Faculty of Medicine

JSS ACADEMY OF HIGHER EDUCATION & RESEARCH
(DEEMED TO BE UNIVERSITY) MYSURU

JSS Academy of Higher Education & Research
(Deemed to be University)
Accredited "A" Grade by NAAC
Sri Shivarathreeshwara Nagar, Mysuru – 570 015

Regulation & Syllabus

Post Graduate Degree & Diploma Programs

PEDIATRICS 2016

MD/PG Dip

Regulation & Syllabus

MD PEDIATRICS

2016

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REGULATION AND SYLLABUS FOR POST GRADUATE DEGREE PROGRAMS 2016

MD & DIPLOMA PEDIATRICS

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CHAPTER I

REGULATION FOR POST GRADUATE DEGREE AND DIPLOMA COURSES

1. Branch of study

Post graduate degree courses

Doctor of Medicine

a) Anaesthesiology
b) Anatomy
c) Biochemistry
d) Community medicine
e) Dermatology, venereology and leprosy
f) Emergency medicine
g) Forensic medicine
h) General medicine
i) Hospital administration
j) Microbiology
k) Pathology
l) Paediatrics
m) Pharmacology
n) Physiology
o) Psychiatry
p) Tuberculosis and Respiratory Medicine
q) Radio Diagnosis

Master of Surgery

a) General surgery
b) Obstetrics and gynaecology
c) Ophthalmology
d) Orthopaedics
e) Otorhinolaryngology

Post graduate diploma courses

a) Anaesthesiology (DA)
b) Child Health (DCH)
c) Clinical Pathology (DCP)
d) Dermatology, Venereology & Leprosy (DDVL)
e) Medical Radio Diagnosis (DMRD)
f) Obstetrics & Gynaecology (DGO)
g) Ophthalmology (DO)
h) Orthopaedics (D Ortho)
i) Otolaryngology (DLO)
j) Psychiatric Medicine (DPM)

2. Eligibility for admission

MD / MS Degree and Diploma courses: A candidate who has passed final year MBBS examination after pursuing a study in a medical college recognized by the Medical Council of India and has completed one year compulsory rotating internship in a teaching institution or other institution recognized by the Medical Council of India, and has obtained permanent registration of any State Medical Council, shall be eligible for admission.

3. Admission

A candidate desirous of admission to Post Graduate Medical Programmes MD/ MS / PG Diploma Courses is required to complete the application form and submit to the Deemed to be University along with prescribed documents on or before the scheduled date. Eligibility criteria, application form and details of documents to be submitted are available in the Deemed to be University website: www.jssuni.edu.in.

4. Registration

A candidate who has been admitted to postgraduate course shall register in the Deemed to be University within a month of admission after paying the registration fee.

5. Intake of students

The intake of students to each course shall be in accordance with the MCI.

6. Duration of study

MD, MS Degree Courses: The course of study shall be 3 completed years including the period of examination.

Provided that incase of students having a recognized 2 years postgraduate diploma course in the same subject, the period of training including the period of examination shall be 2 years.

Diploma courses: The course of study shall be 2 completed years including the examination period.

7. Methodology of training

The training of postgraduate for degree/diploma shall be residency pattern, with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings. Every candidate shall participate in the teaching and training programme of undergraduate students. Training should include involvement in laboratory and experimental work, and research studies. Basic medical sciences students should be posted to allied and relevant clinical departments or institutions. Similarly, clinical subjects' students should be posted to basic medical sciences and allied specialty departments or institutions.

8. Attendance, progress and conduct

A candidate pursuing degree/diploma course, shall work in the concerned department of the institution for the full period as full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course, nor can he/she work in a nursing home or other hospitals/

clinic/laboratory while studying postgraduate course.
Each year shall be taken as a unit for the purpose of calculating attendance.

Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

Every candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course. Provided, further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year.

Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the Deemed to be University Examinations.

9. Monitoring progress of study

Work diary / Log Book: Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention shall be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any, conducted by the candidate. The work diary shall be scrutinized and certified by the Head of the Department and Head of the Institution, and presented in the Deemed to be University practical/clinical examination.

Periodic tests: In case of degree courses of three years duration (MD/MS), the concerned departments shall conduct three tests, two of them be annual tests, one at the end of first year and the other at the end of the second year. The third test shall be held three months before the final examination. The tests shall include written papers, practical / clinical and viva voce. Records and marks obtained in such tests shall be maintained by the Head of the Department and sent to the Deemed to be University, when called for.

In case of diploma courses of two years duration, the concerned departments shall conduct two tests, one of them at the end of first year and the other in the second year, three months before the final examination. The tests shall include written papers, practical / clinical and viva voce.

Records: Records and marks obtained in tests shall be maintained by the Head of the Department and shall be made available to the Deemed to be University or MCI.

10. Dissertation

Every candidate pursuing MD/MS degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.

The dissertation is aimed to train a postgraduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions.

Every candidate shall submit to the Controller of Examinations of the Deemed to be University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course, on or before the dates notified by the Deemed to be University. The synopsis shall be sent through proper channel.

Such synopsis will be reviewed and the dissertation topic will be registered by the Deemed to be University. No change in the dissertation topic or guide shall be made without prior approval of the Deemed to be University.

The dissertation should be written under the following headings:

a) Introduction
b) Aims or Objectives of study
c) Review of Literature
d) Material and Methods
e) Results
f) Discussion
g) Conclusion
h) Summary
i) References
j) Tables
k) Annexure
l) Proof of Paper presentation and publication

The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

Four copies of dissertation thus prepared shall be submitted to the Controller of Examinations, six months before final examination, on or before the dates notified by the Deemed to be University.

The dissertation shall be valued by examiners appointed by the Deemed to be University. Approval of dissertation work is an essential precondition for a candidate to appear in the Deemed to be University examination.

Guide: The academic qualification and teaching experience required for recognition as a guide for dissertation work is as per MCI Minimum Qualifications for Teachers in Postgraduate Medical Education Regulations, 2000. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Assistant Professor gained after obtaining post graduate degree shall be recognised as post graduate teachers.

Co Guide: A Co-guide may be included provided the work requires substantial contribution from a sister department or from another medical institution recognised for teaching/training by JSS Deemed to be University / Medical Council of India.

Change of guide: In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the Deemed to be University.

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

11. Schedule of examination

The examination for MD / MS courses shall be held at the end of three academic years (six academic terms). The examination for the diploma courses shall be held at the end of two academic years.

For students who have already passed Post Graduate Diploma and appearing for MD examination, the examination shall be conducted after two academic years including submission of dissertation The Deemed to be University shall conduct two examinations in a year at an interval of four to six months between the two examination. Not more than two examinations shall be conducted in an academic year.

12. Scheme of examination

MD/MS

Dissertation: Every candidate shall carryout work and submit a dissertation as indicated in Sl. No. 10. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

Written Examination (Theory): A written examination shall consist of four question papers, each of three hours duration. Each paper shall carry 100 marks. Out of the four papers, the 1st paper in clinical subjects will be on applied aspects of basic medical sciences. Recent advances may be asked in any or all the papers. In basic medical subjects and para-clinical subjects, questions on applied clinical aspects shall also be asked.

Pattern of Theory Examination Question Paper:

Each paper shall consist of two long essay questions each carrying 20 marks, 3 short essay questions each carrying 10 marks and 6 short answer questions each carrying 5 marks. Total marks for each paper shall be 100.

Practical/Clinical Examination: In case of Practical examination for the subjects in Basic Medical Sciences Practical Examination shall be conducted to test the knowledge and competence of the candidates for making valid and relevant observations based on the experimental/Laboratory studies and his ability to perform such studies as are relevant to his subject.

Clinical examination for the subjects in Clinical Sciences shall be conducted to test the knowledge and competence of the candidates for undertaking independent work as a specialist/Teacher, for which candidates shall examine a minimum one long case and two short cases.

The total marks for Practical / clinical examination shall be 200.

Viva Voce: Viva Voce shall be thorough and shall aim at assessing the candidate knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the speciality, which form a part of the examination.

The total marks shall be 100 and the distribution of marks shall be as under:

i)	For examination of all components of syllabus	80
ii)	For Pedagogy	20

If there is skills evaluation, 10 marks shall be reserved for Pedagogy and 10 marks for skill evaluation.

Examiners. There shall be at least four examiners in each subject. Out of

them, two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

Criteria for declaring as pass in Deemed to be University Examination: A candidate shall pass theory and practical including clinical and viva-voce examination separately and shall obtain 40% marks in each theory paper and not less than 50% marks cumulatively in all the four papers for post graduate degree examination to be declared as pass.

A candidate obtaining less than 40% marks in any paper and obtaining less than 50% of marks cumulatively in all the four papers for postgraduate degree examination shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

Declaration of class: A successful candidate passing the Deemed to be University examination in first attempt and secures grand total aggregate 75% of marks or more will be declared to have passed the examination with distinction, 65% but below 75% declared as First Class and 50% but below 65% declared as Second Class.

A candidate passing the Deemed to be University examination in more than one attempt shall be declared as Pass Class irrespective of the percentage of marks.

Post Graduate Diploma Examinations

Diploma examination in any subject shall consist of theory (written papers), Practical / Clinical and Viva - Voce.

Theory: There shall be three written question papers each carrying 100 marks. Each paper will be of three hours duration. In clinical subjects one paper out of this shall be on basic medical sciences. In basic medical subjects and Para-clinical subjects, questions on applied clinical aspects shall also be asked.

Pattern of Theory Examination Question Paper:

Each paper shall consist of two long essay questions each carrying 20 marks, 3 short essay questions each carrying
10 marks and 6 short answer questions each carrying 5 marks. Total marks for each paper shall be 100.

Practical Clinical Examination: In case of practical examination it shall be aimed at assessing competence, skills related to laboratory procedures as well as testing students ability to make relevant and valid observations, interpretation of laboratory or experimental work relevant to his/her subject.

In case of clinical examination, it shall aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate shall examine at least one long case and two short cases.

The maximum marks for Practical / Clinical shall be 150.

Viva Voce Examination: Viva Voce examination shall be thorough and shall aim at assessing the candidate's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the speciality, which shall from a part of the examination. The total marks shall be 50.

Examiners. There shall be at least four examiners in each subject. Out of

them, two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

Criteria for declaring as pass in Deemed to be University Examination: A candidate shall pass theory and practical including clinical and viva-voce examination separately and shall obtain 40% marks in each theory paper and not less than 50% marks cumulatively in all the three papers for post graduate diploma examination to be declared as pass.

A candidate obtaining less than 40% marks in any paper and obtaining less than 50% of marks cumulatively in all the three papers for post graduate diploma examination shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

Declaration of class: A successful candidate passing the Deemed to be University examination in first attempt and secures grand total aggregate 75% of marks or more will be declared to have passed the examination with distinction, 65% but below 75% declared as First Class and 50% but below 65% declared as Second Class.

A candidate passing the Deemed to be University examination in more than one attempt shall be declared as Pass Class irrespective of the percentage of marks.

13. Number of candidates per day

The maximum number of candidates to be examined in Clinical/ practical and Oral on any day shall not exceed eight for M.D./M.S. degree, eight for diploma.

CHAPTER II

GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM

GOAL

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

1. Who shall recognize the health needs of the community and carry out professional obligations ethically and in keeping with the objectives of the national health policy.
2. Who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system.
3. Who shall be aware of the contemporary advance and developments in the discipline concerned.
4. Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology and
5. Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

GENERAL OBJECTIVES

At the end of the postgraduate training in the discipline concerned the student shall be able to:

1. Recognize the importance to the concerned speciality in the context of the health needs of the community and the national priorities in the health section.
2. Practice the specialist concerned ethically and in step with the principles of primary health care.
3. Demonstrate sufficient understanding of the basic sciences relevant to the concerned specialty.
4. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies.
5. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
6. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the specialty.
7. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.
8. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.
9. Play the assigned role in the implementation of national health programme, effectively and responsibly.

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

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

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

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

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

STATEMENT OF THE COMPETENCIES: Keeping in view the general objectives of postgraduate training, each discipline shall aim at development of specific competencies which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the programme so that he or she can direct the efforts towards the attainment of these competencies.

COMPONENTS OF THE POSTGRADUATE CURRICULUM:

The major components of the Postgraduate curriculum shall be:

- Theoretical knowledge
- Practical and clinical skills
- Dissertation skills.
- Attitudes including communication skills.
- Training in Research Methodology, Medical Ethics and Medicolegal aspects.

(Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000)

CHAPTER III

Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring shall be done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Model checklists are given in this chapter which may be copied and used.

The learning out comes to be assessed should include:

1. Personal Attitudes.
2. Acquisition of Knowledge.
3. Clinical and operative skills and
4. Teaching skills.

1. Personal Attitudes: The essential items are:

a) Caring attitude.

b) Initiative.

c) Organisational ability.

d) Potential to cope with stressful situations and undertake responsibility.

e) Trust worthiness and reliability.

f) To understand and communicate intelligibly with patients and others.

g) To behave in a manner that establishesprofessional relationships with patients and colleagues.

h) Ability to work in a team.

i) A critical enquiring approach to the acquisition of knowledge.

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

2. Acquisition of Knowledge: The methods used comprise of 'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

a) **Journal Review Meeting (Journal Club).** The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (see Model Checklist – I, Chapter III)

b) **Seminars / Symposia.** The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist (see Model Checklist-II, Chapter III)

c) **Clinico-pathological conferences.** This should be a multidisciplinary study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

d) **Medical Audit.** Periodic morbidity and mortality meeting shall be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

3. Clinical skills:

a. **Day to Day work:** Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist III, Chapter III).

b. **Clinical meetings:** Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list (see Model checklist IV, Chapter III).

c. **Clinical and Procedural skills:** The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Chapter III).

4. Teaching skills: Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Chapter III).

5. Periodic tests: In case of degree courses of three years duration, the department may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. In case of diploma courses of two year duration, the departments may conduct two tests. One of them at the end of first year and the other in the second year, three months before the final examination. The tests may include written papers, practical / clinical and viva voce.

6. Work diary: Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

7. Records: Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the Deemed to be University or MCI.

8. Log book: The log book is a record of the important activities of the candidates during his training. Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate. Format for the log book for the different activities is given in Tables 1, 2 and 3 of Chapter
III. Copies may be made and used by the institutions.

Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set him or herself right.

Format of Model Check Lists

Check List-I

MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Article chosen was					
2.	Extent of understanding of scope & objectives of the paper by the candi-date					
3.	Whether cross references have been consulted					
4.	Whether other relevant publications con-sulted					
5.	Ability to respond to questions on the paper / subject					
6.	Audio-visual aids used					
7.	Ability to defend the paper					
8.	Clarity of presentation					
9.	Any other observation					
	Total Score					

Check List – II

MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether otherrelevant 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 questions					
7.	Time scheduling					
8.	Appropriate use of Audio-Visual aids					
9.	Overall Performance					
10.	Any other observation					
	Total Score					

Check List - III

MODEL CHECK LIST FOR EVALUATION OF CLINICAL WORK IN WARD / OPD

(To be completed once a month by respective Unit Heads, including posting in other departments)

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl No	**Points to be considered**	**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 during rounds					
6.	Investigations work up					
7.	Beside manners					
8.	Rapport with patients					
9.	Counseling patient's relatives for blood donation or Postmortem and Case follow up.					
10.	Overall quality of ward work					
	Total Score					

Check List - IV

EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the Student:

Name of the Faculty:

Date:

Sl No	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 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.	Whether any major signs missed or misin-terpreted					
9.	Diagnosis: Whether it follows follows logically from history and findings					
10.	Investigations required • Complete list • Relevant order • Interpretation of in-vestigations					
11.	Ability to react to ques-tioning Whether it follows logically from history and findings					
12.	Ability to defend diag-nosis					
13.	Ability to justify differ-ential diagnosis					
14.	Others					
	Total Score					

Check List - V

MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

Sl No		Strong Point	Weak Point
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.	Asks questions		
10.	Answers questions asked by the audience		
11.	Rapport of speaker with his audience		
12.	Effectiveness of the talk		
13.	Uses AV aids appropriately		

Check List - VI

MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name of the Student:

Name of the Faculty:

Date:

Sl No	Points to be considered divine	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Interest shown in selecting a topic					
2.	Appropriate review of literature					
3.	Discussion with guide & other faculty					
4.	Quality of Protocol					
5.	Preparation of proforma					
	Total Score					

Check List - VII

CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE / CO GUIDE

Name of the Student:

Name of the Faculty:

Date:

Sl No	Items for observation during presentations	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Periodic consultation with guide/co-guide					
2.	Regular collection of case Material					
3.	Depth of analysis / discussion					
4.	Departmental presentation of findings					
5.	Quality of final output					
6.	Others					
	Total Score					

LOG BOOK

Table 1: Academic activities attended

Name: Admission Year:

Date	**Type of Activity Specify Seminar, Journal Club, Presentation, UG teaching**	**Particulars**

LOG BOOK

Table 2: Academic presentations made by the student

Name: Admission year:

Date	Topic	Type of Presentation Specify Seminar, Journal Club, Presentation, UG teaching

LOG BOOK

Table 3: Diagnostic and Operative procedures performed

Name: Admission year:

College:

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

*** Key:**

O **-** Washed up and observed

A - Assisted a more senior Surgeon

PA - Performed procedure under the direct supervision of a senior Surgeon PI - Performed independently

Model Overall Assessment Sheet

Sl No	Faculty Member & Others	Name of Student and Mean Score*									
		A	B	C	D	E	F	G	H	I	J
1.	**Journal Review Presentations**										
2.	**Seminars**										
3.	**Clinical work in wards**										
4.	**Clinical presentation**										
5.	**Teaching skill practice**										
	Total Score										

Note: Use separate sheet for each year.

Signature of HOD ***Signature of Principal***

The above overall assessment sheet used along with the logbook should form the basis for certifying satisfactory completion of course of study, in addition to the attendance requirement.

* KEY:

Mean score *:* Is the sum of all the scores of checklists 1 to 7.

A, B, ... Name of the trainees.

Chapter IV

Medical Ethics Sensitisation and Practice

Introduction

There is now a shift from the traditional individual patient- doctor relationship and medical care. With the advances in science and technology and the needs of patients, their families and the community, there is an increased concern with the health of society. There is a shift to greater accountability to the society. Doctors and health professionals are confronted with many ethical problems. It is, therefore necessary to be prepared to deal with these problems. To accomplish the Goal and General Objective stated in Chapter II and develop human values it is urged that ethical sensitisation be achieved by lectures or discussion on ethical issues, clinical discussion of cases with an important ethical component and by including ethical aspects in discussion in all case presentation, bedside rounds and academic postgraduate programmes.

Course Contents

1. **Introduction to Medical Ethics**
   - What is Ethics?
   - What are values and norms?
   - Relationship between being ethical and human fulfillment.
   - How to form a value system in one's personal and professional life.
   - Heteronomous Ethics and Autonomous Ethics.
   - Freedom and personal Responsibility.
2. **Definition of Medical Ethics**
   - Difference between medical ethics and bio-ethics
   - Major Principles of Medical Ethics
     - Beneficence = fraternity
     - Justice = equality
     - Self determination (autonomy) = liberty
3. **Perspective of Medical Ethics**
   - The Hippocratic Oath.
   - The Declaration of Helsinki.
   - The WHO Declaration of Geneva.
   - International code of Medical Ethics. (1993)
   - Medical Council of India Code of Ethics.
4. **Ethics of the Individual**
   - The patient as a person.
   - The Right to be respected.
   - Truth and Confidentiality.
   - The autonomy of decision.
   - The concept of disease, health and healing.
   - The Right to health.
   - Ethics of Behaviour modification.
   - The Physician – Patient relationship.
   - Organ donation.
5. **The Ethics of Human life**
   - What is human life?
   - Criteria for distinguishing the human and the non-human.

- Reasons for respecting human life.
- The beginning of human life.
- Conception, contraception.
- Abortion.
- Prenatal sex-determination.
- In vitro fertilization (IVF).
- Artificial Insemination by Husband (AIH).
- Artificial Insemination by Donor (AID).
- Surrogate motherhood.
- Semen Intra-fallopian Transfer (SIFT).
- Gamete Intra-fallopian Transfer (GIFT).
- Zygote Intra-fallopian Transfer (ZIFT).
- Genetic Engineering.

6. The Family and Society in Medical Ethics

- The Ethics of human sexuality.
- Family Planning perspectives.
- Prolongation of life.
- Advanced life directives – The Living Will
- Euthanasia
- Cancer and Terminal Care

7. Profession Ethics

- Code of conduct.
- Contract and confidentiality.
- Charging of fees, Fee-splitting.
- Prescription of drugs.
- Over-investigating the patient.
- Low – Cost drugs, vitamins and tonics.
- Allocation of resources in health care.
- Malpractice and Negligence.

8. Research Ethics

- Animal and experimental research / humaneness.
- Human experimentation.
- Human volunteer research — Informed Consent Drug trials.

9. Ethical workshop of cases

- Gathering all scientific factors.
- Gathering all human factors.
- Gathering all value factors.
- Identifying areas of value — conflict, setting of priorities
- Working out criteria towards decisions.

Recommended Reading

1. Francis C.M., Medical Ethics, 1 Ed, 1993, Jaypee Brothers, New Delhi.
2. Good Clinical Practices:GOI Guidelines for clinical trials on Pharmaceutical Products in India (www.cdsco.nic.in)
3. INSA Guidelines for care and use of Animals in Research – 2000.
4. CPCSEA Guidelines 2001 (www.cpcsea.org.)
5. Ethical Guidelines for Biomedical Research on Human Subjects, 2000, ICMR, New Delhi.
6. ICMR Guidelines on animal use 2001, ICMR, New Delhi.

Chapter- V Syllabus

M D PEDIATRICS

GOALS

The goals of postgraduate training in Pediatrics would be to train a basic medical graduate (MBBS):

- To practice as a Child Health specialist equipped with appropriate knowledge and skills necessary to care for the normal and sick child.
- To practice Child Health in the community (urban or rural) and to perform
- professionally at all levels of the existing health care system.
- To practice with empathy and the highest ethical standards of the profession.
- To continue to strive for excellence by continuing medical education throughout his or her professional career.
- To teach by sharing knowledge and skills with colleagues.
- To research and find solutions to challenges in health care.

OBJECTIVES

The objectives to be fulfilled at the completion of the course are as follows: At the end of the program, the student should be able to:

Knowledge:

- Describe, identify and monitor normal patterns of growth and development of children.
- Describe aetio-pathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of childhood.
- Demonstrate an understanding of basic (pre and para-clinical) sciences and its
- application to the normal and abnormal processes.
- Analyze clinical and investigation data approach and manage a health-related
- problem.
- Identify and understand socio-economic-environmental-cultural factors in health care.
- Recognize problems outside his or her abilities and appropriately refer.
- Update one's knowledge and skills by self-directed learning , by participating in continued medical education programs and utilizing media – spoken, written, print and electronic.
- Teach students and share knowledge and skills with colleagues.
- Audit and analyze work, assist in research and publish scientific articles in peer reviewe journals.

Skills:

- Elicit an appropriate clinical history.
- Demonstrate appropriate clinical physical examination skills on children.
- Plan, decide upon and interpret appropriate cost effective investigations.
- Perform essential procedures both diagnostic and therapeutic.
- Manage, resuscitate and stabilize children in pediatric or neonatal emergencies.

Communication and attitudes:

- Communicate appropriately with guardians and children, assisting in their health care decision making.
- Practice child health care at the highest ethical level, protecting the child at all
- costs.
- Respect patient's (and their guardian's) rights and professional relationships (doctor-doctor, doctor-nurse, doctor-patient, doctor-society).
- Apply the highest level of ethics in research, publication, references and practice of pediatrics

I. The Field of Pediatrics

1. Overview of child health
2. History of pediatrics
3. The normal child
4. Preventive and social pediatrics
5. Traditions and cultural issues pertaining to child care
6. Ethical issues in pediatric care
7. Quality and Safety in Healthcare for Children
8. Maximizing Children's Health : Screening, Anticipatory Guidance, and Counseling
9. Evaluating medical literature critical appreciation of journal articles
10. Epidemiology, statistics and research methodology including dissertation
11. Pediatric pharmacology: rational drug therapy, pharmacokinetics, basics of pharmacogenomics, pharmacoeconomics.

II. Growth and development

1. Fetal growth and development
2. Growth and development during newborn, infancy, preschool, early school and adolescent period
3. Assessment of growth
4. Biopsychological models of development
5. Developmental assessment
6. IQ assessment
7. Standards / nomograms (including Indian)
8. Approach to short stature, obesity, undernutrition, failure to thrive

III. Psychological Disorders

1. Assessment and interviewing
2. Pica, enuresis, encopresis, sleep, habit disorders ,Disruptive behavioral disorders
3. ADHD
4. Autism spectrum disorders
5. Neurodevelopment dysfunction
6. Poor scholastic performance in school age child
7. Learning disorders
8. Psychosomatic illness
9. Mood disorders
10. vegetative disorders-rumination
11. Anxiety disorders ,Sexual behavior variations, Psychosis

12. Suicide
13. Psychiatric considerations of: CNS injury
14. Psychological treatment
15. Social Issues
    a. Adoption
    b. Effects of a mobile society
    c. Street child
    d. Impact of violence
    e. Child care
    f. Street child
    g. Separation, death
    h. Single parent child
    i. Abuse and neglect
    j. Foster care
    k. Child labor
    l. Media (TV, movies) and its effect on the child
    1. Children with Special Needs
    a. Failure to thrive - problems, approach and evaluation
    b. Children in poverty
    c. Developmental disabilities, chronic illness
    d. Homeless children
    e. Mental retardation - problems, approach and evaluation
    f. Foster children
    g. Care of child with fatal illness
    h. Runaway children

IV. Nutrition

1. Nutritional Requirements- water, energy, proteins, carbohydrates, fats, minerals, vitamins
2. Diet/nutrition evaluation
3. Feeding Healthy Infants, Children, and Adolescents
4. Nutrition, Food Security, and Health
5. Breast milk feeding, human lactation management, BFHI
6. Nutrition values of Indian foods, recipes
7. Weaning foods
8. Nutritional disorders including overweight and obesity
9. Protein energy malnutrition
10. Vitamin deficiencies and excess
11. Micro-nutrient malnutrition
12. Nutrition in special situations— LBW, premature, chronic illness, surgery, critically ill child
13. TPN
14. Athletic diet

V. Patho-physiology of body fluids and fluid therapy (approach and management)

1. Physiology of fluids, electrolytes and acid bases.
2. Maintenance and replacement therapy
3. Dehydration and fluid management.
4. Dyselectrolytemia.
5. Acid base disorders
6. Special situations - pyloric stenosis, CNS disorders, burns, peri-operative, endocrine disorders, renal failure.

VI. Acutely ill child

1. Evaluation in emergency. .
2. Emergency medical services .
3. Pediatric critical care, respiratory failure, ventilation circulatory failure and shock acute neurological dysfunction resuscitation - basic and advanced, NALS/PALS post resuscitation stabilization cold/heat injury.
4. Injury control.
5. Transportation of sick child/neonate.
6. Post-operative supportive care.
7. Organization of a PICU/NICU
8. Equipment for intensive care
9. Pediatric anesthesia, perioperative care and sedation.
10. Pediatric pain management

VII. Emergencies/ Critical Care Pediatrics

1. Evaluation of the Sick Child in the Office and Clinic
2. Emergency Medical Services for Children
3. Pediatric Emergencies and Resuscitation
4. Fluid abnormalities.
5. Electrolyte abnormalities.
6. Thermoregulation problems. Acute renal failure.
7. Hypertensive crisis.
8. Congestive cardiac failure.
9. Cardiogenic shock.
10. Pericardial tamponade.
11. Cyanotic spells.
12. Unstable and stable arrhythmias.
13. Vomiting and diarrhea.
14. GI bleeds - hematemesis, melena, hematochezia.
15. Adrenal crisis.
16. Metabolic problems - hyperammonemia, lactic acidosis, acid base abnormalities, hypoglycemia
17. Septicemic shock, viral infections and shock.
18. Pneumothorax, empyema, pleural effusion, ascites.
19. Severe anemia, bleeding child, neutropenia.
20. Pain management
21. ARDS.
22. Respiratory failure
23. Burns/ electrocution.
24. Animal bites.
25. Preanesthetic check up.
26. Sickle cell crisis, severe complicated malaria.
27. Acute severe asthma, bronchiolitis.
28. Status epilepticus.
29. Febrile seizure.
30. Coma, increased intra-cranial pressure.
31. Cardiopulmonary resuscitation.
32. Shock.
33. Upper airway obstruction.
34. Near drowning.
35. Poisoning.

36. Snake bite.
37. Scorpion sting.
38. Physical abuse.
39. Sexual abuse.
40. Acute care of victim with multiple trauma

VIII. Human Genetics

1. Integration of Genetics Into Pediatric Practice
2. The Genetic Approach in Pediatric Medicine
3. The Human Genome
4. Patterns of Genetic Transmission
5. Cytogenetics , Molecular basis of disorders
6. Genetics of Common Disorders
7. Genetic Approaches to Rare and Undiagnosed Diseases Genetic counseling
8. Dysmorphism
9. Gene therapy

IX. Metabolic Disorders

1. Approach to IEM defects. .
2. Aminoacid metabolic defects. .
3. lipid metabolism disorders.
4. Carbohydrate metabolism disorders.
5. Mucopolysaccharidosis.
6. Hypoglycemia.
7. Purine and pyrimidine metabolism
8. porphyrias
9. Mucolipidosis.

X. Fetus and Newborn

1. Newborn — history, examination, routine delivery care, nursery care, bonding
2. High risk pregnancies
3. Normal Newborn
4. Common problems in a normal newborn
5. Delivery room emergencies
6. Fetus,
   i. high risk infant
   ii. Growth/development
   iii. fetal distress
   iv. Maternal diseases
   v. Maternal medications
   vi. Detection, treatment, prevention of fetal disease
   vii. Antenatal diagnosis Fetal therapy
   viii. Antenatal therapy
   ix. Counseling
   x. Teratogens, radiation
7. High risk infant
   i. Multiple pregnancies
   ii. Prematurity
   iii. Postdated

iv. IUGR/LBW
v. LFD
vi. Congenital anomalies/ malformations
vii. Birth injuries
viii. Hypoxia - ischemia, asphyxia

8. Organization and levels of newborn care
9. Respiratory disorders
10. Oxygen therapy, toxicity
11. Ventilation in neonates
12. GI disturbances including NEC
13. Hyperbilirubinemia
14. Cardiac problems
15. PPHN
16. Blood disorders
    i. Polycythemia
    ii. Anemia
    iii. Hemorrhagic disease of newborn
    iv. Hemolytic disease of newborn
    v. Thrombocytopenia
17. Genitourinary disturbances
18. Metabolic disorders.
19. Endocrine disorders- IDM, CAH
20. Ambiguous genitalia
21. Fluid and electrolytes in newborn care
22. Nutrition and feeding the newborn - term, preterm, LBW, IUGR
23. Neonatal transport
24. Surgical problems
    i. TEF
    ii. Anorectal malformations
    iii. Diaphragmatic hernia/eventeration
    iv. Hirschsprung
    v. Urogenital anomalies
    vi. NEC
    vii. Congenital lobar emphysema
    viii. Volvulus
25. Thermoregulation
26. Neonatal follow-up
27. Neonatal Infections
    i. Epidemiology
    ii. Intrauterine infections
    iii. Viral infections
    iv. Neonatal sepsis/meningitis
    v. Pneumonia
    vi. UTI
    vii. Hepatitis
    viii. Nosocomial
    ix. Universal precautions
    x. Prevention of infections
    xi. Therapy- antimicrobials, adjuvants

XI. Adolescent health

1. Epidemiology
2. Adolescent development and SMR stages

3. Deliveries of health care
4. Adolescent Pregnancy
5. Contraception
6. STD
7. Menstrual problems
8. Anorexia nervosa, bulimia ,
9. depression, suicide,
10. substance abuse,
11. sleep disorders,
12. skin/orthopedic disorders
13. Adolescent immunization
14. AFHI

XII. Immunological system

1. Basics of immunology
2. Approach to immunodeficiency
3. Bone marrow transplantation
4. Hematopoietic stem cell transplantation
5. Primary B cell diseases
6. Primary T cell diseases
7. Complement and phagocytic diseases
8. Chronic granulomatous disease
9. Chediak Higashi disease
10. Neutrophil abnormalities
11. Leucopnia,leucocytosis
12. Adhesion disorders
13. HIV

XIII. Allergic disorders

1. Allergy and immunological basis
2. Diagnosis
3. Therapy — principles
4. Allergic rhinitis
5. Asthma
6. Atopic dermatitis
7. Urticaria, angioedema
8. Anaphylaxis
9. Serum sickness
10. Adverse drug reactions,
11. insect allergy,
12. ocular allergy,
13. food allergy and adverse food reaction

XIV. Rheumatology

1. Evaluation of suspected rheumatic disease
2. Laboratory evaluation
3. Treatment of rheumatic diseases
4. Juvenile Idiopathic Arthritis
5. Ankylosing Spondylitis and Other Spondyloarthritides
6. Reactive and Postinfectious Arthritis

7. Systemic Lupus Erythematosus
8. Juvenile Dermatomyositis
9. Scleroderma and Raynaud Phenomenon
10. Behçet Disease
11. Sjögren Syndrome
12. Hereditary Periodic Fever Syndromes and Other Systemic
13. Autoinflammatory Diseases
14. Amyloidosis
15. Sarcoidosis
16. Kawasaki Disease
17. Vasculitis Syndromes
18. Musculoskeletal Pain Syndromes
19. Miscellaneous Conditions Associated with Arthritis

XV. Infectious diseases

1. Diagnostic Microbiology
2. The Microbiome and Pediatric Health
3. Infection Prevention and Control
4. Childcare and Communicable Diseases
5. Health Advice for Children Traveling Internationally
6. Fever
7. Fever Without a Focus
8. Infections in Immunocompromised Persons
9. Infection Associated with Medical Devices
10. Principles of Antibacterial Therapy
11. Sepsis and shock
12. CNS Infections
13. Pneumonia
14. Gastroenteritis
15. Osteomyelitis, Septic arthritis
16. Bacterial infections
17. Anaerobic infections
18. Viral infections
19. Mycotic infections
20. Parasitic infestations
21. Protozoal infections
22. Antiparasitic drugs
23. Antimicrobials
24. Antivirals drugs, interferon
25. Preventive measures
    a. Health advice for travelling
    b. Infection control
    c. Immunization practices
        i. Principles
        ii. Schedules
        iii. Controversies
        iv. Standard and optional vaccines
        v. Recent advances in vaccines

XVI. Digestive system

1. Normal tract -Physiology, anatomy, development

2. Clinical features of disorders
3. Disorders of esophagus
4. Disorders of stomach
5. Disorders of intestines except food allergy
6. Disorders of pancreas
7. Disorders of Liver and biliary system
    i. Acute hepatitis, chronic hepatitis, cirrhosis,
    ii. Metabolic liver diseases, cholestatic liver disease,
    iii. Neonatal obstructive cholangiopathy, complications of liver disease, portal hypertension, encephalopathy, coagulopathy
8. Disorders of peritoneum
9. GI function tests
10. Approach to malabsorption

XVII. Respiratory system

1. Development and function
2. Pulmonary function tests
3. Congenital disorders of nose
4. Disorders of upper respiratory tract
5. Disorders of lower respiratory tract
6. Pleural disorders
7. Chronic respiratory disease
    i. Interstitial fibrosis, ILD, empyema,
    ii. Lung abscess, bronchiectasis
8. Recurrent respiratory disease
9. Ventilation
10. Central hyperventilation
11. Cystic fibrosis
12. Obstructive sleep apnea
13. Pulmonary hemosiderosis
14. Neuromuscular skeletal disorders
15. Bronchial asthma
16. Cough syncope

XVIII. Cardiovascular System

1. Anatomy and development
2. Fetal circulation
3. Physiology and pathophysiology of transitional circulation
4. Investigations —Lab, ECG, CXR, ECHO, Cath
5. Congenital heart disease
    i. Epidemiology
    ii. Approach to Cyanotic and acyanotic CHD
6. Cardiac arrhythmia
7. Acquired heart disease:
    iii. Infective endocarditis
    iv. Rheumatic heart disease
8. Diseases of the myocardium-myocarditis, cardiomyopathy
9. Sick sinus syndrome
10. Tumors of heart
11. Heart lung, heart transplants
12. Aneurysms and fistulae

13. Cardiac therapeutics

XIX. Hematology

1. Development of hemomatopoietic system
2. Anemias
   i. Inadequate production
   ii. Nutritional-iron, folate, B12
   iii. Bone marrow failure
3. Definitions and classification of Hemolytic anemia -congenital and acquired
4. Constitutional pancytopenia
5. Polycythemia
6. Blood and component transfusions, Granulocyte transfusions, erythropoietin thera
7. Thrombotic disorders
8. Hemorrhagic disorders-acquired and congenital
   i. Physiology
   ii. Bleeding disorders
   iii. Coagulation disorders
9. Physiology and disorders of the spleen
10. Hyposplenism, trauma, splenectomy
11. Lymphatic vessel disorders,lymphadenopathy

XX. Neoplasms

1. Epidemiology of Childhood and Adolescent Cancer
2. Molecular and Cellular Biology of Cancer
3. Principles of diagnosis
4. Principles of treatment
5. Molecular pathogenesis
6. Leukemia
7. Lymphomas
8. Soft tissue sarcomas
9. Gonadal, germ cell tumours
10. Neuroblastomas
11. GI neoplasm
12. Liver neoplasm
13. Kidney tumors
14. Skin cancer
15. Bone neoplasms
16. Retinoblastoma
17. Benign tumors

XXI. Nephrology

1. Structure, development and function of kidney
2. Hematuria and conditions associated
3. HUS
4. Proteinuria and conditions associated
5. Nephrotic syndrome
6. Acute glomerulonephritis
7. Tubular disorders

- Function
- RTA
- DI

8. Acute kidney injury
9. RPGN
10. Renal replacement therapy
11. Bartter syndrome
12. Investigations in renal disorders
13. Toxic nephropathy

XXII. Urological disorders

1. UTI
2. Vesicoureteral reflux
3. Bladder anomalies
4. Obstructions
5. Congenital anomalies
6. Penis, urethra anomalies
7. Voiding dysfunction
8. Neurogenic bladder
9. Scrotal anomalies
10. Genitourinary trauma
11. Urinary lithiasis
12. Investigations — imaging, renal function tests

XXIII. Gynecological problems

1. Menstrual problems
2. Vulvovaginitis
3. Developmental anomalies
4. A child with special gynecologic needs
5. neoplasms
6. imaging
7. Athletic problems
8. Breast disorders
9. Hirsutism, polycystic ovaries

XXIV. Endocrine system

1. Hypothalamus and pituitary
   i. Hyperpitutarism
   ii. Hypopitutarism, Growth hormone
   iii. DI
   iv. ADH
   v. Physiology of puberty
   vi. Disorders of puberty
   vii. Precocious puberty
   viii. Delayed puberty
2. Thyroid
   i. Thyroid studies
   ii. Hypothyroidism
   iii. Thyroiditis
   iv. Goitre
   v. Hyperthyroidism

3. Parathyroid and disorders
4. Diabetes mellitus
5. Adrenal disorders
    i. CAH
    ii. Cushing
    iii. Addisons disease
    iv. Excess mineralocorticoids
    v. Feminizing adrenal tumours
    vi. Pheochromocytoma
6. Tumors of testes and ovary
7. Multiple endocrine disorders

XXV. Central Nervous System

1. Examination, localization of lesions
2. Congenital anomalies
3. Seizures, epilepsy, antiepileptic drugs
4. Headaches
5. Neurocutaneous disorders
6. Coma
7. Brain death
8. Head Injury
9. Neurodegenerative disorders- approach, grey/white
10. Acute Stroke
11. Brain abscess
12. Tumors
13. Spinal cord disorders
14. SSPE
15. Rabies vaccine encephalomyelitis
16. Acute demyelinating encephalomyelitis
17. Approach, investigations of UMN, LMN, extrapyramidal, cerebellar lesions
18. Cerebral palsy
19. Neuroinfections
20. Encephalopathies
21. Movement disorders
22. Investigations in CNS disorders

XXVI. Neuromuscular

1. Evaluation, investigations
2. Development disorders of muscle
3. Muscular dystrophies,
4. Ccongenital myopathy,
5. Myositis
6. Neuromuscular transmission and motor neuron abnormalities
7. Metabolic muscle disorders
8. GB syndrome
9. Motor sensory neuropathy
10. Bell’s palsy
11. Floppy infant
12. Acute flaccid paralysis
13. Myasthenia gravis

XXVII. Eye

1. Examination of eye
2. Diseases of eye movement and alignment disorders
3. Diseases of conjunctiva – conjunctivitis
4. Diseases of lens – cataract
5. Diseases of optic nerve - papillitis, neuritis, papilledema
6. Diseases of cornea – clouding
7. Refraction and accomodation
8. Vitamin A deficiency
9. Glaucoma
10. Lacrimal problems – Dacrocystitis
11. Orbital abnormalities
12. Retinopathy of prematurity
13. Injuries to eye
14. VER

XXVIII. Ear

1. Clinical manifestations
2. Congenital malformations
3. Hearing loss
4. Inner ear diseases
5. Otitis externa
6. Otitis media
7. Trauma
8. tumors
9. BERA

XXIX. Skin

1. Morphology
2. Evaluation
3. Principles of therapy
4. Diseases of Skin in the neonate
5. Ectodermal dysplasias
6. Vascular disorders
7. Cutaneous nevi
8. Pigment Disorders
    i. Hyperpigmentation
    ii. Hypopigmentation
9. Vesiculobullous diseases
10. Eczema
11. Cutaneous infections - bacterial, viral, fungal
12. Arthropod bites, infestations
13. Acne
14. Nutritional diseases
15. Drug reactions
16. hairs
17. Nails
18. Tumors
19. subcutaneous diseases, mucous membrane disorders
20. keratinisation diseases
21. dermis and epidermis diseases

22. hypersensitivity skin disorders

XXX. Bone/Joint

1. Evaluation
2. Diseases of foot, toes
3. Torsional, angular deformities
4. Leg length discrepancy
5. Diseases of knee
6. Diseases of hip
7. Diseases of spine
8. Diseases of neck
9. Arthrogryposis
10. Idiopathic hypercalcemia
11. Common fractures
12. Arthritis - approach, investigations, management
13. Congenital dislocation of hip
14. Osteomyelitis
15. Septic arthritis
16. Sports medicine
17. Pseudoachondroplasia
18. Diagnosis, assessment of genetic skeletal disorders
19. Dysplasias -thantophoric, diastrophic, camptomelic
20. Hyperphosphatesia
21. Genetic skeletal disorders
    i. Lethal and nonlethal bone dysplasias
    ii. Achondroplasia
    iii. Osteopetrosis
    iv. Marfans
22. Metabolic Bone disease
    i. Bone and vitamin D
    ii. Familial hypophosphatemia
    iii. Rickets - nutritional and non nutritional

XXXI. Unclassified diseases

1. SIDS
2. Histiocytosis
3. Progeria
4. Chronic fatigue syndrome

XXXII. Environmental

1. Biological effects of Radiation in children
2. Envenomations
3. Chemical pollutants
4. Animal and human bites
5. Heavy metal intoxications
6. Lead poisoning
7. Common poisonings-OP, kerosene, phenobarbitone, iron, etc.
8. Nonbacterial food poisoning
9. Biological and chemical terrorism

XXXIII. Principles of Rehabilitation Medicine , Evaluation of the Child for Rehabilitative Services

XXXIV. Severe Traumatic Brain Injury , Spinal Cord Injury and Autonomic Crisis Management , Traumatic and Sports-Related Injuries of the Lower Extremity

XXXV. Chronic Illness in Childhood , Pediatric Palliative Care

XXXVI. Organization Of Office Practice:Equipment, documentation, records, space and functioning.

XXXVII. Recent Advances In Pediatrics in the past 5 years

XXXVIII. Allied Subjects

- Anatomy : Applied embryology, development of major organ systems
- Physiology: Applied Physiology with regard to major organ systems
- Biochemistry: Biochemical basis or diseases in children — nutritional and metabolic
- Pathology: Pathophysiology of diseases in children, pathogenesis, basic histo- pathology
- Microbiology: Clinical microbiology applied to investigations for diseases in childhood, serology,staining, cultures
- Pharmacology: Clinical pharmacology, therapeutics of childhood diseases, drug interactions, rational drug therapy, adverse drug reactions,
- Community Medicine: Health care delivery systems — structure and function, health statistics, national programs
- Pediatric Surgery: Recognition and referral of surgical conditions in pediatrics
- Radiology: Clinical Indications and interpretations of X-ray, ultrasound, CT, MRI
- Legal and Ethical Medicine: Rights and protection of children, Consumer Protection Act, basic principles of ethics.

XXXIX. POSTGRADUATE SKILLS

a. PROCEDURES:

- Neonatal resuscitation
- Pediatric resuscitation
- Intravenous injections
- Intravenous cannulation
- Lumbar puncture
- Test doses
- Infusions
- Blood transfusions
- Neonatal exchange transfusions
- ABG
- Central line, CVP, Umbilical v catheterisation
- Intraosseous
- Bone marrow aspiration, trephine biopsy
- Pleural tap
- Paracentesis — diagnostic and therapeutic
- Mantoux test
- vaccinations
- Sampling for fluid cultures
- Liver biopsy

- Neonatal, pediatric partial exchange transfusion
- Sedation
- Analgesia
- Intercostal tube placement with underwater seal
- Peritoneal dialysis
- Subdural,Ventricular tap
- Respiratory management
- Nebulization
- Inhaler therapy
- Oxygen delivery
- Critically Ill child (All PI)
- Monitoring a sick child
- Pulse oximetry
- Infant feeding tube/ Ryles tube, stomach wash
- Urinary catheterization
- Restraining a child for a procedure
- ORS and ORT

b. Laboratory- Diagnostic skills

- Urine protein, sugar, microscopy
- Peripheral blood smear
- Malarial smear
- Ziehl Nielson smear — sputum, gastric aspirate
- Grams smear — CSF, pus
- Stool pH, reducing substances, microscopy
- KOH smear

c. Clinical Assessment skills

- Anthropometry
- Dietary recall, calorie and protein estimation
- Nutritional advice
- Gestational assessment
- Neurological examination of newborn
- Primitive reflexes
- Fundoscopy
- Otoscopy
- Transillumination test
- Examination of external genitalia - male and female
- Tanner's SMR scales
- DDST or Baroda scales, TDS
- Amiel Telson's angles
- Per rectal examination
- Brain death
- prognostication

d. Interpretation Skills

- Clinical History and Physical examination
- Blood, Urine, CSF and Fluid investigations – hematology& biochemistry
- Chest X-ray
- ECG
- ABG interpretation
- Abdominal X-ray

- Bone and joint X-ay
- CT /MRI scan brain
- Barium studies
- IVP, VUR studies
- Ultrasound abdomen
- Neurosonogram

e. Communication Skills

- Clinical history and physical examination
- Human lactation management (counselling and practical skills)
- Teaching skills
- Communicating health, disease
- Communicating about a seriously ill or mentally abnormal child
- Communicating death
- Informed consent
- Empathy with a family
- Referral letters, replies
- Discharge summaries
- Death certificates
- Pre-counseling for HIV
- Post counseling for HIV
- Basic Pedagogy sessions— teaching students, adults
- Lectures, bedside clinics, discussions
- Medline search, internet, Computer usage
- Genetic counseling

XL. TEACHING LEARNING ACTIVITIES

TEACHING SESSIONS

	ACTIVITY	FREQUENCY	MODERATOR	EVALUATOR
1	CASE DISCUSSION	Once in a week	Faculty	Faculty other than moderator
2	JOURNAL CLUB	Once in a week	Faculty	Faculty other than moderator
3	SEMINAR	Once in a week	Faculty	Faculty other than moderator
4	BED SIDE CLINICS	Twice in a month	Faculty	Faculty other than moderator
5	INTEGRATED TEACHING	Once in 2 months	Faculty	Faculty other than moderator
6	MORTALITY MEETING	Once in 2 months	Faculty	Faculty other than moderator
7	GRAND ROUNDS	Once in a week	Unit chief/ HOD	Faculty other than moderator

Additional Sessions on Basic Sciences, Biostatistics, Medical Ethics, Legal Issues, clinicopathological conferences may be organized as an Institutional Activity

Methods suggested for Pediatric Postgraduate Training Programs:

- **Didactic Lectures: (Faculty lectures**)
  - Objective: To introduce a broad-based concept in an important area of

learning to orient the postgraduate student.
  - Examples: Potential introductory topics to pediatrics like fluid and electrolytes, early recognition of shock and respiratory failure, DTTU management, recent advances, basic science/ concepts and ARI program.
  - Frequency: Three times a week during the introductory phase of the first one-two months of the new postgraduates joining the course. Following this period of orientation, it does not serve a purpose of self-directed learning and is best avoided as a regular activity except as an exceptional guest lecture.

- **Seminars**:
  - Objective: To enable a student to study in depth an important area of learning important to the training of the student.
  - Examples: Examples of potential seminar topics would be protein energy malnutrition, pediatric tuberculosis, pediatric HIV, bronchial asthma, chronic liver disease and its complications.
  - Frequency: Four times a month. Topics to rotate once every 2-3 years (DCh, MD). Topic to be shared among 2-3 students and to be equally distributed depending upon the number of postgraduate students in the department. Ideally, MD students should be given more conceptual topics needing a higher degree of understanding and indepth study. Seniors should have also a more difficult part of the topic when presented as a two-person seminar. Juniors can present after a preliminary month of observation of seminar and ideally could be in combination with senior postgraduates.

- **Journal Club:**
  - Objective: To appreciate and enable the critical analysis of scientific literature published in peer reviewed journals, studies, reviews.
  - Examples: Articles like the study on prophylactic Zidovudine to HIV positive pregnant women in prevention of vertical transmission to the fetus, Digoxin versus Captopril in VSD in CCF, etc.
  - Frequency: once in a week . MDs get the first opportunity and juniors begin after their first year in the course.

- **Undergraduate Teaching Clinics**
  - Objective: To teach effectively undergraduate and colleagues utilizing simple educational methods.
  - Methodology: During the third year of MD course, postgraduate students should be given opportunities to teach undergraduates.
  - Examples: Bedside Clinic, Didactic lecture, skill workshop (e.g. NALS, PALS)
  - Frequency: During undergraduate postings in the department each postgraduate should have a minimum of 2 opportunities per year after the first year of the postgraduate course is completed.

- **Bedside Clinics**
  - Objective: To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
  - Examples: Child with hemiplegia, hepatosplenomegaly, anemia, jaundice, etc.
  - Frequency: twice in a month is the minimum as it forms the basis of good - clinical training activities conducted by senior faculty.

- **Case discussion:**
  - Objective: To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
  - Examples: Child with hemiplegia, hepatosplenomegaly, anemia, jaundice, etc.
  - Frequency: once in a week is the minimum as it forms the basis of good - clinical training activities

- **Mortality Review Meeting**
  - Objective: To analyze, discuss and learn from mortalities.
  - Methodology: Once a month, all mortalities in the concerned department are presented to the department, both faculty and residents and pre-chosen cases are presented in detail. These cases are discussed further and after analysis shortcomings in diagnosis and treatment are identified to prevent future similar mortalities.
  - Examples: snake bite mortalities due to inadequate antivenom, failure to recognize early compensated circulatory failure or inadequate treatment of hyperkalenia.
  - Frequency : Once in 2 months preferably in the first week to allow the previous months mortality to be presented for discussion.

- **Grand Rounds**
  - Objective: To improve on bedside techniques – interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment, communication.
  - Examples: The child with pyrexia of unknown origin, undiagnosed hepatosplenomegaly, multi-systemic disease.
  - Frequency: Once in a week , Head of Unit or Department will conduct the rounds without any interference to daily care of patients.

- **Inter-departmental meetings**
  - Objective: To experience inter-departmental cooperation and develop a healthy professional respect for each other's opinions in addition to the subject learning experience.
  - Methodology: Case discussions or students present investigations to members of both faculty. The discussion is a learning experience and improves communications between departments.
  - Examples: Chest X-rays of a complicated bronchopneumonia progressing to an empyema, CT scans of intra-cranial pathology, Tracheo-esophageal fistulae and supportive care.
  - Frequency: Once in 2 months and rotated between departments — radiology, pediatric surgery, cardiology, nephrology, neurology, clinical hematology, etc.

- **Clinical Pathological Conference/ CPC**
  - Objective: To analyze clinical material to reach a differential diagnosis and correlate with the pathological biopsy findings.
  - Frequency: Once in two months. First choice is a senior MD student. All are encouraged to participate.

- **Records Round**
  - Objective: To appreciate the importance of documentation of facts and

record keeping.
- Methodology: Faculty in the presence of the team scrutinizes random case records. History sheets, doctor order sheets, progress sheets and discharge summaries are discussed.
- Frequency: Once a week with the entire team present at the session.

IV. ROTATION POSTINGS

1. Core

a. Pediatrics – 22-25 months with 5-6 months in each unit
b. Neonatology - 6-8 months
c. Intensive Care/Emergency- 2-3 months

2. Allied Specialties (on rotation) – 3 months

a. Neurology
b. Pediatric surgery
c. Nephrology
d. Cardiology
e. Dermatology
f. Radiology
g. Community/Rural

V. MONITORING LEARNING PROGRESS

- It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff of the department based on participation of students in various teaching & learning activities. It may be structured and assessment be done using checklists that assess various aspects.
- The learning out comes to be assessed should included: (1) Personal Attitudes, (2) Acquisition of Knowledge, (3) Clinical and operative skills, (4) Teaching skills and (5) Dissertation.

1. Personal Attitudes. The essential items are:

- Caring attitudes
- Initiative
- Organizational ability
- Potential to cope with stressful situations and undertake responsibility
- Trust worthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge, the methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

2. Acquisition of Knowledge: The methods used comprise of 'Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed.

- Journal Review Meeting (Journal Club): The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attend-

ing the meeting using a checklist

- Seminars / Symposia: The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist
- Clinico-pathological conferences: This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

3. Clinical skills

- Day to day work: Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model checklist III, chapter IV).
- Clinical meetings: Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list
- Clinical and Procedural skills: The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book.

4. Teaching skills:

Candidates should be encouraged to teach VCBC undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students

5. Dissertation in the department:

Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the Deemed to be University for registration, again before finalization for critical evaluation and another before final submission of the completed work .

GUIDELINES FOR PERIODIC REVIEW OF DISSERTATION

Within 3 months of joining course: synopsis presentation
During 2nd year: mid term presentation
6 months prior to examination: final presentation and submission

6. Periodic tests: The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, using practical / clinical and viva voce.

7. Work diary / Log Book/ Records: Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

VI. LOG BOOK: The log book is a record of the important activities of the candidates during his training; internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the train-

ing programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.
Format for the log book for the different activities is provided. Copies may be made and used by the institutions.
Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right

LOG BOOK EVALUATION
At the end of first year, second year and 3 months before final examination, the logbook will be evaluated considering the following parameters:

1. Skills and procedures learned independently, under supervision or assisted by him
2. Presentations in journal clubs
3. Cases presented in clinical meetings
4. Presentation in departmental seminars
5. Intra and interdepartmental training and evaluation details
6. Teaching activities
7. Conferences/workshops/CME attended
8. Papers presented/published conferences
9. Side lab procedures done
10. Thesis progress and evaluation detail

VII. SCHEME OF EXAMINATION

A. THEORY 400 MARKS
There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 3 short essay questions each carrying 10 marks, 6 short answers of 5 marks each. Total marks for each paper will be 100. Questions on recent advances can be asked in all the papers. Details of distribution of topics for each paper will be as follows.

PAPER I – BASIC SCIENCES AND GENERAL PEDIATRICS (WEIGHTAGE: 30%+70%)

(GROWTH & DEVELOPMENT, NUTRITION, ALLERGY, IMMUNOLOGY, IMMUNISATION, FLUID AND ELECTROLYTES, ACID BASE DISTURBANCES, ADOLESCENCE, INFECTIOUS DISEASES ,GENETICS, INBORN ERRORS OF METABOLISM, COLLAGEN VASCULAR DISORDERS)

PAPER II – SYSTEMIC PEDIATRICS

(CVS,RS,GIT,CNS,HEMATOONCOLOGY,ENDOCRINOLOGY,RENAL,PEDIATRIC ENT,PEDIATRIC ORTHOPEDICS ,PEDIATRIC DERMATOLOGY,PEDIATRIC OPHTHALMOLOGY,PAEDIATRIC SURGERY,PAEDIATRIC PSYCHIATRY, PEDIATRIC UROLOGY, GYNECOLOGIC PROBLEMS OF CHILDHOOD, NEUROMUSCULAR DISORDERS)

PAPER III- NEONATOLOGY

PAPER IV – PEDIATRIC EMERGENCIES AND SOCIAL PEDIATRICS AND

RECENT ADVANCES (WEIGHTAGE: 50%+ 20%+30%)

EACH PAPER: Time: 3 Hours , Max Marks:100

2 LONG ESSAYS: 20 MARKS EACH - 2×20=40 MARKS
3 SHORT ESSAYS: 10 MARKS EACH - 3×10=30 MARKS
6 SHORT ANSWERS: 5 MARKS EACH - 6×5= 30 MARKS
Recent advances as applied to paediatric disorders can be incorporated in ALL THE PAPERS

WEIGHTAGE OF MARKS IN EACH PAPER
MD PEDIATRICS

PAPER I – BASIC SCIENCES AND GENERAL PEDIATRICS (WEIGHTAGE: 30%+70%)

GENERAL PEDIATRICS (70%)	**%**
1. GROWTH & DEVELOPMENT:	10
2. NUTRITION,	10
3. ALLERGY, IMMUNOLOGY, IMMUNISATION,	10
4. FLUID AND ELECTROLYTES, ACID BASE DISTURBANC	10
5. ADOLESCENCE,	05
6. INFECTIOUS DISEASES	15
7. GENETICS,INBORN ERRORS OF METABOLISM, COLLAGEN VASCULAR DISORDERS	10

PAPER II – SYSTEMIC PEDIATRICS

1. CVS,	10
2. RS,	10
3. GIT	10
4. CNS	10
5. HEMATOONCOLOGY	10
6. ENDOCRINOLOGY,	10
7. RENAL,	10
8. PEDIATRIC ENT,	10
PEDIATRIC ORTHOPEDICS	
PEDIATRIC DERMATOLOGY	
PEDIATRIC OPHTHALMOLOGY,	
9. PAEDIATRIC SURGERY, UROLOGY ,	
GYNECOLOGIC PROBLEMS OF CHILDHOOD	10
10.PAEDIATRIC PSYCHIATRY,	05
11.NEUROMUSCULAR DISORDERS	05

PAPER III- NEONATOLOGY

1. Normal Newborn, Common problems in a normal newborn	05
2. Delivery room emergencies	10
3. Fetus,	05

(Teratogens, radiation high risk infant, Growth/development ,fetal distress, Maternal diseases, Maternal medications, Detection, treatment, prevention of fetal disease, Antenatal diagnosis Fetal therapy, Counseling)

4. High risk infant 10
Multiple pregnancies, Prematurity, Postdated, IUGR/LBW,LFD, Congenital anomalies, Birth injuries , Hypoxia , neonatal transport
5. Thermoregulation, Hyperbilirubinemia 10
6. Neonatal Infections 10
7. Respiratory disorders 10
8. GI disturbances 10
9. Cardiac disorders 10
10. Blood disorders 05
11. Genitourinary disturbances, Metabolic disorders., Endocrine disorders- 10
12. Surgical problems 05

PAPER IV – PEDIATRIC EMERGENCIES AND SOCIAL PEDIATRICS AND RECENT ADVANCES
(WEIGHTAGE: 50%+ 20%+30%)

B. CLINICAL EXAMINATION : 200 MARKS

TIME: 8 AM TO 5 PM

- Cases are selected by external examiners and are allotted in the presence of external examiners.

The cases allotted are:

CASES	NO	MARKS	TIME FOR	
			EXAMINATION	DISCUSSION
1. LONG CASE	**1**	**80**	**45**	**30-45**
2. SHORT CASES				
Short case	**1**	**45**	**15**	**15-20**
Emergency case	**1**	**25**	**15**	**15-20**
Newborn	**1**	**25**	**15**	**15-20**
OPD case	**1**	**25**	**15**	**15-20**
Total	**5**	**200**	**1 hour 30 min**	**75 min- 105 min**

C. VIVA-VOCE EXAMINATION : 100 MARKS

1. VIVA VOCE: 80 MARKS

Will be conducted at 4 stations by 4 examiners for 20 marks each. The stations are as follows:

STATION 1: INSTRUMENTS AND PROCEDURES,
STATION 2: X- RAYS, ULTRASOUND, CT SCAN IMAGES FOR INTERPRETATION
STATION 3: DRUGS AND VACCINES
STATION 4: NUTRITION

2. PEDAGOGY EXERCISE: 20 MARKS

A topic will be given to each candidate in the beginning of viva voce examination. He/she is asked to make a presentation on the topic for 8-10 minutes.

D. Maximum marks for MD degree course

Theory	Clinical Exam	Viva Voce	Grand Total
400	200	100	700

VIII. RECOMMENDED BOOKS AND JOURNALS TEXTS:

Essential

1. Nelson's Textbook of Pediatrics, Harcourt Asia Saunders
2. Cloherty's Manual of Neonatal Care
3. Meharban Singh's Care of the Newborn
4. Harriet Lane
5. Manual of Pediatric Therapeutics, Little Brown's Children's Hospital, Boston.
6. O.P. Ghai's Textbook of Pediatrics

Reference

1. Rudolf's Pediatrics, Appelton and Lange
2. Forfar and Arneil's Textbook of Pediatrics, ELBS
3. Frank Oski's Principles and Practice of Pediatrics
4. Avery's Disease of the Newborn
5. Roberton's Textbook of Neonatology
6. Illingworth's The normal child
7. Guha's Textbook of Neonatology
8. IAP Textbook of Pediatrics
9. Nadas' Pediatric Cardiology
10. Perloff's Approach to Congenital Heart Disease
11. Moss and Adam's Heart Disease in Infants, children and Adolescent
12. Miller's Blood Diseases of Infancy and Childhood
13. DeGruchy's Clinical Hematology in Medical Practice
14. Barret and Holiday's Pediatric Nephrology
15. Caffey's Pediatric X-Ray diagnosis
16. Alleyne's Protein Energy Malnutrition
17. Miller, Tuberculosis
18. Vimlesh Seth, Tuberculosis
19. Swanson's Pediatric Surgery
20. Cherry and Feigen's Pediatric Infectious Diseases
21. Fenichel's Pediatric Neurology
22. Kendig's Respiratory Diseases in Pediatrics
23. Alex Mowat's Liver Disease in Children
24. Roger's Pediatric Critical Care
25. H.P.S. Sachdev's Principles of Pediatric and Neonatology Emergencies
26. Smith's Recognition patterns of Human Malformations

Indexed, Journals

1. Indian Pediatrics
2. Indian Journal of Pediatrics
3. Pediatric Clinics of North America
4. New England Journal of Medicine
5. Lancet
6. British Medical Journal
7. Journal of Pediatrics
8. Archives Disease of Childhood and Adolescence
9. Pediatrics

10.Perinatal Clinics of North America

Reference Series

1. Suraj Gupta's Recent Advances in Pediatrics
2. David's Recent Advances in Pediatrics
3. Advances in Pediatrics
4. Year Book of Pediatrics

ANNEXURE 1.
PEDIATRIC POSTGRADUATE TRAINING 'LOG BOOK'
Contents:

1. Personal Data:
Name
Institution
Dates of Postgraduation studies
Joining
Completion
Degree
Deemed to be University
Dissertation Title
Name and Designation of Guide
Signature of candidate
Signature of Supervisor
Signature of Head of Department

2. Clinical Postings: (eg. General Pediatrics, PICU, NICU, Neurology)
Speciality Duration Dates of Posting Remarks by faculty Any interesting case/difficult case
3. Case Presentations: (eg. Clinics, tutorials)
DateName/age/sex Problem/Diagnosis Grad Moderator

4. Seminars: (eg. Seminar on TB)
Date Topic of Presentation Grade Moderator

5. Journal clubs
Date Topic of Presentation Grade Moderator

6. Mortality meetings: (eg. Mortality case discussion)
Date Name/age/sex Problem/Diagnosis Moderator

7. Guest lectures/ inter departmental teaching:
Date Topic Departments involved

- **Community Activity**: (eg. Pulse polio, Education programs, Rural visits, slum visits)

Date Description of Activity Supervisor

- **Paper Presentation**: (Local, State, National, International Forum- eg. IAP local meetings, NNF meetings)

Date Title of Paper presented conference Supervisor

- **Undergraduate Classes taken by MD candidate**: (eg. Didactic lecture or clinic)

Date Topic Supervisor

8. Academic Meetings, CMEs and Conferences attended : (Extra mural, Local, State, National, International Forum-eg. IAP local meetins, NNF meetings)

Date Title Organization

9. Training Courses: (eg. BFHI location course, PALS, NALS, Research methodology)

Date Title Supervisor

10. Dissertation:

Date progress Remarks by guide

11. Side lab procedures:

Date procedure interpretation supervisor

12. Procedures:

Date name/age/sex procedure diagnosis supervisor

DIPLOMA IN CHILD HEALTH (DCH)

GOALS:

The goals of postgraduate training in Pediatrics would be to train a basic medical graduate (MBBS):

- To practice as a Child Health specialist equipped with appropriate knowledge and skills necessary to care for the normal and sick child.
- To practice Child Health in the community (urban or rural) and to perform professionally at all levels of the existing health care system.
- To practice with empathy and the highest ethical standards of the profession.
- To continue to strive for excellence by continuing medical education throughout his or her professional career.
- To teach by sharing knowledge and skills with colleagues.
- To research and find solutions to challenges in health care.

OBJECTIVES:

The objectives to be fulfilled at the completion of the course are as follows: At the end of the program, the student should be able to:

Knowledge:

- Describe, identify and monitor normal patterns of growth and development of children.
- Describe aetio-pathogenesis, principles of clinical diagnosis, investigations and treatment of diseases of childhood.
- Demonstrate an understanding of basic (pre and para-clinical) sciences and its application to the normal and abnormal processes.
- Analyze clinical and investigation data approach and manage a health-related problem.
- Identify and understand socio-economic-environmental-cultural factors in health care.
- Recognize problems outside his or her abilities and appropriately refer.
- Update one's knowledge and skills by self directed learning , by participating in continued medical education programs and utilizing media – spoken, written, print and electronic.
- Teach students and share knowledge and skills with colleagues.
- Audit and analyze work, assist in research and publish scientific articles in peer-reviewed journals.

Skills:

- Elicit an appropriate clinical history.
- Demonstrate appropriate clinical physical examination skills on children.
- Plan, decide upon and interpret appropriate cost effective investigations.
- Perform essential procedures both diagnostic and therapeutic.
- Manage, resuscitate and stabilize children in pediatric or neonatal emergencies.

Communication and attitudes:

- Communicate appropriately with guardians and children, assisting in their health care decision making.
- Practice child health care at the highest ethical level, protecting the child at all costs.
- Respect patient's (and their guardian's) rights and professional relationships (doctor-doctor, doctor-nurse, doctor-patient, doctor-society).
- Apply the highest level of ethics in research, publication, references and practice of pediatrics

I. The Field of Pediatrics

1. Overview of child health
2. History of pediatrics
3. The normal child
4. Preventive and social pediatrics
5. Traditions and cultural issues pertaining to child care
6. Ethical issues in pediatric care
7. Quality and Safety in Healthcare for Children
8. Maximizing Children's Health : Screening, Anticipatory Guidance, and Counseling
9. Evaluating medical literature critical appreciation of journal articles
10. Epidemiology, statistics and research methodology including dissertation
11. Pediatric pharmacology: rational drug therapy, pharmacokinetics, basics of pharmacogenomics, pharmacoeconomics.

II. Growth and development

1. Fetal growth and development
2. Growth and development during newborn, infancy, preschool, early school and adolescent period
3. Assessment of growth
4. Biopsychological models of development
5. Developmental assessment
6. IQ assessment
7. Standards / nomograms (including Indian)
8. Approach to short stature, obesity, undernutrition, failure to thrive

III. Psychological Disorders

1. Assessment and interviewing
2. Pica, enuresis, encopresis, sleep, habit disorders ,Disruptive behavioral disorders
3. ADHD
4. Autism spectrum disorders
5. Neurodevelopment dysfunction
6. Poor scholastic performance in school age child
7. Learning disorders
8. Psychosomatic illness
9. Mood disorders
10. vegetative disorders-rumination
11. Anxiety disorders ,Sexual behavior variations, Psychosis
12. Suicide

13. Psychiatric considerations of: CNS injury
14. Psychological treatment
15. Social Issues
16. Adoption
17. Effects of a mobile society
18. Street child
19. Impact of violence
20. Child care
21. Street child
22. Separation, death
23. Single parent child
24. Abuse and neglect
25. Foster care
26. Child labor
27. Media (TV, movies) and its effect on the child
28. Children with Special Needs
    a. Failure to thrive - problems, approach and evaluation
    b. Children in poverty
    c. Developmental disabilities, chronic illness
    d. Homeless children
    e. Mental retardation - problems, approach and evaluation
    f. Foster children
    g. Care of child with fatal illness
    h. Runaway children

IV. Nutrition

1. Nutritional Requirements- water, energy, proteins, CHO, fats, minerals, vitamins
2. Diet/nutrition evaluation
3. Feeding Healthy Infants, Children, and Adolescents
4. Nutrition, Food Security, and Health
5. Breast milk feeding, human lactation management, BFHI
6. Nutrition values of Indian foods, recipes
7. Weaning foods
8. Nutritional disorders including overweight and obesity
9. Protein energy malnutrition
10. Vitamin deficiencies and excess
11. Micro-nutrient malnutrition
12. Nutrition in special situations— LBW, premature, chronic illness, surgery, critically ill child
13. TPN
14. Athletic diet

V. Patho-physiology of body fluids and fluid therapy (approach and management)

1. Physiology of fluids, electrolytes and acid bases.
2. Maintainance and replacement therapy
3. Dehydration and fluid management.
4. Dyselectrolytemia.
5. Acid base disorders
6. Special situations - pyloric stenosis, CNS disorders, burns, peri-operative,

endocrine disorders, renal failure.

VI. **Acutely ill child**

1. Evaluation in emergency. .
2. Emergency medical services .
3. Pediatric critical care, respiratory failure, ventilation circulatory failure and shock acute neurological dysfunction resuscitation - basic and advanced, NALS/PALS post resuscitation stabilization cold/heat injury.
4. Injury control.
5. Transportation of sick child/neonate.
6. Post-operative supportive care.
7. Organization of a PICU/NICU
8. Equipment for intensive care
9. Pediatric anesthesia, perioperative care and sedation.
10. Pediatric pain management

VII. **Emergencies/ Critical Care Pediatrics**

1. Evaluation of the Sick Child in the Office and Clinic
2. Emergency Medical Services for Children
3. Pediatric Emergencies and Resuscitation
4. Fluid abnormalities.
5. Electrolyte abnormalities.
6. Thermoregulation problems. Acute renal failure.
7. Hypertensive crisis.
8. Congestive cardiac failure.
9. Cardiogenic shock.
10. Pericardial tamponade.
11. Cyanotic spells.
12. Unstable and stable arrhythmias.
13. Vomiting and diarrhea.
14. GI bleeds - hematemesis, melena, hematochezia.
15. Adrenal crisis.
16. Metabolic problems - hyperammonemia, lactic acidosis, acid base abnormalities, hypoglycemia
17. Septicemic shock, viral infections and shock.
18. Pneumothorax, empyema, pleural effusion, ascites.
19. Severe anemia, bleeding child, neutropenia.
20. Pain management
21. ARDS.
22. Respiratory failure
23. Burns/ electrocution.
24. Animal bites.
25. Preanesthetic check up.
26. Sickle cell crisis, severe complicated malaria.
27. Acute severe asthma, bronchiolitis.
28. Status epilepticus.
29. Febrile seizure.
30. Coma, increased intra-cranial pressure.
31. Cardiopulmonary resuscitation.
32. Shock.
33. Upper airway obstruction.
34. Near drowning.

35. Poisoning.
36. Snake bite.
37. Scorpion sting.
38. Physical abuse.
39. Sexual abuse.
40. Acute care of victim with multiple trauma

VIII. Human Genetics

1. Integration of Genetics Into Pediatric Practice
2. The Genetic Approach in Pediatric Medicine
3. The Human Genome
4. Patterns of Genetic Transmission
5. Cytogenetics , Molecular basis of disorders
6. Genetics of Common Disorders
7. Genetic Approaches to Rare and Undiagnosed Diseases Genetic counseling
8. Dysmorphism
9. Gene therapy

IX . Metabolic Disorders

1. Approach to IEM defects. .
2. Aminoacid metabolic defects. .
3. lipid metabolism disorders.
4. Carbohydrate metabolism disorders.
5. Mucopolysaccharidosis.
6. Hypoglycemia.
7. Purine and pyrimidine metabolism
8. porphyrias
9. Mucolipidosis.

X. Fetus and Newborn

1. Newborn — history, examination, routine delivery care, nursery care, bonding
2. High risk pregnancies
3. Normal Newborn
4. Common problems in a normal newborn
5. Delivery room emergencies
6. Fetus,
   i. high risk infant
   ii. Growth/development
   iii. fetal distress
   iv. Maternal diseases
   v. Maternal medications
   vi. Detection, treatment, prevention of fetal disease
   vii. Antenatal diagnosis Fetal therapy
   viii. Antenatal therapy
   ix. Counseling
   x. Teratogens, radiation
7. High risk infant
   i. Multiple pregnancies
   ii. Prematurity

iii. Postdated
iv. IUGR/LBW
v. LFD
vi. Congenital anomalies/ malformations
vii. Birth injuries
viii. Hypoxia - ischemia, asphyxia

8. Organization and levels of newborn care
9. Respiratory disorders
10. Oxygen therapy, toxicity
11. Ventilation in neonates
12. GI disturbances including NEC
13. Hyperbilirubinemia
14. Cardiac problems
15. PPHN
16. Blood disorders
    i. Polycythemia
    ii. Anemia
    iii. Hemorrhagic disease of newborn
    iv. Hemolytic disease of newborn
    v. Thrombocytopenia
17. Genitourinary disturbances
18. Metabolic disorders.
19. Endocrine disorders- IDM, CAH
20. Ambiguous genitalia
21. Fluid and electrolytes in newborn care
22. Nutrition and feeding the newborn - term, preterm, LBW, IUGR
23. Neonatal transport
24. Surgical problems
    i. TEF
    ii. Anorectal malformations
    iii. Diaphragmatic hernia/eventeration
    iv. Hirschsprung
    v. Urogenital anomalies
    vi. NEC
    vii. Congenital lobar emphysema
    viii. Volvulus
25. Thermoregulation
26. Neonatal follow-up
27. Neonatal Infections
    i. Epidemiology
    ii. Intrauterine infections
    iii. Viral infections
    iv. Neonatal sepsis/meningitis
    v. Pneumonia
    vi. UTI
    vii. Hepatitis
    viii. Nosocomial
    ix. Universal precautions
    x. Prevention of infections
    xi. Therapy- antimicrobials, adjuvants

XI. **Adolescent health**

1. Epidemiology
2. Adolescent development and SMR stages

3. Deliveries of health care
4. Adolescent Pregnancy
5. Contraception
6. STD
7. Menstrual problems
8. Anorexia nervosa, bulimia ,
9. depression, suicide,
10. substance abuse,
11. sleep disorders,
12. skin/orthopedic disorders
13. Adolescent immunization
14. AFHI

XII. Immunological system

1. Basics of immunology
2. Approach to immunodeficiency
3. Bone marrow transplantation
4. Hematopoietic stem cell transplantation
5. Primary B cell diseases
6. Primary T cell diseases
7. Complement and phagocytic diseases
8. Chronic granulomatous disease
9. Chediak Higashi disease
10. Neutrophil abnormalities
11. Leucopnia,leucocytosis
12. Adhesion disorders
13. HIV

XIII. Allergic disorders

1. Allergy and immunological basis
2. Diagnosis
3. Therapy — principles
4. Allergic rhinitis
5. Asthma
6. Atopic dermatitis
7. Urticaria, angioedema
8. Anaphylaxis
9. Serum sickness
10. Adverse drug reactions,
11. insect allergy,
12. ocular allergy,
13. food allergy and adverse food reaction

XIV. Rheumatology

1. Evaluation of suspected rheumatic disease
2. Laboratory evaluation
3. Treatment of rheumatic diseases
4. Juvenile Idiopathic Arthritis
5. Ankylosing Spondylitis and Other Spondyloarthritides
6. Reactive and Postinfectious Arthritis

7. Systemic Lupus Erythematosus
8. Juvenile Dermatomyositis
9. Scleroderma and Raynaud Phenomenon
10. Behçet Disease
11. Sjögren Syndrome
12. Hereditary Periodic Fever Syndromes and Other Systemic
13. Autoinflammatory Diseases
14. Amyloidosis
15. Sarcoidosis
16. Kawasaki Disease
17. Vasculitis Syndromes
18. Musculoskeletal Pain Syndromes
19. Miscellaneous Conditions Associated with Arthritis

XV. Infectious diseases

1. Diagnostic Microbiology
2. The Microbiome and Pediatric Health
3. Infection Prevention and Control
4. Childcare and Communicable Diseases
5. Health Advice for Children Traveling Internationally
6. Fever
7. Fever Without a Focus
8. Infections in Immunocompromised Persons
9. Infection Associated with Medical Devices
10. Principles of Antibacterial Therapy
11. Sepsis and shock
12. CNS Infections
13. Pneumonia
14. Gastroenteritis
15. Osteomyelitis, Septic arthritis
16. Bacterial infections
17. Anaerobic infections
18. Viral infections
19. Mycotic infections
20. Parasitic infestations
21. Protozoal infections
22. Antiparasitic drugs
23. Antimicrobials
24. Antivirals drugs, interferon
25. Preventive measures
    a. Health advice for travelling
    b. Infection control
    c. Immunization practices
        i. Principles
        ii. Schedules
        iii. Controversies
        iv. Standard and optional vaccines
        v. Recent advances in vaccines

XVI. Digestive system

1. Normal tract -Physiology, anatomy, development
2. Clinical features of disorders

3. Disorders of esophagus
4. Disorders of stomach
5. Disorders of intestines except food allergy
6. Disorders of pancreas
7. Disorders of Liver and biliary system
    i. Acute hepatitis, chronic hepatitis, cirrhosis,
    ii. Metabolic liver diseases, cholestatic liver disease,
    iii. Neonatal obstructive cholangiopathy, complications of liver disease, portal hypertension, encephalopathy, coagulopathy
8. Disorders of peritoneum
9. GI function tests
10. Approach to malabsorption

XVII. Respiratory system

1. Development and function
2. Pulmonary function tests
3. Congenital disorders of nose
4. Disorders of upper respiratory tract
5. Disorders of lower respiratory tract
6. Pleural disorders
7. Chronic respiratory disease
8. Interstitial fibrosis, ILD, empyema,
9. Lung abscess, bronchiectasis
10. Recurrent respiratory disease
11. Ventilation
12. Central hyperventilation
13. Cystic fibrosis
14. Obstructive sleep apnea
15. Pulmonary hemosiderosis
16. Neuromuscular skeletal disorders
17. Bronchial asthma
18. Cough syncope

XVIII. Cardiovascular System

1. Anatomy and development
2. Fetal circulation
3. Physiology and pathophysiology of transitional circulation
4. Investigations —Lab, ECG, CXR, ECHO, Cath
5. Congenital heart disease
    i. Epidemiology
    ii. Approach to Cyanotic and acyanotic CHD
6. Cardiac arrhythmia
7. Acquired heart disease:
    iii. Infective endocarditis
    iv. Rheumatic heart disease
8. Diseases of the myocardium-myocarditis, cardiomyopathy
9. Sick sinus syndrome
10. Tumors of heart
11. Heart lung, heart transplants
12. Aneurysms and fistulae
13. Cardiac therapeutics

XIX. Hematology

1. Development of hemomatopoietic system
2. Anemias
   i. Inadequate production
   ii. Nutritional-iron, folate, B12
   iii. Bone marrow failure
3. Definitions and classification of Hemolytic anemia -congenital and acquired
4. Constitutional pancytopenia
5. Polycythemia
6. Blood and component transfusions, Granulocyte transfusions, erythropoietin therapy
7. Thrombotic disorders
8. Hemorrhagic disorders-acquired and congenital
   i. Physiology
   ii. Bleeding disorders
   iii. Coagulation disorders
9. Physiology and disorders of the spleen
10. Hyposplenism, trauma, splenectomy
11. Lymphatic vessel disorders,lymphadenopathy

XX. Neoplasm

1. Epidemiology of Childhood and Adolescent Cancer
   1. Molecular and Cellular Biology of Cancer
   2. Principles of diagnosis
   3. Principles of treatment
   4. Molecular pathogenesis
   5. Leukemia
   6. Lymphomas
   7. Soft tissue sarcomas
   8. Gonadal, germ cell tumours
   9. Neuroblastomas
   10. GI neoplasm
   11. Liver neoplasm
   12. Kidney tumors
   13. Skin cancer
   14. Bone neoplasms
   15. Retinoblastoma
   16. Benign tumors

XXI. Nephrology

1. Structure, development and function of kidney
2. Hematuria and conditions associated
3. HUS
4. Proteinuria and conditions associated
5. Nephrotic syndrome
6. Acute glomerulonephritis
7. Tubular disorders
   - Function

- RTA
- DI

8. Acute kidney injury
9. RPGN
10. Renal replacement therapy
11. Bartter syndrome
12. Investigations in renal disorders
13. Toxic nephropathy

XXII. Urological disorders

1. UTI
2. Vesicoureteral reflux
3. Bladder anomalies
4. Obstructions
5. Congenital anomalies
6. Penis, urethra anomalies
7. Voiding dysfunction
8. Neurogenic bladder
9. Scrotal anomalies
10. Genitourinary trauma
11. Urinary lithiasis
12. Investigations — imaging, renal function tests

XXIII. Gynecological problems

1. Menstrual problems
2. Vulvovaginitis
3. Developmental anomalies
4. A child with special gynecologic needs
5. neoplasms
6. imaging
7. Athletic problems
8. Breast disorders
9. Hirsutism, polycystic ovaries

XXIV. Endocrine system

1. Hypothalamus and pituitary
   i. Hyperpitutarism
   ii. Hypopitutarism, Growth hormone
   iii. DI
   iv. ADH
   v. Physiology of puberty
   vi. Disorders of puberty
   vii. Precocious puberty
   viii. Delayed puberty
2. Thyroid
   i. Thyroid studies
   ii. Hypothyroidism
   iii. Thyroiditis
   iv. Goitre
   v. Hyperthyroidism
3. Parathyroid and disorders

4. Diabetes mellitus
5. Adrenal disorders
    i. CAH
    ii. Cushing
    iii. Addisons disease
    iv. Excess mineralocorticoids
    v. Feminizing adrenal tumours
    vi. Pheochromocytoma
6. Tumors of testes and ovary
7. Multiple endocrine disorders

XXV. Central Nervous System

1. Examination, localization of lesions
2. Congenital anomalies
3. Seizures, epilepsy, antiepileptic drugs
4. Headaches
5. Neurocutaneous disorders
6. Coma
7. Brain death
8. Head Injury
9. Neurodegenerative disorders- approach, grey/white
10. Acute Stroke
11. Brain abscess
12. Tumors
13. Spinal cord disorders
14. SSPE
15. Rabies vaccine encephalomyelitis
16. Acute demyelinating encephalomyelitis
17. Approach, investigations of UMN, LMN, extrapyramidal, cerebellar lesions
18. Cerebral palsy
19. Neuroinfections
20. Encephalopathies
21. Movement disorders
22. Investigations in CNS disorders

XXVI. Neuromuscular

1. Evaluation, investigations
2. Development disorders of muscle
3. Muscular dystrophies,
4. Ccongenital myopathy,
5. Myositis
6. Neuromuscular transmission and motor neuron abnormalities
7. Metabolic muscle disorders
8. GB syndrome
9. Motor sensory neuropathy
10. Bell’s palsy
11. Floppy infant
12. Acute flaccid paralysis
13. Myasthenia gravis

XXVII. Eye

1. Examination of eye
2. Diseases of eye movement and alignment disorders
3. Diseases of conjunctiva – conjunctivitis
4. Diseases of lens – cataract
5. Diseases of optic nerve - papillitis, neuritis, papilledema
6. Diseases of cornea – clouding
7. Refraction and accomodation
8. Vitamin A deficiency
9. Glaucoma
10. Lacrimal problems – Dacrocystitis
11. Orbital abnormalities
12. Retinopathy of prematurity
13. Injuries to eye
14. VER

XXVIII. Ear

1. Clinical manifestations
2. Congenital malformations
3. Hearing loss
4. Inner ear diseases
5. Otitis externa
6. Otitis media
7. Trauma
8. tumors
9. BERA

XXIX. Skin

1. Morphology
2. Evaluation
3. Principles of therapy
4. Diseases of Skin in the neonate
5. Ectodermal dysplasias
6. Vascular disorders
7. Cutaneous nevi
8. Pigment Disorders
   - Hyperpigmentation
   - Hypopigmentation
9. Vesiculobullous diseases
10. Eczema
11. Cutaneous infections - bacterial, viral, fungal
12. Arthropod bites, infestations
13. Acne
14. Nutritional diseases
15. Drug reactions
16. hairs
17. Nails
18. Tumors
19. subcutaneous diseases, mucous membrane disorders
20. keratinisation diseases
21. dermis and epidermis diseases
22. hypersensitivity skin disorders

XXX. Bone/Joint

1. Evaluation
2. Diseases of foot, toes
3. Torsional, angular deformities
4. Leg length discrepancy
5. Diseases of knee
6. Diseases of hip
7. Diseases of spine
8. Diseases of neck
9. Arthrogryposis
10. Idiopathic hypercalcemia
11. Common fractures
12. Arthritis - approach, investigations, management
13. Congenital dislocation of hip
14. Osteomyelitis
15. Septic arthritis
16. Sports medicine
17. Pseudoachondroplasia
18. Diagnosis, assessment of genetic skeletal disorders
19. Dysplasias -thantophoric, diastrophic, camptomelic
20. Hyperphosphatesia
21. Genetic skeletal disorders
    i. Lethal and nonlethal bone dysplasias
    ii. Achondroplasia
    iii. Osteopetrosis
    iv. Marfans
22. Metabolic Bone disease
    i. Bone and vitamin D
    ii. Familial hypophosphatemia
    iii. Rickets - nutritional and non nutritional

XXXI. Unclassified diseases

1. SIDS
2. Histiocytosis
3. Progeria
4. Chronic fatigue syndrome

XXXII. Environmental

1. Biological effects of Radiation in children
2. Envenomations
3. Chemical pollutants
4. Animal and human bites
5. Heavy metal intoxications
6. Lead poisoning
7. Common poisonings-OP, kerosene, phenobarbitone, iron, etc.
8. Nonbacterial food poisoning
9. Biological and chemical terrorism

XXXIII. Principles of Rehabilitation Medicine , Evaluation of the Child for Rehabilitative Services

XXXIV. Severe Traumatic Brain Injury , Spinal Cord Injury and Autonomic Crisis Management , Traumatic and Sports-Related Injuries of the Lower Extremity

XXXV. Chronic Illness in Childhood , Pediatric Palliative Care

XXXVI. Organization Of Office Practice: Equipment, documentation, records, space and functioning.

XXXVII. Recent Advances In Pediatrics in the past 5 years

XXXVIII. Allied Subjects

- Anatomy: Applied embryology, development of major organ systems
- Physiology: Applied Physiology with regard to major organ systems
- Biochemistry: Biochemical basis or diseases in children — nutritional and metabolic
- Pathology: Pathophysiology of diseases in children, pathogenesis, basic histo- pathology
- Microbiology: Clinical microbiology applied to investigations for diseases in childhood serology, staining, cultures
- Pharmacology: Clinical pharmacology, therapeutics of childhood diseases, drug interactions, rational drug therapy, adverse drug reactions,
- Community Medicine: Health care delivery systems — structure and function, health statistics, national programs
- Pediatric Surgery: Recognition and referral of surgical conditions in pediatrics
- Radiology: Clinical Indications and interpretations of X-ray, ultrasound, CT, MRI
- Legal and Ethical Medicine: Rights and protection of children, Consumer Protection Act, basic principles of ethics.

XXXIX. **POSTGRADUATE SKILLS**

a. PROCEDURES:

- Neonatal resuscitation
- Pediatric resuscitation
- Intravenous injections
- Intravenous cannulation
- Lumbar puncture
- Test doses
- Infusions
- Blood transfusions
- Neonatal exchange transfusions
- ABG
- Central line, CVP, Umbilical v catheterisation
- Intraosseous
- Bone marrow aspiration, trephine biopsy
- Pleural tap
- Paracentesis—diagnostic and therapeutic
- Mantoux test
- vaccinations
- Sampling for fluid cultures
- Liver biopsy
- Neonatal, pediatric partial exchange transfusion
- Sedation
- Analgesia

- Intercostal tube placement with underwater seal
- Peritoneal dialysis
- Subdural,Ventricular tap
- Respiratory management
- Nebulization
- Inhaler therapy
- Oxygen delivery
- Critically Ill child (All PI)
- Monitoring a sick child
- Pulse oximetry
- Infant feeding tube/ Ryles tube, stomach wash
- Urinary catheterization
- Restraining a child for a procedure
- ORS and ORT

b. Laboratory- Diagnostic skills

- Urine protein, sugar, microscopy
- Peripheral blood smear
- Malarial smear
- Ziehl Nielson smear — sputum, gastric aspirate
- Grams smear — CSF, pus
- Stool pH, reducing substances, microscopy
- KOH smear

c. Clinical Assessment skills

- Anthropometry
- Dietary recall, calorie and protein estimation
- Nutritional advice
- Gestational assessment
- Neurological examination of newborn
- Primitive reflexes
- Fundoscopy
- Otoscopy
- Transillumination test
- Examination of external genitalia - male and female
- Tanner's SMR scales
- DDST or Baroda scales, TDS
- Amiel Telson's angles
- Per rectal examination
- Brain death
- prognostication

d. Interpretation Skills

- Clinical History and Physical examination
- Blood, Urine, CSF and Fluid investigations – hematology& biochemistry
- Chest X-ray
- ECG
- ABG interpretation
- Abdominal X-ray
- Bone and joint X-ay
- CT /MRI scan brain

- Barium studies
- IVP, VUR studies
- Ultrasound abdomen
- Neurosonogram

e. Communication Skills

- Clinical history and physical examination
- Human lactation management (counselling and practical skills)
- Teaching skills
- Communicating health, disease
- Communicating about a seriously ill or mentally abnormal child
- Communicating death
- Informed consent
- Empathy with a family
- Referral letters, replies
- Discharge summaries
- Death certificates
- Pre-counseling for HIV
- Post counseling for HIV
- Basic Pedagogy sessions— teaching students, adults
- Lectures, bedside clinics, discussions
- Medline search, internet, Computer usage
- Genetic counseling

XL. TEACHING LEARNING ACTIVITIES

TEACHING SESSIONS

	ACTIVITY	FREQUENCY	MODERATOR	EVALUATOR
1	CASE DISCUSSION	Once in a week	Faculty	Faculty other than moderator
2	JOURNAL CLUB	Once in a week	Faculty	Faculty other than moderator
3	SEMINAR	Once in a week	Faculty	Faculty other than moderator
4	BED SIDE CLINICS	Twice in a month	Faculty	Faculty other than moderator
5	INTEGRATED TEACHING	Once in 2 months	Faculty	Faculty other than moderator
6	MORTALITY MEETING	Once in 2 months	Faculty	Faculty other than moderator
7	GRAND ROUNDS	Once in a week	Unit chief/ HOD	Faculty other than moderator

Additional Sessions on Basic Sciences, Biostatistics, Medical Ethics, Legal Issues, clinicopathological conferences may be organised as an Institutional Activity

Methods suggested for Pediatric Postgraduate Training Programs:

- **Didactic Lectures: (Faculty lectures**)
  - Objective: To introduce a broad-based concept in an important area of learning to orient the postgraduate student.
  - Examples: Potential introductory topics to pediatrics like fluid and electrolytes, early recognition of shock and respiratory failure, DTTU management, recent advances, basic science/ concepts and ARI program.
  - Frequency: Three times a week during the introductory phase of the first one-two months of the new postgraduates joining the course. Following this period of orientation, it does not serve a purpose of self-directed learning and is best avoided as a regular activity except as an exceptional guest lecture.

- **Seminars**:
  - Objective: To enable a student to study in depth an important area of learning important to the training of the student.
  - Examples: Examples of potential seminar topics would be protein energy malnutrition, pediatric tuberculosis, pediatric HIV, bronchial asthma, chronic liver disease and its complications.
  - Frequency: Four times a month. Topics to rotate once every 2-3 years (DCh, MD). Topic to be shared among 2-3 students and to be equally distributed depending upon the number of postgraduate students in the department. Ideally, MD students should be given more conceptual topics needing a higher degree of understanding and indepth study. Seniors should have also a more difficult part of the topic when presented as a two-person seminar. Juniors can present after a preliminary month of observation of seminar and ideally could be in combination with senior postgraduates.

- **Journal Club:**
  - Objective: To appreciate and enable the critical analysis of scientific literature published in peer reviewed journals, studies, reviews.
  - Examples: Articles like the study on prophylactic Zidovudine to HIV positive pregnant women in prevention of vertical transmission to the fetus, Digoxin versus Captopril in VSD in CCF, etc.
  - Frequency: once in a week . MDs get the first opportunity and juniors begin after their first year in the course.

- **Undergraduate Teaching Clinics**
  - Objective: To teach effectively undergraduate and colleagues utilizing simple educational methods.
  - Methodology: During the third year of MD course, postgraduate students should be given opportunities to teach undergraduates.
  - Examples: Bedside Clinic, Didactic lecture, skill workshop (e.g. NALS, PALS)
  - Frequency: During undergraduate postings in the department each postgraduate should have a minimum of 2 opportunities per year after the first year of the postgraduate course is completed.

- **Bedside Clinics**
  - Objective: To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
  - Examples: Child with hemiplegia, hepatosplenomegaly, anemia, jaundice,

etc.
- Frequency: twice in a month is the minimum as it forms the basis of good - clinical training activities conducted by senior faculty.

- **Case discussion:**
  - Objective: To learn bedside techniques - interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.
  - Examples: Child with hemiplegia, hepatosplenomegaly, anemia, jaundice, etc.
  - Frequency: once in a week is the minimum as it forms the basis of good - clinical training activities

- **Mortality Review Meeting**
  - Objective: To analyze, discuss and learn from mortalities.
  - Methodology: Once a month, all mortalities in the concerned department are presented to the department, both faculty and residents and pre-chosen cases are presented in detail. These cases are discussed further and after analysis shortcomings in diagnosis and treatment are identified to prevent future similar mortalities.
  - Examples: snake bite mortalities due to inadequate antivenom, failure to recognize early compensated circulatory failure or inadequate treatment of hyperkalenia.
  - Frequency : Once in 2 months preferably in the first week to allow the previous months mortality to be presented for discussion.

- **Grand Rounds**
  - Objective: To improve on bedside techniques – interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment, communication.
  - Examples: The child with pyrexia of unknown origin, undiagnosed hepatosplenomegaly, multi-systemic disease.
  - Frequency: Once in a week , Head of Unit or Department will conduct the rounds without any interference to daily care of patients.

- **Inter-departmental meetings**
  - Objective: To experience inter-departmental cooperation and develop a healthy professional respect for each other's opinions in addition to the subject learning experience.
  - Methodology: Case discussions or students present investigations to members of both faculty. The discussion is a learning experience and improves communications between departments.
  - Examples: Chest X-rays of a complicated bronchopneumonia progressing to an empyema, CT scans of intra-cranial pathology, Tracheo-esophageal fistulae and supportive care.
  - Frequency: Once in 2 months and rotated between departments — radiology, pediatric surgery, cardiology, nephrology, neurology, clinical hematology, etc.
- **Clinical Pathological Conference/ CPC**
  - Objective: To analyze clinical material to reach a differential diagnosis and correlate with the pathological biopsy findings.
  - Frequency: Once in two months. First choice is a senior MD student. All are encouraged to participate.

-
- **Records Round**
  - Objective: To appreciate the importance of documentation of facts and record keeping.
  - Methodology: Faculty in the presence of the team scrutinizes random case records. History sheets, doctor order sheets, progress sheets and discharge summaries are discussed.
  - Frequency: Once a week with the entire team present at the session.

IV. ROTATION POSTINGS

1. Core

a. Pediatrics – 13-17 months
b. Neonatology - 3-4 months
c. Intensive Care/Emergency- 1-2 months

2. Other Specialities – 2 months

a. Neurology
b. Pediatric surgery
c. Nephrology
d. Cardiology
e. Dermatology
f. Radiology
g. Community/Rural

V. MONITORING LEARNING PROGRESS

- It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff of the department based on participation of students in various teaching & learning activities. It may be structured and assessment be done using checklists that assess various aspects.
- The learning out comes to be assessed should included: (1) Personal Attitudes, (2) Acquisition of Knowledge, (3) Clinical and operative skills, (4) Teaching skills and (5) Dissertation.

1. Personal Attitudes. The essential items are:

- Caring attitudes
- Initiative
- Organizational ability
- Potential to cope with stressful situations and undertake responsibility
- Trust worthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge, the methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

2Acquisition of Knowledge: The methods used comprise of 'Log Book' which

records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed.

- Journal Review Meeting (Journal Club): The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist
- Seminars / Symposia: The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist
- Clinico-pathological conferences: This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

3. Clinical skills

- Day to day work: Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model checklist III, chapter IV).
- Clinical meetings: Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list
- Clinical and Procedural skills: The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book.

4. Teaching skills: Candidates should be encouraged to teach VCBC undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students

5. Periodic tests: The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, using practical / clinical and viva voce.

6. Work diary / Log Book/ Records: Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

VI. LOG BOOK: The logbook is a record of the important activities of the candidates during his training; internal assessment should be based on the evaluation of the logbook. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.
Format for the log book for the different activities is provided. Copies may be made and used by the institutions.

Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counseled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right

LOG BOOK EVALUATION

At the end of first year, second year and 3 months before final examination, the logbook will be evaluated considering the following parameters:

1. Skills and procedures learned independently, under supervision or assisted by him
2. Presentations in journal clubs
3. Cases presented in clinical meetings
4. Presentation in departmental seminars
5. Intra and interdepartmental training and evaluation details
6. Teaching activities
7. Conferences/workshops/CME attended
8. Papers presented/published conferences
9. Side lab procedures done

VII. SCHEME OF EXAMINATION

A. THEORY 300 MARKS

There shall be three question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 3 short essay questions each carrying 10 marks, 6 short answers of 5 marks each. Total marks for each paper will be 100. Questions on recent advances can be asked in all the papers. Details of distribution of topics for each paper will be as follows

PAPER I – NEONATOLOGY + PEDIATRIC EMERGENCIES
(WEIGHTAGE : 50% + 50%)

PAPER II – GENERAL PEDIATRICS + SOCIAL PEDIATRICS
(WEIGHTAGE : 80% + 20%)

(GROWTH &DEVELOPMENT,NUTRITION,ALLERGY,IMMUNOLOGY,IMMUNISATION,-FLUID AND ELECTROLYTES,ACID BASE DISTURBANCES,ADOLESCENCE,INFECTIOUS DISEASES,GENETICS,INBORN ERRORS OF METABOLISM COLLAGEN VASCULAR DISORDERS)

PAPERIII–SYSTEMICPEDIATRICS (CVS,RS,GIT,CNS,HEMATOONCOLOGY,ENDOCRINOLOGY,RENAL,PEDIATRICENT,PEDIATRIC ORTHOPEDICS ,PEDIATRIC DERMATOLOGY,PEDIATRIC OPHTHALMOLOGY,PAEDIATRIC SURGERY,PAEDIATRIC PSYCHIATRY, PEDIATRIC UROLOGY, GYNECOLOGIC PROBLEMS OF CHILDHOOD, NEUROMUSCULAR DISORDERS)

EACH PAPER : Time: 3 Hours , Max Marks:100
2 LONG ESSAYS : 20 MARKS EACH - 2×20=40 MARKS
3 SHORT ESSAYS : 10 MARKS EACH - 3×10=30 MARKS
6 SHORT ANSWERS : 5 MARKS EACH - 6×5= 30 MARKS
Recent advances as applied to paediatric disorders can be included in all the question papers.

DCH: WEIGHTAGE OF MARKS

PAPER I – NEONATOLOGY + PEDIATRIC EMERGENCIES

(WEIGHTAGE : 50% + 50%)

NEONATOLOGY PERCENTAGE(50%)

1. Normal Newborn, Common problems in a normal newborn Delivery room eme10Fetus, (Teratogens, radiation high risk infant, Growth/development , fetal distress, Maternal diseases, Maternal medications, Detection, treatment, prevention of fetal disease, Antenatal diagnosis Fetal therapy, Counseling)

2. High risk infant 10Multiple pregnancies , Prematurity, Postdated, IUGR/LB-W,LFD, Congenital anomalies, Birth injuries, Hypoxia , neonatal transport

3. Thermoregulation,Hyperbilirubinemia 05
4. NeonatalInfections 10
5. Respiratory disorders 10

GI disturbances

Cardiac disorders

Blood disorders

6. Genitourinary disturbances, Metabolic disorders. , Endocrine disorders- 05

Surgical problems

PAPER II – GENERAL PEDIATRICS + SOCIAL PEDIATRICS

(WEIGHTAGE : 80% + 20%)

GENERAL PEDIATRICS PERCENTAGE(TOTAL 80%)

1. GROWTH & DEVELOPMENT: 10
2. NUTRITION, 10
3. ALLERGY,

10.IMMUNOLOGY,

11.IMMUNISATION, 10

4. FLUID AND ELECTROLYTES,

12.ACID BASE DISTURBANCES, 10

5. ADOLESCENCE, 10
6. INFECTIOUS DISEASES 20
7. GENETICS, 10

INBORN ERRORS OF METABOLISM,

COLLAGEN VASCULAR DISORDERS

PAPER III –SYSTEMIC PEDIATRICS

Percentage

1. CVS, 10
2. RS, 10
3. GIT 10
4. CNS 10
5. HEMATOONCOLOGY 10
6. ENDOCRINOLOGY, 10
7. RENAL, 10
8. PEDIATRIC ENT, 10

13.PEDIATRIC ORTHOPEDICS
14.PEDIATRIC DERMATOLOGY
15.PEDIATRIC OPHTHALMOLOGY,
9. PAEDIATRIC SURGERY, UROLOGY ,
16.GYNECOLOGIC PROBLEMS OF CHILDHOOD 10
10.PAEDIATRIC PSYCHIATRY, 05
11.NEUROMUSCULAR DISORDERS 05

B. CLINICAL EXAMINATION 150 MARKS

TIME: 8 AM TO 5 PM

Cases are selected by external examiners and are allotted in the presence of external examiners.

The cases allotted are:

CASES	**NO**	**MARKS**	**TIME FOR EXAMINATION**	**TIME FOR DISCUSSION**
1. LONG CASE	1	60	45	20-30
2. SHORT CASES				
Short case	1	30	15	10-15
Emergency case	1	20	15	10-15
Newborn	1	20	15	10-15
OPD case	1	20	15	10-15
Total	5	150	1 hour 30 min	50 min -75min

E. VIVA-VOCE EXAMINATION: 50MARKS

1. VIVA-VOCE: (50 MARKS)

Will be conducted at 4 stations by 4 examiners for 12.5 marks each. The stations are as follows:

STATION 1: INSTRUMENTS AND PROCEDURES,
STATION 2: X- RAYS, ULTRASOUND, CT SCAN IMAGES FOR INTERPRETATION
STATION 3: DRUGS AND VACCINES
STATION 4: NUTRITION

F. MAXIMUM MARKS FOR DCH COURSE

Theory	**Clinical Exam**	**Viva**	**Grand Total**
300	**150**		
50	**500**		

VIII. RECOMMENDED BOOKS AND JOURNALS TEXTS:

Essential

1. Nelson's Textbook of Pediatrics, Harcourt Asia Saunders
2. Cloherty's Manual of Neonatal Care
3. Meharban Singh's Care of the Newborn
4. Harriat Lane

5. Manual of Pediatric Therapeutics, Little Brown's Children's Hospital, Boston.
6. O.P. Ghai's Textbook of Pediatrics

Reference:

1. Rudolf's Pediatrics, Appelton and Lange
2. Forfar and Arneil's Textbook of Pediatrics, ELBS
3. Frank Oski's Principles and Practice of Pediatrics
4. Avery's Disease of the Newborn
5. Roberton's Textbook of Neonatology
6. Illingworth's The normal child
7. Guha's Textbook of Neonatology
8. IAP Textbook of Pediatrics
9. Nadas' Pediatric Cardiology
10. Perloff's Approach to Congenital Heart Disease
11. Moss and Adam's Heart Disease in Infants, children and Adolescent
12. Miller's Blood Diseases of Infancy and Childhood
13. DeGruchy's Clinical Hematology in Medical Practice
14. Barret and Holiday's Pediatric Nephrology
15. Caffey's Pediatric X-Ray diagnosis
16. Alleyne's Protein Energy Malnutrition
17. Miller, Tuberculosis
18. Vimlesh Seth, Tuberculosis
19. Swanson's Pediatric Surgery
20. Cherry and Feigen's Pediatric Infectious Diseases
21. Fenichel's Pediatric Neurology
22. Kendig's Respiratory Diseases in Pediatrics
23. Alex Mowat's Liver Disease in Children
24. Roger's Pediatric Critical Care
25. H.P.S. Sachdev's Principles of Pediatric and Neonatology Emergencies
26. Smith's Recognition patterns of Human Malformations

Indexed, Journals

1. Indian Pediatrics
2. Indian Journal of Pediatrics
3. Pediatric Clinics of North America
4. New England Journal of Medicine
5. Lancet
6. British Medical Journal
7. Journal of Pediatrics
8. Archives Disease of Childhood and Adolescence
9. Pediatrics
10. Perinatal Clinics of North America

Reference Series

1. Suraj Gupta's Recent Advances in Pediatrics
2. David's Recent Advances in Pediatrics
3. Advances in Pediatrics
4. Year Book of Pediatrics

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