REGULATIONS 2018

SYLLABUS

FOR COURSES AFFILIATED TO THE

KERALA UNIVERSITY OF HEALTH SCIENCES

THRISSUR 680596

SUPER SPECIALITY COURSE IN MEDICINE

M Ch. HEAD AND NECK SURGERY

COURSE CODE: 323

(2018-19 ACADEMIC YEAR ONWARDS)

2018

NEW SYLLABUS

2. COURSE CONTENT

2.1 Title of course:

MCh Head and Neck Surgery

2.2 Objectives of course

The three year head and neck surgery course aims to develop a highly qualified and competent professional in the field of surgery and oncology who is capable of diagnosing, and evaluating patients with head and neck cancers and participating in a multi-disciplinary team in the management of head and neck cancer. The candidate will be trained in relevant imaging, pathology, and application of chemotherapy , biological therapy and radiotherapy besides all types of oncological surgeries including skull base, endoscopic and microscopic surgeries ,and the use of lasers, ultrasonics and robotics . Candidate is expected to gain basic knowledge in molecular oncology, clinical and translational research methodology, epidemiological sciences, biostatistics and preventive oncology apart from radiotherapy techniques, radiobiology and medical oncology.

Head and Surgeon thus trained is expected be able to head a multi-disciplinary team in an oncological practice or build a team capable of handling head and neck malignancies.

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 relevant to head and neck diseases including malignancies.

(3) Skills in the clinical diagnosis, planning of investigations and surgical management of all head and neck cancers and allied diseases by cutting edge surgical technical know how.

(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

(6) Ability to critically appraise published literature, interpret data and to broaden his/her knowledge by keeping abreast with modern developments in Head and Neck Surgery and 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 regarding overall management of the head and neck malignancies.

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

(10) Ability to conduct research.

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 /semester of the curriculum(syllabus),summary of core curriculum and details of curriculum with time line.

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/semester of the curriculum.

2.7 Total number of hours

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

2.8 Branches if any with definition

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

2.9 Teaching learning methods

TRAINING PROGRAM

The training program will aim to give the candidate a sound and comprehensive training in diagnosis and management of Head and Neck disease with special emphasis on malignant and premalignant conditions . 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, inpatient and day care units.

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 and 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- Flexible Upper GI endoscopy, bronchoscopy, nasopharyngolaryngoscopy, and rigid laryngoscopy,hypopharyngoscopy ,oesophagoscopy and broncoscopy (under anaesthesia) .
5. Research methodology and Medical statistics.
6. Major and minor Head and Neck Oncologic surgeries
7. Management of complications and morbidity
8. Basic and advanced pathological techniques
9. Proper documentation and record keeping

10. Palliative care and pain management
11. Basic and advanced Endoscopic Head and Neck Oncological Surgeries including the skull base.

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	90
Nasopharyngoscopy	60
Oesophagogastroduodenoscopy	30

Surgeries to assist and perform under guidance:

Major surgeries	Minimum number to assist	Minimum number to perform under supervision
Total Laryngectomy with pharyngeal resection and Bilateral node dissection	10	5
Total laryrngectomy	30	10
Radical Neck Dissection	5	3
Modified radical Neck Dissection	40	40
Larynx conservation surgery	10	5
Selective Neck dissections	60	60
Composite resections	30	15
Surgery for soft tissue sarcoma and bone tumors	10	5
Parotid resections	10	5
Other Salivary Gland Resections	10	5
Nose and paranasal sinuses	30	10
Ear and temporal bone/Skull base	5	2

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

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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 subjects to be covered (syllabus)

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 interleukins, 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, Nuclear medicine,

14. Specialised techniques in Cancer management- minimal access surgery, Vascular access, intensity modulated radiation therapy, Interventional radiology, Radiofrequency thermal

ablation, Functional imaging, Molecular imaging, Photodynamic therapy, recent advances in ablative techniques and biomarkers in head and neck tumours.

15. Head and Neck Oncology:

1. Surgical Diseases of the Head and Neck Region including cancers.

2. Outline of Mediastinal neoplasms

3. Gastrointestinal tract and its relevance in head and neck cancers

4. Thyroid and other Endocrine Malignancies of Head and Region.

5. Musculoskeletal tumours of the head and region.

6. Cancers of the skin

7. Malignant Melanoma

8. Neural malignancies

9 Paediatric malignancies

10. Lymphomas and leukemias

11. Plasma cell neoplasms

12. Paraneoplastic syndromes

13. Cancer of the unknown primary site

14 Cancer in immunosuppressed host

15. Head and neck Oncologic emergencies - Airway obstruction, Bleeding ,SVC syndrome, spinal cord compression,Metabolic emergencies, increased intracranial tension etc.

16. Management principles of metastatic cancer - brain, lung, bone, liver, malignant effusions and ascites.

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

18.Management of Infection in the head and neck cancer patient

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

20. 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.

20. Communication to cancer patient

21. Rehabilitation of the head and neck cancer patient

22. Social issues in Oncology

23. Oncology Nursing including various access procedures.

24. Ethical issues in Oncology

25. Information systems in Oncology

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

22. Principles of Reconstructive Surgery

23. Principles of pain management and palliative care-Hospice

Details of Syllabus and curriculum with timeline.

Year one

Head and Neck Surgery - 8 months

Rotation postings to

ENT/Surgical Oncology - 1 month

Radiation Oncology - 1 month

Medical Oncology - 1 month

Pain and Palliation - 1month

Year two

Research - 1 month

Reconstructive surgery/Head and Neck Surgery-7 months

Head and neck surgery -1 months (outside centers)

Neurosurgery(Skull base), Plastic surgery,

ENT & Prosthetic - 3 months (1month each- outside)

Apart from the one month spent in the research lab which is intended to give the trainee preliminary acquaintance with basic sciences research methodology and allowing them to choose a project of their own, one day in the week shall be set apart each week for research for each trainee.

Year Three

Head and Neck Surgery - 6 months

Head and neck Surgery/ Reconstructive surgery-6 months

One day each week will be set apart for research/academics and publications for each trainee

Core curriculum summary

The core curriculum includes didactic lectures and seminars on basic tumor biology, pathology, anatomy, molecular biology and genetics, clinical research methods, radiation oncology, medical oncology and different aspects of head and neck oncology.

Attend weekly interdisciplinary Tumor Board

Clinical and surgical training as per the log book requirements

Elective rotations (one to two months) with radiation oncology, medical oncology, pathology, ENT, neurosurgery, speech and swallowing therapy, pain and palliation and prosthetics.

Completion of at least one research project that result in peer-reviewed publications

Attendance in national oncology conferences once a year with paper presentations

Details of the core curriculam

Didactic lectures and seminars

Semester – I

Part A

- Molecular cell biology of cancer, cell cycle regulations, oncogenes and chromosomal abnormalities
- Mechanism of Carcinogenesis
- Targeted therapy
- Genetics and Gene therapy in HNSCC
- Clinical Research Methods
    - oDeveloping hypothesis and planning research project
    - oDesigning a clinical research project
    - oData collection and monitoring
- Ethics in biomedical research

Part B

- Applied head and neck anatomy
- Principles of radiation therapy.
- Principles of chemotherapy
- Head and neck radiology

Semester - II

Part A

- Lip and oral cavity
- Benign cysts and tumors of the jaw

- ●Management of Mandible
- ●Oropharynx

Part B

- ●Hypopharynx
- ●Supraglottic Larynx
- ●Glottic Larynx
- ●Subglottis and trachea
- ●Basic plastic surgery principles

Semester III

Part A

- ●Salivary gland
- ●Paranasal sinus
- ●Parapharyngeal space
- ●Nasopharynx

Part B

- ●Management of Neck
- ●Thyroid
- ●Parathyroid
- ●Occult Primary

Semester IV

Part A

- ●Nutritional support
- ●Anterior skull base tumors and endoscopic approaches
- ●Lateral skull base and temporal bone tumors
- ●Management of cancer pain
- ●Specialized care of the terminally ill

Part B

- ●Lips reconstruction
- ●Oral cavity reconstruction
- ●Mandible reconstruction
- ●Sarcomas of head and neck

Semester V

Part A

- ●Reconstruction of soft tissue defects of face
- ●Nose reconstruction
- ●Pharynx reconstruction
- ●Skull base reconstruction

Part B

- ●Speech and swallowing therapy
- ●Tracheo-esophageal prosthesis
- ●Prosthetic rehabilitation
- ●Pediatric tumors of head and neck

Semester VI

Part A

- ●Glomus tumors
- ●Acoustic schwanoma
- ●Chemo prevention of HNSCC
- ●Epidemiology of cancer

Part B

- ●Skin tumors of head and neck
- ●Melanoma of head and neck
- ●Lymphoma of head and neck
- ●Granulomatous and lymphoproliferative disease of head and neck

Clinical training

-**includes surgical training, daily patient management including the patients in the ICU, management of patients on radiotherapy and chemotherapy and palliative care for advanced head and neck malignancy patients.**

Surgical training requirements

(A=assisted PA=performed with assistance P=performed)

Year 1	year2	year3	total
A-PA-P	A-PA-P	A-PA-P	A-PA-P

Larynx

Conservative procedures				
Open	1-0-0	0-1 -0	0-0-1	1-1-1
Endoscopic				
Near total Laryngectomy	2-0-0	0-1-0	0-0-1	2-1-1
Total Laryngectomy	2-0-0	0-2-1	0-0-3	2-2-4
Total laryngopharyngectomy	2-0-0	0-2-0	0-0-2	2-2-2
TEP-				
Primary	2-0-0	0-2-0	0-0-2	2-2-2
Secondary	2-0-0	0-2-0	0-0-3	2-2-3
Maxilla				
Partial maxillectomy	2-0-0	0-2-0	0-0-2	2-2-2
Total maxillectomy	2-0-0	0-2-0	0-0-2	2-2-2
Orbital exenteration	1-0-0	0-1-0	0-0-1	1-1-1
Oral cavity/Oropharynx				
Lip lesions	2-0-0	0-2-0	0-0-2	2-2-2
Access mandibulotomies	4-0-0	0-4-0	0-0-4	4-4-4
Marginal resections	2-0-0	0-2-0	0-0-4	2-2-4
Segmental resections	2-0-0	0-2-0	0-0-4	2-2-4
Tongue/ FOM / cheek resections	3-0-0	0-3-0	0-0-4	3-3-4
Neck				
Sentinal node biopsies	2-0-0	0-2-2	0-0-4	2-2-6
Selective dissections	2-1-0	0-1-5	0-0-15	2-2-20
Comprehensive	2-0-0	0-2-5	0-0-5	2-2-10
Skull base/ craniofacial				
Anterior	2-0-0	0-2-0	0-2-0	2-4-0
Thyroid				
Hemithyroidectomy	4-0-0	0-4-0	0-0-4	4-4-4
Total	4-0-0	0-4-0	0-0-4	4-4-4
Parotid				
Superficial	4-0-0	0-4-0	0-0-4	4-4-4
Total	2-0-0	0-2-0	0-0-2	2-2-2

Reconstructions				
Minor flaps	2-0-0	0-2-0	0-0-2	2-2-2
Forehead flap	1-0-0	0-1-0	0-0-1	1-1-1
Pec major	2-2-0	0-10-2	0-0-10	2-12-12
D-P flap	1-0-0	0-1-0	0-0-1	1-1-1
Others (LD/Trap)	2-0-0	0-2-0	0-0-2	2-2-2

Free flaps raising (subject to availability of cases)

Fibula	2-0-0	0-2-0	0-2-0	2-4-0
RFF	2-0-0	0-2-0	0-2-0	2-4-0
Lat arm	1-0-0	1-0-0	0-2-0	2-2-0
DCIA	2-0-0	2-0-0	0-2-0	4-2-0
Rectus	2-0-0	0-2-0	0-2-0	2-4-0
Jejunum	1-0-0	1-1-0	0-1-0	2-2-0
Stomach pull up	1-0-0	1-1-0	0-1-0	2-2-0

Free flaps

Recipient vessel Preparation	4-0-0	0-4-1	0-0-3	4-4-4
Anastamosis Vein	4-0-0	0-4-1	0-0-3	4-4-4
Anastamosis artery	4-0-0	0-4-1	0-0-3	4-4-4
Nerve grafts	2-0-0	0-2-0	0-0-2	2-2-2

Other procedures

Jejunostomy/ Gastrostostomy	2-0-0	0-2-0	0-0-2	2-2-2
Central lines	2-2-0	0-2-2	0-0-2	2-4-4
Stomaplasty	1-0-0	0-1-0	0-0-1	1-1
Laser use	2-0-0	0-2-0	0-0-2	2-2-2
Skin grafts	2-2-0	0-2-2	0-0-2	2-4-4

<u>Compulsory Academic activities</u>

Topic presentation in department - 12 in three years

Journal club reviews - 12 in three years

Attendance &Presentation of papers in National head and neck meetings Once every year

Publications - Two in three years

Research activities - participation in one laboratory research project and one clinical trial

Tumor board meetings once a week.

All trainees will be required to maintain a log book of cases worked up, assisted, performed, planned RT, administered Chemotherapy and palliative care cases attended to. Also the activity records in terms of the compulsory academic activities has to be maintained.

Evaluations

a)Internal assessment - 6 monthly theory and clinical evaluations

b)Final examination

●Theory papers – Four papers

a)**Basic Sciences as applied to Head and Neck surgery & Oncology**
b)Head and Neck surgical Oncology
c)Head and Neck reconstruction and specialised procedures
d)Recent advances in head and neck surgery and oncology

●Practical and Viva

Model question paper

Paper I- Basic Sciences as applied to Head and Neck surgery & 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,

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- Head and Neck Surgical Oncology:

Topics covered

1. Head and Neck Cancers

2. Thyroid and Parathyroid

3. Salivary Glands

4. Musculoskeletal tumours

5. Cancers of the skin

6. Malignant Melanoma

7 Paediatric malignancies

8. Lymphomas and leukemias

9. Plasma cell neoplasms

10. Cancer of the unknown primary site

11. Cancer in immunosuppressed host

Paper III: Head and Neck Reconstruction and Specialised Procedures

Topics covered

1. Oncologic emergencies prevention and management - Airway obstruction, bleeding, SVC syndrome, metabolic emergencies, increased intracranial tension etc

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. Social issues in Oncology

Paper IV: Recent advances in Head and Neck surgery and oncology

Topics covered

1. Information systems in Head and neck Oncology and recent advances

2. 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 head and neck clinical trials and their impact in cancer management

7. Evolution of Targeted therapy in head and neck cancers .

8. Other recent advances

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

Recommended POSTING FOR MCh (Head and Neck surgery) STUDENT:

First year:

After 9 months of Head and Neck Surgical oncology posting, each candidate should have rotational posting as follows

1 week in Pathology

1 week in community Oncology and Tumour Registry

1 week in nuclear medicine

1 week 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 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 Specialty 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)
- 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	Myers-Operative Otolaryngology: Head and Neck Surgery, 2-Volumes	,Eugene Myers,Carl Snyderman		
2	Cummings Otololaryngology Head and Neck surgery	Flint , Haughey, Lund		
3	Bailey's Head and Neck Surgery: Otolaryngology	Jonas Johnson	5th	
4	Stell and Maran's Head and Neck	Watkinson J.C,Gaze M.N, Wilson J.A (2 volumes)	4th	Hodder Arnold
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 MD Antoon E. M. R. Lerut MD PhD	3rd	Saunders
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,	6th	

		Sherrell J. Aston, Geoffrey C. Gurtner, Scott L. Spear		
11	General Thoracic Surgery	Sheilds,Locicero,Reed	7th	LWW
12	Comprehensive Vascular and Endovascular surgery	Hallet,Mills,Earnshaw	2nd	Mosby
13	Tumors of the Head & Neck	John G Batsaki		LWW
14	Otolaryngology: Head & Neck Surgery: Two Volume	Michael Paperella and Bhuvnesh singh		
15	Operative Neurosurgical techniques Indication,methods and results	SchmiDEK and Sweet	4th	Elsevier
16	Textbook of Anatomy	Hollinshed		
17	Enzinger and Weiss Soft tissue tumors	Weis and Goldblun	8th	Mosby
18	Millon and Cassisi Head and Neck Cancer: A Multidisciplinary Approach	Louis B. Harrison, Roy B. Sessions, Waun Ki Hong		
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 Radiation oncology
- Seminars in Nuclear medicine
- American Journal of Surgical Pathology
- Annals of Surgical Oncology
- Radiology
- Head and neck
- Laryngoscope
- Plastic and reconstructive surgery
- Annals of Otology Rhinology and laryngology
- Acta Otolaryngologica
- Journal of Plastic Reconstructive and Aesthetic surgery
- Indian Journal of Surgical oncology
- Oral Oncology

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
    - Evaluation of postings
    - Evaluation of Clinical case presentation
    - Evaluation of Journal review presentations
    - Evaluation of teaching Skills
    - Evaluation of Dissertation Presentation
    - Details of presentation in Academic Programs
    - 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

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.

Sl.No.	Subject	Theory		Theory Group		Practical				Practical Group		Total	
		University				University		Viva					
		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	Paper I	100	-	**400**	**200**	**300**		**100**		**400**	**200**	**800**	**400**
2	Paper II	100	-										
3	Paper III	100	-										
4	Paper IV	100	-										

3.4 Papers in each year

Not Applicable

3.5 Details of theory exams

As per clause 3.3

Paper I – Basic Sciences

Paper II – Head and Neck Surgical Oncology

Paper III –Reconstructive Head and Neck surgery and Specialised Procedures.

Paper IV – Recent Advances in Head and Neck Surgery and Oncology.

3.6 Model question paper for each subject with question paper pattern

QP Code: **Reg.No:**

M.Ch (Head and Neck) 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 larynx with the help of neat labelled diagram. Discuss the mechanism of swallowing in detail with relevance to management of laryngeal cancers.

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.

QP Code: **Reg.No:**

M.Ch (Head and Neck Surgery) Degree Examinations

(Model Question Paper)

Paper II – Head and Neck 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 Neck Dissection
3. Bisphosphonates induced osteonecrosis.
4. Management of N0 neck
5. Management of parotid swellings.
6. Neo-adjuvant chemotherapy in laryngeal cancer
7. Surgical management of oral cancers.
8. Evaluation and management of radioresidual laryngeal cancers.
9. Staging of bone sarcoma

QP Code: **Reg.No:**

M.Ch (Head and Neck Surgery) Degree Examinations

(Model Question Paper)

Paper III – Reconstructive Head and Neck surgery and Specialised Procedures

Time: 3 hrs Max marks:100

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

Essays: (20)

1. Discuss the prevention and management of emergencies in head and neck cancer in detail

Short essays: (8x10=80)

2. Management of malignant mucosal melanoma of head and neck
3. Radiation induced oral mucositis pathology and management
4. Surgical site infection definition and management
5. Febrile neutropenia
6. Management of head and neck cancer pain
7. Management of skull base tumours
8. Voice rehabilitation of post laryngectomy patient
9. TORS and TOUS.

QP Code: **Reg.No:**

M.Ch (Head and Neck Surgery) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances in Head and Neck Surgery and Oncology

Time: 3 hrs Max marks:100

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

Essays: (20)

1. Discuss the role of targeted therapy in Head and Neck cancer

Short essays: (8x10=80)

2. Advantages of robotic surgery in head and neck
3. Newer techniques in the management of osteoradionecrosis of mandible
4. Role and technique of IMRT in head and Neck cancers tumours
5. Proton therapy – advantages and disadvantage in head and neck
6. Image guided surgery
7. Stem cells in Head and neck oncology
8. RADPLAT regimen in head and neck cancer
9. Endoscopic four hand technique and its application in head and neck oncology

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3.7 Internal assessment component

Not applicable.

3.8 Details of practical/clinical practicum 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

Log Book 20 marks

Total 100 marks

Total Marks Practicals & Viva Voce –400 marks

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.
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
Log book	**:20 Marks**
Total	**:100 Marks**

4. INTERNSHIP

Not applicable for Medical Superspeciality degree courses.

5. ANNEXURES

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

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

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	

ABSTRACT OF THESIS

PUBLICATIONS

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

ORAL PRESENTATION IN CONFERENCES

Name of the Conference	Date	Venue	Title of Paper

(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

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

CONFERENCE/ CME PARTICIPATION

Name of the Conference	Date	Venue

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

EVALUATION 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

EVALUATION 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

EVALUATION 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

EVALUATION 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	Depth of analysis and discussion	
10	Presentation of findings	
TOTAL SCORE(maximum of 25)		
SCORING SYSTEM: 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**					
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***					
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: **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.	*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*					
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*		
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

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**

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

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 :

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 :

REGULATIONS 2018

SYLLABUS

FOR COURSES AFFILIATED TO THE

KERALA UNIVERSITY OF HEALTH SCIENCES

THRISSUR 680596

SUPER SPECIALITY COURSE IN MEDICINE

M CH. GYNAECOLOGICAL ONCOLOGY

COURSE CODE: 324

(2018-19 ACADEMIC YEAR ONWARDS)

2018

NEW SYLLABUS

2. COURSE CONTENT

2.1 Title of course:

M Ch. Gynaecological Oncology

2.2 Objectives of course

The aim of the Mch Programme is to provide advanced training in Gynaecological oncology to produce competent specialists who are able to provide clinical care of the highest order to the gynaecological cancer patients and serve as future teachers, trainers, researchers and leaders in the field of Gynaecological oncology .At the end of the course the trainee should have a comprehensive knowledge of the subject and should be capable of thoroughly investigating and managing a woman with gynaecological cancer. The trainee should be competent to perform all gynaecological cancer surgeries and surgery on gastro intestinal and urological tracts affected by gynaecological cancer.

The objective of the Mch training programme in Gynecologic Oncology is also to provide a comprehensive training in radiation oncology and medical oncology, cancer biology and research methods. This is accomplished by providing outstanding clinical training encouraging teaching, and developing a scientific and investigative framework for research. The emphasis will be on providing state-of-the-art multidisciplinary care for patients and to provide a rigorous academic experience. At the end of the training period the candidates are expected to have in-depth knowledge, skills and attitude to take up academic career in gynecology oncology and leadership positions in the field. The duration of the training period will be for 3 years.

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

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

(6) Ability to critically appraise published literature, interpret data and to broaden his/her knowledge by keeping abreast with modern developments in gynaecological 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 /semester of the curriculum(syllabus),summary of core curriculum and details of curriculum with time line.

2.5 Duration

Every candidate seeking admission to the training programme to qualify for the degree of MCh 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.

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

The training program will aim to give the candidate a sound training of management of gynaecological cancers. 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 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 MCh 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-Hysteroscopy , cystoscopy

5. Research methodology

6. Colposcopy and colposcopic procedures

7. Major and minor Oncologic surgeries

8. Management of morbidity

9. Basic and advanced pathological techniques

10. Proper documentation and record keeping

11. Palliative care and pain management

12. Basic and advanced laparoscopic surgeries for gynaecological cancers

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

Minor procedures	Minimum number to be performed
Colposcopy and biopsies	30
Dilatation &curretage	30
LEEP	20
Ablative procedures	20
Hysteroscopy	10
Cystoscopy	10

Surgeries to assist and perform under guidance:

Major surgeries	Minimum number to assist	Minimum number to perform under supervision
Radical hysterectomy with lymph node dissection	10	5
Staging Laparotomies for Carcinoma Ovary	10	5
Staging Laparotomies for Endometrial Cancers	10	5

Pelvic and paraaorticlymphnode dissections	20	10
Primary and Interval Cytoreductive surgeries	20	10
Minimally invasive surgeries	20	5
Radical Vulvectomy / Wide Excision of Vulva	10	5
Inguinal Block Dissections	10	5
Anterior Resection / Colectomies	10	5

-

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, 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 - Interforneinterlukins, 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. GynaecologicOncology:

1. Cervical cancer
2. Uterine cancer
3. Ovarian cancer
4. Vulvar cancer
5. Vaginal cancer
6. Fallopian tube cancer
7. Gestational trophoblastic disease Head and Neck Cancers

16. Infection in the cancer patient

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

18. 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.

19. Communication to cancer patient

20. Rehabilitation of the cancer patient

21. Societal issues in Oncology

22. Complementary,Alternative and Integrative therapies

23. Oncology Nursing including various access

24. Ethical issues in Oncology

25. Information systems in Oncology

26. Alternative methods of cancer treatment

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

28. Principles of Reconstructive Surgery

29. Principles of pain management and palliative care-Hospice

30. Screening and treatment of cervical precancers

Colposcopy

Colposcopic procedures

Details of the core curriculum

Paper I- Basic Sciences as applied to Gynaecological 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, 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 - Interforneinterlukins, 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

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 biomarkers.

Paper II& III- Gynaecological Oncology:

Topics covered

Cervical cancer

Cervical adenocarcinoma in situ

Cervical and vaginal cytology: Interpretation of results (Pap test report) View in Chinese

Cervical cancer in pregnancy

Cervical cancer screening tests: Techniques for cervical cytology and human papillomavirus testing Cervical cancer screening tests: Visual inspection methods

Cervical cytology: Evaluation of atypical and malignant glandular cells

Cervical cytology: Evaluation of atypical squamous cells (ASC-US and ASC-H)

Cervical cytology: Evaluation of high-grade squamous intraepithelial lesions (HSIL)

Cervical cytology: Evaluation of low-grade squamous intraepithelial lesions (LSIL)

Cervical intraepithelial neoplasia: Ablative therapies

Cervical intraepithelial neoplasia: Management of low-grade and high-grade lesions

Cervical intraepithelial neoplasia: Procedures for cervical conization

Cervical intraepithelial neoplasia: Reproductive effects of treatment

Cervical intraepithelial neoplasia: Terminology, incidence, pathogenesis, and prevention

Cervical intraepithelial neoplasia: Treatment and follow-up

Fertility-sparing surgery for cervical cancer

Human papillomavirus testing of the cervix: Management of abnormal results

Invasive cervical adenocarcinoma

Invasive cervical cancer: Epidemiology, risk factors, clinical manifestations, and diagnosis

Invasive cervical cancer: Patterns of recurrence and posttreatment surveillance

Invasive cervical cancer: Staging and evaluation of lymph nodes

Management of early-stage cervical cancer

Management of locally advanced cervical cancer

Management of recurrent or metastatic cervical cancer

Pelvic and paraaortic lymphadenectomy in gynecologic cancers

Preinvasive and invasive cervical neoplasia in HIV-infected women

Screening for cervical cancer

Screening for cervical cancer in HIV-infected women and adolescents

Screening for cervical cancer in resource-limited settings

Fallopian tube cancer

Opportunistic salpingectomy for ovarian, fallopian tubal, and peritoneal carcinoma risk reduction

Risk-reducing bilateral salpingo-oophorectomy in women at high risk of epithelial ovarian and fallopian tubal cancer

General

Endometrial sampling procedures

Exenteration for gynecologic cancer

Pelvic and paraaortic lymphadenectomy in gynecologic cancers

The approach to ovarian cancer in older women

Treatment-related toxicity from the use of radiation therapy for gynecologic malignancies

Gestational trophoblastic disease

Gestational trophoblastic disease: Pathology

Human chorionic gonadotropin: Testing in pregnancy and gestational trophoblastic disease and causes of low persistent levels

Hydatidiform mole: Epidemiology, clinical features, and diagnosis, management

Management of resistant or recurrent gestational trophoblastic neoplasia

Ovarian cancer

Cancer of the ovary, fallopian tube, and peritoneum: Staging and initial surgical management Cancer of the ovary, fallopian tube, and peritoneum: Surgery for recurrent cancer

Adjuvant therapy of early stage (stage I and II) epithelial ovarian, fallopian tubal, or peritoneal cancer

Approach to the patient with an adnexal mass

Borderline ovarian tumors

Chemotherapy of ovarian cancer in pregnancy

Differential diagnosis of the adnexal mass

Epithelial carcinoma of the ovary, fallopian tube, and peritoneum: Clinical features and diagnosis Epithelial carcinoma of the ovary, fallopian tube, and peritoneum: Epidemiology and risk

Intraperitoneal chemotherapy for treatment of ovarian

Management of an adnexal mass

Medical treatment for relapsed epithelial ovarian, fallopian tubal, or peritoneal cancer: Platinum-resistant disease

Medical treatment for relapsed epithelial ovarian, fallopian tubal, or peritoneal cancer: Platinum-sensitive disease

Neoadjuvant chemotherapy for newly diagnosed advanced ovarian cancer

Ovarian germ cell tumors: Pathology, clinical manifestations, and diagnosis View in Chinese

Overview of epithelial carcinoma of the ovary, fallopian tube, and peritoneum View in Chinese

Overview of sex cord-stromal tumors of the ovary

Uterine cancers

Overview of endometrial carcinoma

Pelvic and paraaortic lymphadenectomy in gynecologic cancers

Treatment and prognosis of uterine leiomyosarcoma

Treatment of low-risk endometrial cancer

Treatment of recurrent or metastatic endometrial cancer

Uterine sarcoma: Classification, clinical manifestations, and diagnosis

Vaginal cancer

Vulvar cancer

Squamous cell carcinoma of the vulva: Medical therapy and prognosis

Vulvar and vaginal intraepithelial neoplasia in HIV-infected women

Vulvar intraepithelial neoplasia

Vulvar wide local excision, simple vulvectomy, and skinning vulvectomy

Paper IV: Recent advances in Gnaecological oncology

Topics covered

1. Information systems in Gynaecologic oncology and recent advances

2. 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 gynaecologic oncology clinical trials and their impact in cancer management

7. Evolution of Targeted therapy in cancers .

8. Other recent advances

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

Recommended posting forMChGynaecologic oncologystudent:

First year:

After 9 months of gynaecologic oncologyoncology 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 week 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 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)
- 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	Clinical Gynecologic Oncology	Philip J. DiSaia	9th Edition	
2	Principles and Practice of Gynecologic Oncology	Dennis Chi	Seventh Edition	
3	Principles and Practice of Gynecologic Oncology (Principles and Practice of Gynecologic Oncology (Hoskins))	Richard Barakat	Sixth Edition	
4	SGynecologic Oncology: Fundamental Principles and Clinical Practice	Malcolm Coppleson	4th	
5	Gynaecological Oncology	Morrow, C. Paul, Smart G	3rd	
6	Williams Gynecology,	Barbara L. Hoffman	Third Edition	
7	Cancer Medicine	Hong,Bast,Hait,Kufe	8th	

8	Cancer,principles and practice of oncology	Devita,hellman,Rosenberg	8th	LWW
9	Gynecologic Oncology: Clinical Practice and Surgical Atlas	Beth Y Karlan Robert E. Bristow	1st Edition	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	Gynaecological Oncology ' a Guide to Clinical Management '	R Crawford Peter Blake	5th Edition	
12	Comprehensive vascular and endovascular surgery	Hallet,Mills,Earnshaw	2nd	Mosby
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 Gynaecological Oncology
- European Journal of Gynaecologic oncology
- Cancer
- Gynaecologic oncology
- International journal of gynaecologic cancer
- American Journal of gynaecologic oncology

- Annals of Surgical Oncology
- Radiology
- The New England journal of medicine
- Obstetrics and Gynecology
- Human Reproduction
- American Journal of Obstetrics and Gynecology
- BJOG: An International Journal of Obstetrics and Gynaecology
- Fertility and Sterility
- Molecular Human Reproduction
- Journal of Reproductive Immunology
- Perspectives on Sexual and Reproductive Health
- Twin Research and Human Genetics
- Menopause
- Best Practice and Research in Clinical Obstetrics and Gynaecology
- BMC Pregnancy and Childbirth
- International Urogynecology Journal and Pelvic Floor Dysfunction
- Seminars in Reproductive Medicine
- Women's Health Issues
- Maternal and Child Health Journal
- Obstetrical and Gynecological Survey
- Archives of Women's Mental Health
- Indian Journal of gynaecological oncology

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
    - Evaluation of postings
    - Evaluation of Clinical case presentation
    - Evaluation of Journal review presentations
    - Evaluation of teaching Skills
    - Evaluation of Dissertation Presentation
    - Details of presentation in Academic Programs
    - 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

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).

1. 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.

Sl.No.	Subject	Theory		Theory Group		Practical				Practical Group		Total	
		University				University		Viva					
		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	Paper I	100	-	400	200	300		100		400	200	800	400
2	Paper II	100	-										
3	Paper III	100	-										
4	Paper IV	100	-										

3.4 Papers in each year

Not Applicable

3.5 Details of theory exams

As per clause 3.3

Paper I – Basic Sciences

Paper II –GynaecologicOncology Part1

Paper III –Gynaecologic Oncology PartII

Paper IV – Recent Advances in Gynaecologic Oncology

Model question paper for each subject with question paper pattern

QP Code: **Reg.No:**

M.Ch (Gynaecologic 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. What are the properties of normal stem cells. Discuss the implications of cancer stem cells for the diagnosis and treatment of cancer

Short essays: (8x10=80)

1. Classify chemotherapeutic drugs and mention the phases of cell cycle in which different groups act
2. Discuss the role of serum tumor markers in ovarian cancer
3. Discuss the components of treatment planning in radiotherapy for carcinoma cervix
4. Step ladder pattern of analgesic use in palliative care
5. Management of malignant pleural effusion.
6. Principles of safe bowel anastomoses
7. Value of MRI in endometrial cancer
8. Metabolic emergencies in cancer.

QP Code: **Reg.No:**

M.Ch (Gynaecologic oncology) Degree Examinations

(Model Question Paper)

Paper II –Gynaecologic oncology

Time: 3 hrs Max marks:100

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

Essays: (20)

1. Discuss the staging and management of endometrial cancer

Short essays: (8x10=80)

2. Principles of surgical technique of pelvic nodedissection
3. Nerve sparing radical hysterectomy
4. Borderline ovarian tumours
5. Uterine sarcomas.
6. Neo adjuvant chemotherapy in ovarian cancer
7. Surgical management of early cervical cancers.
8. Evaluation and management of cervical intra epithelial neoplasia.
9. Staging of cancer vulva

QP Code: **Reg.No:**

M.Ch (Gynaecologiconcology) Degree Examinations

(Model Question Paper)

Paper III – Gynaecologic oncology part2

Time: 3 hrs Max marks:100

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

Essays: (20)

1. Elaborate the role of sentinel lymphadenectomy in gynaecological cancer surgery

Short essays: (8x10=80)

2. Management of growing teratoma syndrome
3. Complications of radical hysterectomy
4. Surgical site infection definition and management
5. Febrile neutropenia
6. Management of pelvic pain
7. Management of gestational trophoblastictumours
8. Management of dysgerminoma

QP Code: **Reg.No:**

M.Ch (– Gynaecologiconcology) Degree Examinations

(Model Question Paper)

Paper IV – Recent Advances in Gynaecologic oncology

Time: 3 hrs Max marks:100

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

Essays: (20)

1. Discuss the role of targeted therapy in Gynaecologic oncology

Short essays: (8x10=80)

2. Advantages of robotic surgery in gynaecologic cancer surgery

3.Peritonectomy for ovarian cancers

4. Role and technique of IMRT in cancercervix

5. Precision therapy for ovarian cancers

6. Nano vaccines

7.LEEP

8. Angiogenesis inhibitors in the treatment of ovarian cancer

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3.6 Internal assessment component

Not applicable.

3.7 Details of practical/clinical practicum 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

Log Book 20 marks

Total 100 marks

Total Marks Practicals& Viva Voce –400 marks

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.

3.8 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.
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
Log book	**:20Marks**
Total	**:100Marks**

4. INTERNSHIP

Not applicable for Medical Superspeciality degree courses.

5. ANNEXURES

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

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

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	

ABSTRACT OF THESIS

PUBLICATIONS

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

ORAL PRESENTATION IN CONFERENCES

Name of the Conference	Date	Venue	Title of Paper

(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

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

CONFERENCE/ CME PARTICIPATION

Name of the Conference	Date	Venue

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

EVALUATION 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

EVALUATION 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

EVALUATION 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

EVALUATION 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	Depth of analysis and discussion	
10	Presentation of findings	
TOTAL SCORE(maximum of 25)		
SCORING SYSTEM: 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**					
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***					
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: **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.	*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*					
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*		
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	***Clinicalwork***					
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

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

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

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 :

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 :

REGULATIONS 2018

SYLLABUS

FOR COURSES AFFILIATED TO THE

KERALA UNIVERSITY OF HEALTH SCIENCES

THRISSUR 680596

SUPER SPECIALITY COURSE IN MEDICINE

M CH. REPRODUCTIVE MEDICINE AND SURGERY

COURSE CODE: 325

(2018-19 ACADEMIC YEAR ONWARDS)

2018

NEW SYLLABUS

2. COURSE CONTENT

2.1 Title of course:

M.Ch Reproductive Medicine and Surgery

2.2 Objectives of course

The aim of the course is to acquire special knowledge in all aspects of Reproductive Medicine and Surgery. This will include reproductive anatomy, pathology, pharmacology and endocrinology, puberty and menopause, all aspects of infertility including imaging techniques and medical management and all aspects of Assisted Reproductive Technology including laboratory techniques and embryology. In addition andrology and applied urology, sexual dysfunction and counselling, reproductive genetics, early pregnancy problems and fetal medicine will also be included. The candidate will also obtain a thorough knowledge of all aspects of fertility enhancing surgeries. The course intends to impart training in the clinical, sonological, diagnostic, medical, surgical and technological management of infertility which would help to improve and maintain reproductive health and help people have children at their choice. The aim is to provide comprehensive postgraduate training in all clinical aspects of reproductive medicine and surgery to make the graduates fully competent to practise modern reproductive medicine, infertility management, assisted reproductive techniques, reproductive endocrinology and all types of fertility enhancing surgery. The course aims to cater to those gynaecologists who intend to serve the rising infertile population.

i.Knowledge

a. Understand etiology, pathophysiology and diagnose all problems related to infertility on the basis of history and clinical examination of the couple.
b. Interpret laboratory investigations, ultrasound and other imaging finding in a logical manner
c. Offer the couple appropriate fertility treatment including all aspects of Assisted Reproductive technology

d. Have a thorough knowledge of the management of an Assisted Reproductive Technology unit especially the setting up and maintenance of a good embryology lab
e. Be proficient in the proper selection of patients for fertility enhancing surgery, the timing of surgery, the pre-operative work up and post-operative care.
f. Have a thorough knowledge of normal and abnormal reproductive endocrinology and be proficient in adolescent and paediatric gynaecology
g. Be proficient in the managing complications related to any of the above
h. Continuously update knowledge and skills and keep abreast of the latest advances after critically analyzing its risks and benefits
i. Teach undergraduate and Postgraduate students
j. Carry out medical research i.e. plan clinical trials and laboratory research

ii.Skills

a. Perform basic obstetric and gynaecological ultrasound including 3D ultrasound
b. Perform all procedures related to Assisted Reproductive Technology
c. Assist and perform most of the fertility enhancing laparoscopic and hysteroscopic surgeries and do complex procedures like myomectomy under supervision
d. Be proficient in the pre-operative work up and post-operative care of the surgical patient
e. Assist and perform under supervision surgical sperm retrieval techniques
f. Be proficient in counselling all aspects of infertility

iii. Ethical Principles

a. Follow high standards of ethical practice and conform to ICMR regulations and international guidelines
b. Respect patients rights and privileges, his / her right to information and privacy as well as right to seek second opinion

c. He/she 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

As given under clause "Content of each subject in each year " of the curriculum present in clause 2.10 of the curriculum

2.7 Total no of hours

Present in clause 2.10 of the curriculum

2.8 Branches if any with definition-

Not applicable as this is a residency programme.

2.9 Teaching learning methods

TRAINING PROGRAM

The training program will aim to give the candidate a sound training in all aspects of Infertility and Assisted Reproductive Technology, fertility enhancing surgery and reproductive endocrinology. During the period of training they shall take part in all the activities of the department including the outpatient clinics, ultrasound, In vitro

fertilization, embryology lab, ward rounds, lectures, seminars, teaching assignments, surgical session and any 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 the following.

a) Active involvement in all aspects of infertility diagnosis and management with special emphasis on counseling.
b) Exposure and training in all the clinical aspects of Assisted reproductive technology.
c) Exposure and training in all aspects of gynaecological ultrasound in infertility management.
d) Knowledge of all aspects of embryology and maintenance and upkeep of the embryology lab.
e) Active involvement in all aspects of reproductive surgery with special importance given to minimally invasive surgery.
f) Training in all aspects of reproductive endocrinology
g) Training in managing early pregnancy problems and complications of ART.
h) Participation in lectures, seminars, journal clubs, clinical group discussions etc.
i) Participation in research work and exposure to biomedical statistics as applicable to basic research methodology
j) 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 and centre will be at the discretion of the Head of the department. Fetal medicine training can be outstation in a good fetal medicine centre until a fetal medicine unit is set up in the department of OBG. If necessary, candidates can be sent to a reputed ART centre where PGD and PGS is undertaken.

Academic skills

All M Ch students should take part in academic activities in the unit

Teaching activities

- Formal training in teaching methodology
- Experience in undergraduate & postgraduate teaching
- Experience in teaching nurses and paramedical staff
- Development of teaching materials and organization of teaching courses.

Personal development

- Computer literacy and familiarity with commonly used systems.
- Critical approach to information gained from literature review and audit.
- Preparation of manuscripts and teaching materials.
- Oral presentation skills.

Research

- Critically appraise a paper and conduct a literature review
- Be familiar with guidelines and Cochrane reviews
- Willingness to assess evidence of which to base practice.
- Understanding of research methodology and statistical tests

Management skills

The trainee will be expected to have received training or experience in the following areas in the IVF unit and to have been capable of working as a team

Personnel

- Training in personnel management.
- Organizational skills, duty rosters etc.
- Awareness of current medical manpower regulations and nurse staffing issues.
- Understanding of the role of the laboratory personnel,counselors & ART nurses.

Audit

- Data capture and collation, including national and local statistics and preparation of annual reports.
- Assessment of performance; benchmarking.
- Risk management and clinical governance.
- Assessment of equipment and resource.

Wider strategic issues

- Budgetary management.
- Assessment of performance.
- Service development strategy.
- National representation and professional development

Practical training

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

1. All aspects of basic obstetric and detailed gynaecological ultrasound including 3D imaging
2. All clinical aspects of Assisted reproductive technology
3. Setting up and maintaining a good embryology laboratory
4. Proper documentation and record keeping in ART
5. Diagnostic and operative hysteroscopies like septal resection and myomectomy
6 Diagnostic and operative laparoscopies including cystectomies, salpingectomies, myomectomies etc.
7. Other fertility enhancing open surgeries.
8. All aspects of managing pregnancy problems like ectopic gestation.

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

Endoscopic and open surgery:

Procedure/Surgery	**Assist**	**Perform under supervision**	**Perform independantly**
Diagnostic laparoscopy and chromotubation			**x**
Diagnostic hysteroscopy			**x**
Laparoscopic ovarian drilling			**x**
Laparoscopic salpingostomy for ectopic			**x**
Laparoscopic salpingectomy for ectopic			x
Laparoscopic surgery for ovarian torsion			**x**
Laparoscopic salpingolysis			**x**
Laparoscopic cystectomy for small endometriomas		**x**	
Laparoscopic cystectomy for benign ovarian cysts		**x**	
Laparoscopic tubal renanastomosis	**x**		
Laparoscopic surgery for severe endometriosis	**x**		
Laparoscopic salpingectomy for hydrosalpinx	**x**		
Laparoscopic myomectomy	**x**		
Hysteroscopic polypectomy		**x**	
Hysteroscopic septal resection	**x**		
Hysteroscopic resection of myoma	**x**		
Hysteroscopic adhesiolysis	**x**		
Resection of vaginal septum	**x**		
Creation of neovagina	**x**		
Open myomectomy		**x**	
McDonalds cerclage		**x**	

ART procedures:

Procedure/Surgery	Assist	Perform under supervision	Perform independantly
Transvaginal ovum pick up		**x**	
Transabdominal ovum pick up	**x**		
Embryo transfer		**x**	
PESA		**x**	
TESA		**x**	
TESE	**x**		
Varicocoelectomy	**x**		

Teaching sessions

- Clinical case discussions
- Seminars/symposia
- Journal club
- Clinical club
- Lectures

Teaching schedule

1. Seminar / Symposium — Once a week
2. Journal Club — Once in two weeks
3. Clinical club — Once in two weeks
3. Case discussion — Once a week
4. Thesis meet — Once a month
5. Biostatistics , Research methodology, and guest lectures — Once a month

2.10 Content of each subject in each year

The syllabus will cover all fundamental and Applied aspects of Reproductive Medicine and surgery including basic sciences and recent advances. It would be an exercise in futility to lay down a syllabus, in the strictest sense, for M Ch in a Super Speciality . However, a rough guideline is given below for the candidates, teachers and examiners. Nevertheless, the point is stressed that all aspects of Reproductive Medicine and Surgery will have to be learnt by the candidate.

SYLLABUS

PAPER – I

Basic Sciences Relating to Reproductive Medicine and Surgery

(1) Reproductive tract Anatomy
(2) Reproductive Endocrinology
(3) Reproductive Pharmacology
(4) Reproductive Pathology
(5) Pediatric and Adolescent Gynecology
(6) Menopause and Premature Menopause
(7) Psychology

PAPER - II

Principles of Reproductive Medicine and Laboratory Techniques

(1) Causes and general management of infertility
(2) Assisted Reproductive Technology- clinical aspects
(3) Imaging Techniques in Infertility
(4) Andrology & applied urology
(5) Embryology and the ART Laboratory
(6) Early Pregnancy Problems

PAPER – III

Fertility enhancing surgeries, Ethics and Reproductive Genetics

(1) Associated Diseases and surgical correction
(2) Reproductive Genetics
(3) Ethical and legal issues
(4) Patient Counseling, Academic and Management skills

PAPER - IV

(1) Recent Advances in Reproductive Medicine & Surgery

Paper - I
Basic Science Relating to Reproductive Medicine and Surgery

(1) Reproductive tract anatomy

Knowledge Criteria
Female:
Uterine anatomy and histology:
- Normal anatomy
- Different types of congenital abnormalities, their impact on fertility and their management

Tubal anatomy and histology:
- Normal anatomy
- Different types of congenital abnormalities

Vaginal and cervical anatomy and histology:
- Normal anatomy & histology
- Possible consequences of antenatal hormone exposure
- Effects of various hormones on the vagina and cervix

Endometrial histology:
- Histological appearance of normal and abnormal endometrium
- Developmental stages of the endometrium (dating)
- Endometrial factors that affect implantation in early pregnancy

Ovarian anatomy and histology:
- Different compartments of the Graafian follicle (e.g. granulosa cells, theca and adjacent stroma) and the primordial, preantral, antral and Graafian follicles, including the dynamic changes which occur in the ovary

Embryology:
- Development of embryo and abnormalities in development of genital tract
- Embryology of the urological system
- Embryology of hypothalamic–pituitary and other pertinent endocrine systems

Male:
Testicular anatomy and histology:
- Normal anatomy and development of the testis
- Normal anatomy and development of epididymis, vas, seminal vesicles etc
- Various stages of normal spermatogenesis

(2) Reproductive Endocrinology

Knowledge Criteria
Female
Neuroendocrine anatomy and physiology;
- Central nervous system, hypothalamic–pituitary system and disease states
- Neuroendocrine regulation of the menstrual cycle & Ovulation
- Physiology of ovulation and menstruation
- Neuroendocrine function of the fetus and placenta
- Hypothalamic and pituitary disorders
- Function of ovaries and changes through life
- Neuropharmacology of GnRH and its analogues

Steroid and protein hormones involved in reproduction

Other endocrine changes associated with reproduction

- Breast as a target organ
- Thyroid function and disease states
- Adrenal function and disease states
- Normal and abnormal pubertal development
- Disorders of androgen secretion
- Evaluation & management of a hirsute women
- Polycystic ovary syndrome
- Beginning and cessation of reproductive function

Male

- Endocrine profile of male
- Physiology of Spermatogenesis
- Physiology of ejaculation
- Hypothalamo-pituitary-thyroid axis function
- Endocrine evaluation of male in azoospermia

(3) Reproductive Pharmacology

Knowledge Criteria

Pharmacokinetics and pharmacodynamics of drugs used in reproductive medicine

Teratogenicity, tolerance, biological variation and different interactions

Drugs used for ovulation induction:

- Metformin/insulin sensitisers
- Anti-estrogens
- Gonadotrophin therapy
- Aromatase inhibitors

Drugs used for HRT

- Oestrogens
- Progesterone & progestogens

Drugs used for Hirsuitism

Drugs used in Endometriosis

Oral contraceptive pills

Drugs in Precocious Puberty

Drugs in Hyperprolactinemia

GnRh agonists and antagonist

Steroids & infertility

Adjuvants in ovulation induction

(4) Reproductive Pathology

Knowledge Criteria

Female:

Uterine pathology:

- Impact of intrauterine adhesions
- Impact of fibroids & adenomyosis
- Current data relating estrogens with endometrial hyperplasia and adenocarcinoma
- Acute and chronic endometritis
- Gross and microscopic findings of endometriosis

Gross and microscopic findings of adenomyosis, leiomyoma and other myometrial lesions related to reproduction

Tubal pathology:

Gross and microscopic findings of diseases of the oviduct related to reproductive endocrinology (e.g. acute and chronic salpingitis, granulomatous salpingitis, endometriosis)

Tubal factors of infertility

Natural history and clinical course of acute and chronic salpingitis and relation with fertility

Hydrosalpinx ; aetiology & management

Ovarian pathology:

Ovarian cyst & tumours

Gross and microscopic findings and natural history of ovarian tumours related to reproductive function (e.g. Functional cysts, endometrioma, granulosa-theca cell tumour, Sertoli-Leydig cell tumour, gynandroblastoma, cystic teratoma, dysgerminoma, gonadoblastoma and mixed germ cell or gonadal tumours)

Pelvic Inflammatory Disease

Pelvic Tuberculosis

Para ovarian cyst

Endometriosis

Pathogenesis and aetiology of endometriosis

Mechanisms of infertility

Normal and abnormal histology of pituitary, adrenals and thyroid gland

Pathology of gonadal dysgenesis and intersex

Male:

Gross and microscopic findings in testicular disease (e.g. teratoma, seminoma, Leydig and Sertoli cell tumours)

Diseases of accessory organs – seminal vesicle & epididymis,

Absence of vas deference –diagnosis & management

Testicular biopsy-its interpretation

Varicocele – Aetiology, diagnosis, symptoms, grading, management.

(5) Pediatric and Adolescent Gynaecology

Knowledge Criteria

Embryonic development of the genital tract, including the factors controlling male and female development of the gonads, internal and external genitalia

Normal sequence of pubertal changes in the female and male and their chronology

Hormonal changes and gametogenesis relative to the reproductive cycle from intrauterine life to the development of normal reproductive function

Delayed puberty including the differential diagnosis evaluation and appropriate therapy

Developmental abnormalities of the genital tract

Effects of hormones on bone growth and epiphyseal closure

Sexual precocity including the the differential diagnosis, evaluation and appropriate therapy.

Ambiguous genitalia , diagnosis and management

Indications and techniques for gonadectomy

Delayed puberty & primary amenorrhoea

MRKH syndrome and AIS

Congenital Adrenal hyperplasia
Disorders of sexual development or Intersex
Transgenders and their problems

(6) Menopause and premature Menopause

Knowledge Criteria

Predictors of Ovarian reserve
Menopause and problems
Premature menopause:
- Causes of premature ovarian failure: congenital endocrine disorders (e.g. Turner Syndrome, polyglandular endocrinopathy and fragile X syndrome) and acquired (postsurgery,chemo/radiotherapy)

Management of the post-menopausal woman:
- A rational diagnostic and therapeutic approach
- Choice of hormone replacement therapy (HRT)
- Advantages and disadvantages, risks and benefits of HRT
- Treatment options for young women with ovarian failure, with particular regard to future fertility

(7) Psychology

Normal psychosexual development and establishment of the gender role
Normal and abnormal psychosexual function and gender disturbances
Psychological factors in disordered male and female reproductive function Psychological aspects associated with infertility
Psychological changes associated with premenstrual syndrome, menopause and the impact of hormone therapy
Male and female sexual dysfunction
Principles of sexual counseling and modes of therapy

Paper - II

Principles of Reproductive Medicine and Surgery

(1) Causes and general management of infertility

Knowledge Criteria

Normal semen analysis and endocrine profile of male and female
Ovulatory dysfunction including PCOS
Low ovarian reserve
Endometriosis and management
Tubal factor infertility
Uterine problems causing infertility
Immunological causes
Unexplained infertility
Ovulation induction
Hyperprolactinaemia and thyroid disorders
Controlled ovarian stimulation and Intrauterine insemination
Medical management of fibroids, endometriosis etc

(2)Assisted Reproductive technology – clinical aspects

Knowledge Criteria

Ovarian reserve tests and their clinical application

IVF and ICSI:

- Indications for IVF
- Stimulation Protocols in ART
- Individualised ovarian stimulation
- Agonist and antagonist cycles
- Strategies to improve success
- Normal, poor and hyperresponders and their management
- Ovum pick up
- Embryo transfer
- Complications of IVF like OHSS

Frozen embryo replacement

Luteal support

Cryo preservation of – gamete, embryo, ovarian and testicular tissue

In vitro oocyte maturation

Third party reproduction:

- Donation of oocyte & Sperm
- Screening of potential egg donors
- Surrogacy

Fertility preservation in cancer for male and female

(3) Imaging Techniques in Infertility

Knowledge Criteria

Hysterosalpingography

Hysterosalpingo-contrast-sonography

Computed tomography (CT) / magnetic resonance imaging (MRI

Evaluation of pituitary fossa**:** X-ray skull, MRI & CT

Ultrasound imaging: Abdominal &TVS &3D:

- Follicular tracking
- Tracking IVF endometrial development
- Uterine abnormalities eg: fibroids, adenomyosis, anomalies
- Endometrial assessment, including normal cyclical changes, changes associated with hormone replacement, hyperplasia and malignancy
- Ovarian pathology
- Early pregnancy assessment
- Ovarian and uterine Doppler in infertility
- 3D imaging for uterine anomalies

Ultrasound guided procedures

- Oocyte retrieval
- Embryo transfer
- Selective and Multifetal reduction

(4) Andrology & Applied Urology
Knowledge Criteria
Appropriate history and investigations
Semen analysis
Sperm function tests
Intrauterine insemination
Investigation of Male infertility
Erectile dysfunction
Ejaculatory dysfunction
Varicocele
Reconstructive andrology
Methods of sperm retrieval
- Microsurgical epididymal sperm aspiration
- Percutaneous epididymal sperm aspiration
- TESA, TESE
- Open testicular biopsy

Medical treatment of male infertility:
Effect of aging on sperm function
Genetic cause for male infertility
Sperm banking

(5) Embryology & ART laboratory
Knowledge Criteria
Clinical Embryology
- Cell biology
- History & overview of ART
- Equipment, consumables & disposables used in IVF

Introduction to human embryology
- Fertilization & embryo development
- Control of early follicular development
- Control of terminal follicular development
- Oocyte maturation – in vivo
- IVM
- Gamete transport
- Implantation
- Endocrinology of implantation
- Molecular basis of fertilization
- Gene expression in early embryos
- Epigenetic events in early embryos

ART laboratory
- Setting up of an ART lab
- Basic maintenance of ART lab
- Quality control in the ART lab
- Documentation and reporting
- Equipment, consumables and disposables used in the lab
- Media for ART procedure

Semen preparation technique
Collection & culture of oocytes & Embryos
Grading of oocytes and embryo
IVF & ICSI
IVM
Embryo transfer techniques
Cryopreservation of embryo, gametes and tissue
Assisted hatching

(6) Early Pregnancy Problems
Knowledge Criteria

Normal intrauterine pregnancy
- Ultrasound features
- Maintenance of pregnancy
- Endocrine changes in pregnancy
- Immunological changes in pregnancy

Ectopic pregnancy:
- Causes, investigations and management
- Ultrasound diagnosis

Miscarriage:
- Causes investigation and management
- Ultrasound diagnosis

Molar pregnancy
- Causes investigation and management
- Ultrasound diagnosis

Multiple pregnancy
- Ultrasound diagnosis
- Chrionicity and amnionicity

Recurrent miscarriage and pregnancy loss
- Causes, investigations and management
- Genetic causes, APLA syndrome, uterine causes etc
- Immunological causes
- Cervical insufficiency

Emergency gynaecology
- Ectopic gestation
- Torsion ovarian cysts

Paper - III

Fertility Enhancing Surgeries, Ethics and Reproductive Genetics

(1)Associated Diseases and surgical management

Knowledge Criteria

Anatomical systems in relation to human reproduction
Common diseases affecting the reproductive function like fibroids, endometriosis, tubal problems, uterine anomalies etc
Role of endoscopic and open surgery in the treatment of fertility-related conditions, e.g. fibroids, endometriosis, hydrosalpinges and tubal disease
Sterilisation reversal
Principles of laparoscopic and hysteroscopic surgery
Energy sources used in endoscopic surgery
Complications of endoscopic and open surgery
Laparoscopic surgery:

- Diagnostic laparoscopy
- Treatment of minimal/mild endometriosis/ovarian endometrioma
- Treatment of ovarian dermoid and other ovarian cysts
- Division of adhesions
- Salpingectomy for hydrosalpinx
- Salpingectomy and salpingostomy for ectopic pregnancy
- Laparoscopic myomectomy
- Laparoscopic ovarian drilling

Hysteroscopic surgery:

- Diagnostic hysteroscopy
- Outpatient hysteroscopy
- Resection of fibroid
- Resection of polyp
- Division of septum
- Division of adhesions
- Proximal tubal cannulation

Open fertility surgery:

- Reversal of sterilisation
- Myomectomy.
- Excision of vaginal septum
- Imperforate hymen
- Excision of rudimentary horn of uterus
- Hysterectomy for severe endometriosis
- Reversal of vasectomy
- Ligation of varicocele
- Percutaneous epididymal sperm aspiration
- Open testicular biopsy
- Testicular Sperm Aspiration

(2) Ethical & legal issues

Knowledge criteria
ART & law
Storage and Handling of Gametes and Embryos
Research: on embryos
Third party reproduction
Semen and egg banks
Documentation and reporting
Reporting of results
Ethical issues
Counselling
Regulations of Assisted Reproductive Technology
ICMR guidelines in ART
HFEA code of practice:
Adoption – Rules and regulations

(3) Reproductive Genetics:
Knowledge Criteria
Genetic history and counselling
Cell cycle and biology
Approach to chromosome analysis
International System for Human Cytogenetic Nomenclature
Prenatal screening
Screening for aneuploidy
Prenatal diagnosis
Cell culture and processing
Preimplantation genetic diagnosis
Preimplantation genetic screening
Basis of genetic inheritance and transmission of genetic disease:

- Single gene disorders: recessive and dominant
- Sex-linked disorders
- Late-onset disorders and disease susceptibilities
- Chromosome rearrangements: Robertsonian and reciprocal translocations
- Aneuploidy, sporadic aneuploidy and important aneuploidy syndromes (e.g. Edwards, Turner, Patau etc).

Tools for genetic diagnosis
Cytogenetics
Molecular cytogenetics: Principles and application
Genetics in male infertility
Genetics in female infertility
Genetics in recurrent pregnancy loss

(4) Patient Counseling

- Information counseling
- Implication counseling
- Support counseling
- Therapeutic counseling

Paper - IV

Recent Advances in Reproductive Medicine & Surgery

2.11 No: of hours per subject

Not applicable as the course is a Residency programme

2.12 Practical training

The M Ch 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. Based on the periodic assessment more and more responsibilities will be assigned to them.

Practical experience

The total practical experience should be recorded in the log book which should be assessed every six months by the head of the department.

Postings

Reproductive Medicine	134 weeks
ART Laboratory	12 weeks
Fetal Medicine	2 weeks
Urology / Andrology	2 weeks
General Endocrinology	2 weeks
Genetics	2 weeks
Clinical Psychology (Counseling)	2 weeks

2.13 Records

Present in clause2. 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-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)
- 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.

(1) Text book of Assisted Reproductive Techniques- laboratory and clinical perspectives by David K. Gardner

(2) Text book of Invitro Fertilisation & Assisted reproduction by Peter. R. Brinsden The BOURN Hall Guide to Clinical and Laboratory practice

(3) Infertility in practice by Adam H Balen

(4) Novak's Text book of Gynaecology

(5) Te Linde's Operative Gynaecology

(6) Speroff's Textbook of Gynaecologic Endocrinology and Infertility

(7) William's Text boot book of Obstetrics

(8) Hysteroscopy Office Evaluation and Management of Uterine Cavity

2.19 Reference books

As stipulated by the Head of Department.

(1) Ultrasonography in Obstertics & Gynaecology --- Callen

(2) Bonney's Gynaecological Surgery

(3) Practical Manual in Laparoscopy & Minimally Invasive Gynaecology-A Clinical Cook book

(4) Introduction to Gynaecological Endoscopy - Adrian Lower, Sutton

(5) William's Text Book of Endocrinology

(6) ABC of Genetics

(7) Veech's Atlas of Embryology

(8) Diagnosis and management of ovarian disorders by Albert Attchek, Liane Deligdisch,

Nathen G Kase

(9) Hysterosalpingography A Text book and Atlas by – David. j. Ott

(10) The Ovary – Leung & Adashi

(11) Infertility Male & Female – by Insler

(12)Campbell's Urology

2.20 Journals

(1) Human Reproduction
(2) Fertility & sterility
(3) Obstetrics and Gynaecology -- American Green Journal
(4) American Journal of Obstetrics and Gynaecology
(5) British Journal of Obstetrics and Gynaecology
(6) Obstetrical and Gynecological Survey
(7) Obstetrics and Gynaecology clinics of North America
(8) Best practice and Research -- Clinical Obstetrics and Gynaecology
(9) Clinical Obstetrics and Gynaecology
(10) Urologic Clinics of North America
(11) The journal of Urology –American Urology Association
(12) Reproductive BioMedicine Online (RBM)
(13) Molecular Human Reproduction
(14) Journal of Assisted Reproduction & Genetics
(15) European journal of Obstetrics and Gynaecology & Reproductive Biology
(16) Endocrinology & Metabolism –Clinics of North America
(17) ISAR Journal on line

2.21 Logbook

A log book is mandatory and has to be maintained by all students and this has to be reviewed by HOD 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 the following.

1. Bio data
2. Details of Posting
3. Part I- Academic Activities
    - Thesis
    - Abstract of thesis
    - Other research work
    - Publications
    - Oral/Poster Presentation in Conferences/CMEs
    - Conference/CME participations
    - Details of presentation in academic programs
    - Miscellaneous
4. Part II- Procedures Performed
    - Fertility enhancing surgery
    - ART related procedures
    - Other minor procedures
    - Laboratory procedures
    - Surgical emergencies
    - Cases of clinical interest
5. 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 organized 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. The following criteria should be satisfied for the candidate to be eligible to appear in the 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 a 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.

Sl.No.	Subject	Theory		Theory Group		Practical				Practical Group		Total	
		University				University		Viva					
		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	Paper I	100	-	400	200	300		100		400	200	800	400
2	Paper II	100	-										
3	Paper III	100	-										
4	Paper IV	100	-										

3.4 Papers in each year

Not applicable

3.5 Details of theory exams

As per clause 3.3 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.

Theory:

Paper I : Basic Medical Sciences as applied to Reproductive medicine and Surgery

Paper II : Principles of Reproductive Medicine including clinical and laboratory aspects of Assisted Reproductive Technology

Paper III : Fertility enhancing surgery, Genetics and Ethical issues

Paper IV : Recent advances

3.6 Model question paper for each subject with question paper pattern

QP Code:

Reg.No.:……

M.Ch (Reproductive Medicine and Surgery) Degree Examinations

(Model Question Paper)

Paper I – Basic Medical Sciences as applied to Reproductive Medicine and Surgery

Time: 3 hrs Max marks:100

• Answer all questions

• Draw diagrams wherever necessary

Essays: (20)

1. Discuss the process of embryo implantation. Explain the implantation window and methods to improve implantation.

Short essays: (8x10=80)

2. Stages of corpus luteal development and luteal phase insufficiency
3. GnRH agonists in reproductive medicine.
4. Control of prolactin secretion and hyperprolactinaemia in infertility
5. Role of LH in ovarian stimulation.
6. Evaluation of azoospermia.
7. ESHRE classification of uterine anomalies.
8. Differential diagnosis of hirsutism.
9. Mechanisms of infertility in endometriosis

****

QP Code:

Reg.No.:……

M.Ch (Reproductive medicine and surgery) Degree Examinations

(Model Question Paper)

Paper II – Principles of Reproductive Medicine including all clinical and laboratory aspects of Assisted reproductive Technology

Time: 3 hrs Max marks:100

• Answer all questions

• Draw diagrams wherever necessary

Essays: (20)

1. Discuss in an evidence based manner the various management strategies for IVF in poor responders.

Short essays: (8x10=80)

2. Prevention of Ovarian hyperstimulation syndrome.
3. Maintenance of clean air in an embryology lab.
4. Assisted hatching.
5. Optimising embryo transfer.
6. Clinical applications of Antimullerain Hormone and Antral follicular count.
7. Endometrial preparation in frozen embryo transfer.
8. GnRH agonist trigger
9. Ovulation induction in PCOS

****

QP Code:

Reg.No.:……

M.Ch (Reproductive Medicine and Surgery) Degree Examinations

(Model Question Paper)

Paper III – Fertility enhancing surgery, Genetics and Ethical issues

Time: 3 hrs Max marks:100

• Answer all questions

• Draw diagrams wherever necessary

Essays: (20)

1. What are the indications for myomectomy prior to IVF? Discuss the different approaches to myomectomy in a patient planned for IVF.

Short essays: (8x10=80)

2. Hydrosalpinx and ART.
3. Complications of hysteroscopic surgery and prevention.
4. Place of surgery for endometriosis in the current era.
5. Safe abdominal entry at laparoscopy.
6. Genetic causes of male infertility.
7. Salpingostomy versus salpingectomy for ectopic gestation.
8. MICROTESE
9. First trimester screening for aneuploidy.

****

QP Code:

Reg.No.:……

M.Ch (Reproductive Medicine and 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 preimplantation genetic diagnosis and screening in an evidence based manner.

Short essays: (8x10=80)

2. Ethical issues in surrogacy.
3. Ovarian tissue cropreservation.
4. Single versus sequential media.
5. Endometrial receptivity assay.
6. Blastocyst versus cleavage stage transfer.
7. Metabolomics.
8. Mitochondrial replacement in IVF
9. Time lapse technology

****

3.7 Internal assessment component

Not applicable.

3.8 Details of practical/clinical exams

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

i. 1 long case including ultrasound scanning–100 marks

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

iii. Ward rounds or counselling session–40 marks

Viva voce – 80 marks

Log Book 20 marks

Total 100 marks

Total Marks Practicals & Viva Voce – 400 marks

Long case discussion may take a maximum of 1 hr, short cases (total cases 2) - maximum 1 hr, ward rounds or counselling sessions – 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 recognized 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 should 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**
Log Book	**: 20 marks**
Total	**:100 marks**

4.INTERNSHIP

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

5. ANNEXURES

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

BIO DATA OF THE CANDIDATE

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

Certificate

Certified that this is a bonafide log book of……
……during his /her post graduate study period
from…… to ……

Signature
Name of Prof. & HOD
Dept:
College:

MAINTENANCE OF LOG BOOK

1. Every postgraduate shall maintain a record of skills he / she has acquired during the three year training period certified by the various Heads of Department under whom he / she has undergone training.

2. The postgraduate is also required to participate in the teaching and training program of junior postgraduate students.

3. In addition, the Head of the Department shall involve their postgraduate in Seminars, Journal Club, Group Discussions and participation in Clinical, Clinico-Pathological conferences.

4. Every postgraduate should be encouraged to present short title papers in conferences and to make improvements on it and submit them for publication in reputed medical journals. Motivation by the Head of the Department is essential in this area to sharpen the research skills of the postgraduate candidates.

5. The Head of the Department shall scrutinize the logbook once in 3 months.

6. Every postgraduate should have at least one paper published / accepted for publication, in a reputed medical journal.

7. At the end of the course, the candidate should summarize the contents and gets the logbook certified by the Head of the Department.

8. The logbook should be submitted at the time of clinical / practical examination for the scrutiny by the Board of Examiners.

DETAILS OF POSTINGS IN FIRST YEAR

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

DETAILS OF POSTINGS IN SECOND YEAR

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

DETAILS OF POSTINGS IN THIRD YEAR

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

PART I- ACADEMIC ACTIVITIES

THESIS/RESEARCH WORK DONE DURING THE COURSE

Subject of Thesis	
Name of Guide/Guides	
Date of Submission	
Date of Approval	

ABSTRACT OF THESIS

OTHER RESEARCH WORK

PUBLICATIONS

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

ORAL/POSTER PRESENTATION IN CONFERENCES

Name of the Conference	Date	Venue	Title of Paper

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

CONFERENCE/ CME PARTICIPATION

Name of the Conference	Date	Venue

DETAILS OF PRESENTATION IN ACADEMIC PROGRAMME (10 pages)

Date	Subject	Signature of HOD/Chair

MISCELLANEOUS

Date	Nature	Verified by

PART II- PROCEDURES PERFORMED

MAJOR FERTILITY SURGERY- 10 pages

Date	Patient details	Diagnosis	Procedure

A-Assisted

P-Performed

SIGNATURE OF HOD/UNIT IN CHIEF

ART RELATED PROCEDURES-10 pages

(OPU, EMBRYO TRANSFER, PESA, TESA, TESE)

Date	Patient details	Procedure

A-Assisted P-Performed

SIGNATURE OF HOD/UNIT IN CHIEF

OTHER MINOR PROCEDURES-10 pages

(IUI, MOCK TRANSFER, SHG etc)

Date	Patient details	Procedure

LABORATORY PROCEDURES-10 pages

Date	Patient details	Procedure

ULTRASOUND EXPERIENCE- 10 pages

Date	Patient details	Procedure and diagnosis

ANALYSIS , MANAGEMENT AND OUTCOME OF SURGICAL EMERGENCIES- 5 pages

Patient details	Description

CASES OF CLINICAL INTEREST – INDEX (60 PAGES)

Patient details	Description

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					
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*					
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 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*		
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:

SI.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 l work*					
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

ANNEXURE - 9

TABLE 1 - ACADEMIC ACTIVITIES ATTENDED

Name:

Admission Year: College:

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

TABLE 2

ACADEMIC PRESENTATIONS MADE BY THE TRAINEE

Name :

Admission Year:

College:

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

TABLE 3

DIAGNOSTIC AND OPERATIVE PROCEDURES PERFORMED

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

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 :

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

Place

Signature :

Name :

Designation :