral stent, ureteral meatotomy, endoscopic suspension of bladder neck, Transurethral resection of bladder tumour.

(b) Surgical Procedures:

Simple nephrectomy, radical nephrectomy, cystolithotomy ureterolithotomy, pyelolithotomy, nephrostomy, pyeloplasty, various urethroplasties. Retropubic & a transvesical prostatectomy, surgery

for underscended testis, partial and total amputation of penis, extended pyelolithotomy, VVF repair.

24-36 Months

Open Surgery

Candidate should learn more complex surgical procedures like-transpubic urethroplasty, Hypospadias repair, Augmentation cystoplasty, Anatrophic Nephrolithotomy under hypothermia, Boari's flap procedure, exstrophy closure, urinary diversion, ureteroneocystostomy, partial and total cystectomy, nephroureterectomy, penile prosthesis, Artificial urinary sphincter, Microsurgical Vasoepididmostomy, and vasovasostomy,. Undiversion, Renal transplant surgery and AV fistulae, retroperitneal lymphadenectomy.

Endoscopic Procedure

Trusurethral resection of prostate, percutaneous nephrolithotomy, Uretero-renoscopy, Laser Surgery, other endourolocial procedures etc.

Efforts will be made that candidate is able to perform the following minimum stipulated number of procedures within three years of his training.

1. Endoscopies - 100

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2. Urethroplasties		-5
3. Internal urethrotomy	-	20
4. Internal tract reconstractions		10
5. Repair of vesicovaginal fistulae	-	5
6. Pyeloplasties	-	5
7. Hypospadias repair	-	5
8. Transurethral Resection of Prostate	-	25
9. Uretero-Renoscopy	-	25
10. Percutaneous Nephrolithotomy & endopyelotomy	-	15
11. Donor Nephrectomies		-5
12. Recepient Surgery	-	2

In addition to above mentioned procedures candidates will perform/assist minimum of two or five of each of following procedures depending upon the availability of the case material

- Nephrectomy for pyonephrosis-Surgical treatment of stress urinary incontinence
- Radical Cystoprostatectomy
- Radical Nephrectomy
- Ureteroneocystostomy
- Retroperitoneal lymphnode dissection-Ileal replacement
- Different type of Urinary diversion of orthotopic Neobaldder- Surgical mamagement of Renal and

  Urethral trauma
- Transpubic urethroplasty
- Augmentation cystoplasty
- Nephroureteractomy – Undiversion
- Anatrophic Nephrolithotomy
- Laparoscopic Urologic Surgery
- Paediatric surgical procedures.

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Posting

A candidate will be sent to Nephrology department for one month to learn medical aspect of Kidney diseases (except the renal transplantation). This posting should be after one to 1.1/2 year after joining the course.

It is highly desirable to formulate a reasonable teaching curriculum for this posting and a candidate is to be evaluated by the Nephrologist at the end of the posting. An unsuccessful candidate has to repeat his posting.

Exchange Programme

In view of expanding field of urology, it is difficult to see, observe and have training in all newer subspecialities. Therefore, it is imperative to inclucate exchange programme and resident should be rotated to two or three centers as per advise by the department committee. It is also suggested that department weak in some subspeciality should invite visiting professor from other centers to strengthen the course.

2.13 Records

As per clause 2.21

2.14 Dissertation: As per Dissertation Regulations of KUHS

Thesis is an absolute requirement for M Ch course and the candidate has to register the thesis synopsis in the University through proper channel within 6 months of admission. Thesis has to be submitted to the University for Evaluation at least 6 months prior to the conduct of final examination. Modifications and resubmission should be done before writing the examination. Even if the guide is transferred/ retired, the thesis has to be continued under his/her guidance or entrust to another guide in case the original person is not willing to continue. In extra ordinary situations change of guide and change of thesis topic is permissible with prior permission from the University. Only after accepting the thesis, the candidate will be eligible for writing the examination. In addition to this, the student has to present at least one paper/poster in a regional /national / international conference of the concerned speciality

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during his three year course or at least one publication in a peer reviewed journal. Research paper should be approved by the Institutional Review Board/ Institutional Ethical Committee.

Each candidate has to carry out two dissertation or studies for thesis, which should be acceptable for publication in a Indian Journal or any International Journal.

1. Experimental Research Project – One May be a) Animal lab work or b) Associated with a Basic science Dept.

2. Clinical Research Project – At least one

Evaluation of Thesis

The thesis shall be evaluated by a minimum of three experts; one internal and two external experts, who shall not be the examiners for the Theory and Clinical examination of the concerned candidates and it may be accepted/ accepted with modifications/rejected. Only on the acceptance of the thesis by two experts out of three, the candidate shall be permitted to appear for the University examination. If the thesis is not accepted on evaluation by at least two experts, it shall be resubmitted with suggested modifications along with prescribed fees within the prescribed time stipulated by the University from time to time and it shall be re-evaluated by the same experts. If thesis is rejected by two experts, the candidate will lose first chance for appearing in the University examination and has to redo a fresh thesis for further evaluation.

2.15 Speciality training if any

As given under clause "Content of each subject in each year of the curriculum.

2.16 Project work to be done if any

As stipulated by the Head of Department

2.17 Any other requirements [CME, Paper Publishing etc.]

- Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
- Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms)

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or

- At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

2.18 Prescribed/recommended textbooks for each subject

Periodicals

- Urological clinics of North America
- Seminars in Urology
- Controversy in Urology
- Recent Advances in Urology
- Year Book of Urology
- Modern Trend in Urology

2.19 Reference books

General Urology

Sl No	***Book***	***Editor***
1	Campbell urology-3 Volumes	Edited by Walgh, et al
2	Scientific Basis of Urology	Mundy
3	Current Urological Therapy	Kaufman
4	Obstructive Uropathy	O'Reilly
5	Urogenital trauma Macaminch	
6	Text book of Urology	Whitefield & Hendry
7	Adult & Paediatric Urology	Gillenwater et al

Paediatric Urology

Sl No	***Book***	***Editor***
1	Pediatric Urology	Kelalis & King – 2 vol.

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2	Paediatric Urology	Whitakar

Uro-oncology

Sl No	***Book***	***Editor***
1	Genito-urinary cancer management	Backeman & Paulson
2	Genitourinary cancer	Dekerrion et al
3	Testicular cancer	Javadopor

Urodynamics

Sl No	***Book***	***Editor***
1	Urodynamics principle & practice	Mundy
2	Controversy in Neurourology	Barret & wein
3	Neurourology & urodynamics	Bradly & Hald

Stone Diseases

Sl No	***Book***	***Editor***
1	Stone disease Diagnosis & management	Rous
2	Endourology	Clayman et.al
3	Endourology	Carson
4	Extracorporeal shock wave Lithotripsy	Gravernstein
5	Endourology	Arthur Smith

Infertility

Sl No	***Book***	***Editor***
1	Male Infertility	Amelar
2	Reproductive infertility	Silber

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3	Microsurgery in male and female	

Reconstructive and Female Urology

Sl No	***Book***	***Editor***
1	Operative Gynaecology	Te Linde
2	Female urology	Blandy
3	Urinary Incontinence	Dat. D.O.'Donnel
4	Urogynaecology & urodynamics	Obstargard & Bent
5	Reconstructive urologic surgery	Libertino

Renal Transplantation

Sl No	***Book***	***Editor***
1	Kidney transplantation	Peter morris
2	Renal transplantation	Garovoy & Guttman
3	Introduction to Dialysis	Logan
4	Vascular access in Haemodialysis	Bell et Al

Operative Urology

Sl No	***Book***	***Editor***
1	Glen's operative urology	Glen
2	Urologic Endoscopy	Bagley et al
3	Transurethral surgery	Maurmayer

Laparoscopy

Sl No	***Book***	***Editor***
1	Laparoscopic urology	Ralph V. Clayman, E.M. McDougall

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2	Urologic Laparoscopy	Sakti Das
3	Laparoscopic Urologic Surgery	A.K. Hemal

Uroradiology

Sl No	*Book*	*Editor*
1	Emmett's –Witten-Clinical Uroradiology 3 volumes	Emmett

2.20 Journals

- Indian Journal of Urology
- Journal of Urology
- British Journal of Urology
- Neurourology & Urodynamics
- Urology (Gold Journal)
- European Urology
- Urologia internationalis
- Scandinavian Journal of Urology & Nephrology
- Transplantation
- Transplant Proceedings
- Urological Research
- Urologic Radiology
- World Journal of Urology

2.21 Logbook

A log book is mandatory and has to be maintained by all students and this has to be reviewed by HOD / Unit Chief of the department regularly (at least quarterly). Minimum number of each of the academic activities to be performed by the candidate should be outlined for each speciality. Model check list for journal review/seminars/topic presentation/ teaching skill etc: - is shown in the appendix. Periodic formative assessment has also to be

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done in the department by the super speciality teachers. Log book will be evaluated during the University examination by all the four examiners with a maximum total mark of 20 in the viva component *(Check Lists appended).*

3.EXAMINATION

3.1 Eligibility to appear for exams

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

A candidate should appear for all the theory examinations and obtaining a minimum aggregate of 50% marks in theory part and practical part (Practical & Viva) separately shall be mandatory for passing the whole examination.

ELIGIBILITY FOR APPEARING IN FINAL EXAMINATION

i. A minimum of 80% attendance during each year of the course separately.
ii. Successful Submission of completed Logbook.
iii. Submission of Dissertation and its approval by the University.
iv. Should have attended minimum of two International/ National/ Zonal/State conferences or workshops concerned with the area of specialization.
v. Should have presented at least one paper/poster in International/ National/ Zonal/State conferences concerned with the area of specialization.(as per MCI norms).

Or

At least one publication in a peer reviewed journal or at least two research papers or original works should be submitted for publication in peer reviewed journals (as per MCI norms).

vi. The prescribed form (annexure 3) for each candidate should be filled up by concerned department and sent to KUHS for issuing hall ticket for the candidate to appear

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for the examination. If the candidate fails to meet the criteria, he will not be permitted to appear for the examination.

3.2 Schedule, ie, approximate months of Regular/Supplementary exams

Generally there shall be two university examinations in a year, one regular and one supplementary examinations with a usual gap of six months.

3.3 Scheme of examination showing maximum marks and minimum marks

There shall be theory, practical examination including viva voce at the end of the three year course. Theory examination shall consist of four papers (3 hours duration) including one on recent advances and each paper will carry a maximum of 100 marks. Each question paper shall consist of one essay question of 20 marks and 8 short essays of 10 marks each. There shall be a multiple evaluation of theory papers by two internal examiners and two external examiners and the average mark for each paper is taken as the final marks.

3.4 Papers in each year

Not Appllicable

3.5 Details of theory exams [including number of papers, Duration, Type of questions & number of questions and marks

- Paper - I Basic Sciences - 100
- Paper-II General Urology - 100
- Paper-III General Urology - 100
- Paper-IV Recent advances in Urology - 100

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3.6 Model question paper for each subject with question paper pattern

QP Code: **Reg.No:**

M.Ch. (Genito - Urinary Surgery) Degree Examinations

(Model Question Paper)

Paper I – Basic Sciences

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the anatomic basis of intra renal / percutaneous renal surgery.

Short essays: (8x10=80)

2. Lymphatic drainage of penis
3. The ALARA principle
4. Proteinuria
5. Optics of endoscopes
6. Gonadal descent
7. Performance status
8. Evolution of normal micturition control
9. Buccal mucosa

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QP Code: **Reg.No:**

M.Ch. (Genito - Urinary Surgery) Degree Examinations

(Model Question Paper)

Paper II – General Urology

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the evaluation of a prospective live renal donor

Short essays: (8x10=80)

2. Contrast nephropathy
3. Health related quality of life instruments
4. Sling materials
5. Ischaemic nephropathy
6. Endopyelotomy
7. Adolescent varicocele
8. Mechanism of stone comminution by ESWL
9. Persistent Mullerian duct syndrome

****

QP Code: **Reg.No:**

M.Ch. (Genito - Urinary Surgery) Degree Examinations

(Model Question Paper)

Paper III – General Urology

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the physiologic effects of pneumoperitoneum on the various systems in

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the body.

Short essays: (8x10=80)

2. Venous thromboembolic prophylaxis

3. Informed consent

4. Catheter associated UTI

5. Recto urethral fistula

6. Definition of BCG failure and it's management in urothelial cancer

7. Bladder diverticulum

8. The MTOPS study

9. Sacral neuromodulation

****

QP Code: **Reg.No:**

M.Ch. (Genito - Urinary Surgery) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances in Urology

Time: 3 hrs Max marks:100

- **Answer all questions**
- **Draw diagrams wherever necessary**

Essays: (20)

1. Discuss the recent advances in the management of metastatic renal cell Carcinoma

Short essays: (8x10=80)

2. R.E.N.A.L.Score

3. Active surveillance in prostate cancer

4. Microperc

5. Bipolar TURP

6. Botulinum Toxin

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7. Simulators in urology

8. Narrow band Imaging

9. Video endoscopic inguinal lymphadenectomy

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3.7 Internal assessment component

Not applicable.

3.8 Details of practical/clinical exams

Practical/Clinical examination shall consist of:

i. 1 long case – 100 marks
ii. 2 short cases – 80 marks each = 160 marks
iii. Ward rounds – 40 marks
iv. Viva voce – 80 marks
v. Log book—20 marks

Total Marks Practicals & Viva Voce - 400

Long case discussion may take a maximum of 1 hr, short cases (total cases 2) - maximum 1 hr, ward rounds – maximum 30 minutes and Viva voce maximum of 1 hr. Maximum number of candidates that can be examined per day may be restricted to 3.

3.9 Number of examiners needed (Internal & External) and their qualifications

Examiners

1. All Examiners shall be a recognised super speciality teacher as per MCI norms. There shall be two internal examiners (from affiliated colleges of KUHS) and two external examiners (exclusively from outside the state). In departments where there are more than 2 professors, the head of the department preferably be a constant member of the board of examiners, and the other professors shall be posted as internal examiners on rotation basis.

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2. Under exceptional circumstances, examinations may be held with 3 (three) examiners provided at least two of them is an external examiner subject to the ratification of the pass board.

3. In the event of there being more than one centre in one city, the external examiners at all the centres in that city shall be the same. Where there is more than one centre of examination, the University shall appoint a Co-ordinator/Convenor to coordinate the examination on its behalf.

3.10 Details of viva

Viva Voce : 80 marks

4. INTERNSHIP

4.1 Eligibility for internship

Not applicable for Medical Superspecality degree courses.

4.2 Details of internship

Not applicable for Medical Superspecality degree courses.

4.3 Model of Internship Mark lists

Not applicable for Medical Superspecality degree courses.

4.4 Extension rules

As per the existing KUHS rules.

4.5 Details of Training given

Not applicable for P.G. Medical degree/diploma courses.

5 ANNEXURES

5.1 Check Lists for Monitoring: Log Book, Seminar Assessment etc.

ANNEXURE - 1

CHECK LIST 1 - EVALUATION OF CLINICAL WORK

Name of the Trainee: Date:

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Name of the Faculty:

Sl. No.	Items for observation during evaluation	*Poor* *0*	*Below Average* *1*	*Average* *2*	*Good* *3*	*Very Good* *4*
1.	*Regularity of attendance*					
2.	*Punctuality*					
3.	*Interaction with colleagues and supportive staff*					
4.	*Maintenance of case records*					
5.	*Presentation of cases*					
6.	*Investigations work -up*					
7.	*Bed - side manners*					
8.	*Rapport with patients*					
9.	*Counseling patients relatives for interventional procedures*					
10.	*Overall quality of clinical work*					
	Total score					

ANNEXURE - 2

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CHECK LIST 2 EVALUATION OF CLINICAL CASE PRESENTATION

Name of the Trainee: *Date:*

Name of the faculty:

Sl. No	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	**Completeness of history**					
2.	**Whether all relevant points elicited**					
3.	**Clarity of presentation**					
4.	**Logical order**					
5.	**Mentioned all positive and negative points of importance**					
6.	**Accuracy of general physical examination**					
7.	**Whether all physical signs elicited correctly**					
8.	**Diagnosis: whether it follows logically**					
9.	**Investigations required** **In Relevant order**					
10	**Interpretation of Investigations**					

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11	**Ability to discuss differential diagnosis.**					
12	**Discussion on management**					
	Grand Total					

ANNEXURE 3

CHECK LIST 3

EVALUATION OF SEMINAR PESENTATION

Name of the Trainee: Date:

Name of the Faculty:

Sl no	Items for observation during presentation	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1	***Whether other relevant publications consulted***					
2	***Whether cross - references have been consulted***					
3	***Completeness of Preparation***					
4	***Clarity of Presentation***					
5	***Understanding of subject***					
6	***Ability to answer the questions***					
7	***Time scheduling***					

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8	***Appropriate use of Audio - Visual aids***					
9	***Overall performance***					
10	***Any other observation***					
	Total score					

ANNEXURE - 4

CHECK LIST 4

EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Trainee: **D a t e :**

Name of the Faculty:

Sl. No	**Items for observation during presentation**	*Poor*	*Below Average*	*Average*	*Good*	*Very Good*
		0	*1*	*2*	*3*	*4*
1.	*Article chosen*					
2.	*Extent of understanding of scope & objectives of the paper by the candidate*					
3.	*Whether cross-references have been consulted*					
4.	*Whether other relevant*					

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	publications consulted					
5.	*Ability to respond to questions on the paper/ subject*					
6.	*Audio - Visual aids used*					
7.	*Ability to discuss the paper*					
8.	*Clarity of presentation*					
9.	*Any other observation*					
	Total Score					

ANNEXURE - 5

CHECK LIST 5

EVALUATION OF TEACHING SKILL

Name of the Trainee: **Date:**

Name of the faculty:

Sl. No.	**Items for observation**	**Strong Points**	**Weak Points**
1.	*Communication of the purpose of the talk*		
2.	*Evokes audience interest in the subject*		
3.	*The introduction*		
4.	*The sequence of ideas*		

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5.	*The use of practical examples and / or illustrations*		
6.	*Speaking style (enjoyable, monotonous, etc. Specify)*		
7.	*Attempts audience participation*		
8.	*Summary of the main points at the end*		
9.	*Ask questions*		
10.	*Answer questions asked by the audience*		
11.	*Rapport of speaker with his audience*		
12.	*Effectiveness of the talk*		
13.	*Uses AV aids appropriately*		

ANNEXURE - 6

CHECK LIST 6

EVALUATION OF DISSERTATION PRESENTATION

Name of the Trainee: Date:

Name of the faculty / Observer:

Sl.No	*Points to be considered*	*Poor 0*	*Below Average 1*	*Average 2*	*Good 3*	*Very Good 4*
1.	*Interest shown in selecting topic*					
2.	*Appropriate review*					
3.	*Discussion with guide and other faculty*					

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4.	*Quality of protocol*					
5.	*Preparation of Proforma*					
	Total Score					

ANNEXURE - 7

CHECK LIST 7

CONTINUOUS EVALUATION OF DISSERTATION WORK

Name of the Trainee: **Date**

Name of the Faculty:

Sl. No.	**Items for observation during presentation**	**Poor**	***Below Average***	***Average***	***Good***	***Very Good***
		0	*1*	*2*	*3*	*4*
1.	*Periodic consultation with guide / co- guide*					
2.	*Regular collection of case material*					
3.	*Depth of Analysis / Discussion*					
4.	*Department presentation of findings*					
5.	*Quality of final output*					
6.	*Others*					

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	Total score	

ANNEXURE - 8

CHECK LIST 8

OVERALL ASSESSMENT SHEET

Name of the College: Date:

Check list no	***Particulars***	***0***	***1***	***2***	***3***	***4***
1	***Clinica lwork***					
2	***Clinical presentation***					
3	***Seminars***					
4	***Journal review***					
5	***Teaching skill***					
6	***Dissertation work***					
	TOTAL					

0- Poor 1- Below average 2- Average 3- Good 4- Very good

Signature of HOD Signature of Principal

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ANNEXURE - 9

TABLE 1

ACADEMIC ACTIVITIES ATTENDED

Name:

Admission Year: **College:**

Date	**Type of activity - Specify Seminar, Journal club, Presentation, UG teaching**	**Particulars**

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LOG BOOK

TABLE 2

ACADEMIC PRESENTATIONS MADE BY THE TRAINEE

Name :

Admission Year:

College:

Date	**Topic**	Type of activity - Specify Seminar, Journal club, Presentation, UG teaching

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LOG BOOK

TABLE 3

DIAGNOSTIC AND OPERATIVE PROCEDURES PERFORMED

Name

Date	*Name*	*OP No.*	*Procedure*	*Category* *O, A, PA, PI*
		!		

Key:

O - OBSERVED

A - ASSISTED A MORE SENIOR SURGEON

PA - PERFORMED PROCEDURE UNDER SUPERVISION

PI - PERFORMED INDEPENDENTLY

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APPENDIX 111 - FINAL EXAMINATION ELIGIBILITY FORM

(To be filled up the candidate)

Name of the candidate :

Date of Joining :

Identification number or registration number of university :

Course :

Institution :

Eligibility criteria :

Sl No	Parameter	Details	Proof enclosure
1.	Attendance	1st year (minimum 80%) 2nd year(minimum 80%) 3rd year(minimum 80%)	
2.	Thesis	Approved/Not Approved by the University	
3.	Log book	Successfully completed and submitted	
5.	Conferences attended	Number and category : Number of presentations:	
6.	Publications	Number published: Number submitted:	

All the informations provided above are true to the best of my knowledge and if found contrary, I am clearly aware that strict disciplinary actions will be initiated including debarring from examination.

Date Signature of the candidate :

Place Name of the candidate :

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Countersigned by:

Faculty as guide:

Name:

Designation:

APPROVAL OF HEAD OF THE DEPARTMENT

I , Dr……, herewith approve that the above candidate is eligible to appear for the final examination as per the documentary evidences provided and best of the knowledge and documents of the department.

Date Signature :

Place Name :

Designation :

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