



BLDE UNIVERSITY

PG CURRICULUM 2016-17 MD Paediatrics

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[Declared as Deemed to be University u/s 3 of UGC act, 1956, vide notification No.F.9-37/2007-U.3(A)]

The Constituent College

SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE

Smt. Bangaramma Sajjan Campus, B. M. Patil Road (Sholapur Road), Vijayapura - 586103, Karnataka, India.

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SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL AND RESEARCH CENTRE

BLDEU/REG/PG/2016-17/ 505

June 18, 2016

NOTIFICATION

Subject: Revised Curriculum for the Post Graduate Degree and Diploma Course-2016

Reference:

1. Medical Council of India Regulation on Graduate Medical Education, 1997 and subsequent amendments of the same from time-to-time.
2. Minutes of the meeting of the Academic Council of the University held on April 29, 2016.
3. Minutes of the meeting of the BOM of the University held on June 18, 2016.

The Board of Management of University is pleased to approve the Curriculum for Post Graduate Degree and Diploma Course at its meeting held on June 18, 2016.

The revised curriculum shall be effective, from the Academic Session 2016-17 onwards, for Post Graduate Degree and Diploma Course in the Constituent College of the University viz. Shri B. M. Patil Medical College, Hospital and Research Centre, Vijayapura.

REGISTRAR

REGISTRAR

BLDE University, Vijayapura.

To,
The Dean, Faculty of Medicine and Principal
Shri B. M. Patil Medical College,
Hospital and Research Centre,
Vijayapura.

Copy to:-

- The Secretary, UGC, New Delhi
- The Controller of Examinations
- Prof. & HODs of Pre, Para and Clinical Departments.
- PS to Hon'ble President
- PS to Hon'ble Vice-Chancellor

Smt. Bangaramma Sajjan Campus, Sholapur Road, Vijayapura - 586103, Karnataka, India.

Vision & Mission

- Excellence in all our endeavours.
- Committed to provide globally competitive quality medical education.
- Provide the best health care facilities in this backward region, in particular, to socially disadvantaged sections of the society.
- Constantly striving to become a Reputed research University with world-class infrastructure, latest tech-tools for teaching/research and adopting global best practices.

Section - I

Goals and General Objectives of Postgraduate Medical Education Program

Goal

The goal of postgraduate medical education shall be to produce a competent specialist and / or a medical teacher as stated in the Post Graduate Medical Education Regulations 2000 and its amendments thereof [May2013]

- (i) Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy;
- (ii) Who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;
- (iii) Who shall be aware of the contemporary advances and developments in the discipline concerned;
- (iv) Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
- (v) 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:

- (i) Recognize the importance of the concerned specialty in the context of the health need of the community and the national priorities in the health sector.
- (ii) Practice the specialty concerned ethically and in step with the principles of primary health care.
- (iii) Demonstrate sufficient understanding of the basic sciences relevant to the concerned specialty.
- (iv) Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measures/strategies.
- (v) Diagnose and manage majority of the conditions in the specialty concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
- (vi) Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the specialty.
- (vii) Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.
- (viii) Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.
- (ix) Play the assigned role in the implementation of national health programs, effectively and responsibly.

- (x) Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
- (xi) Develop skills as a self-directed learner; recognize continuing educational needs; select and use appropriate learning resources.
- (xii) Demonstrate competence in basic concept of research methodology and epidemiology, and be able to critically analyse relevant published research literature.
- (xiii) Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
- (xiv) Function as an effective leader of a 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 program so that he or she can direct the efforts towards the attainment of these competencies.

Components of the PG Curriculum

The major components of the PG curriculum shall be:

- Theoretical knowledge
- Practical/clinical Skills
- Training in writing thesis/research articles
- Attitudes, including communication.
- Training in research methodology, medical ethics & medicolegal aspects
- Teaching skills to the undergraduates, juniors and support teams

Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000. [amended upto May2013]

Eligibility for Admission:

Eligibility requirements for Post Graduate Diploma and Degree Courses are: -

1. The candidates seeking admission to these courses should have passed MBBS from the college recognized by Medical Council of India.

Eligibility requirements for Post graduate degree in superspeciality courses, M.Ch./D.M are:

The candidate seeking admission to these courses should have passed MS/MD from the college recognized by Medical Council of India.

2. As per the requisitions of statutory bodies, as laid out in post graduate regulations 2000 of Medical Council of India and its amendments thereof, the minimum percentage of marks in the entrance test conducted by the University for eligibility for admission to Post Graduate courses in broad specialties and super specialties shall be 50 percent for candidates belonging to General category and 40 percent for the candidates belonging to

Scheduled Caste, Scheduled Tribes and Other Backward Classes. Eligibility for persons with locomotor disability of lower limbs category ranging from 30-70% will be 45 percent.

Eligibility for Foreign / PIO / NRI students will be based on qualifying examination marks.

The MCI norms to qualify for Admissions

Candidates seeking admission to these Post Graduate Degree courses should have passed M.B.B.S. recognised by Medical Council of India or equivalent qualification and should have obtained permanent Registration from the Medical Council of India or any of the State/ Medical council or candidate should register the same within one month from the date of admission, failing which the admission of the candidate shall be cancelled. Provided that in the case of a foreign national, the MCI may on the payment of prescribed fee for the registration, grant temporary registration for the duration of post graduate training restricted to the medical college/ institute to which the applicant is admitted for the time being exclusively for post graduate studies; provided further, that temporary registration to such foreign national shall be subjected to the condition that such person is duly registered with appropriate registering authority in his /her country wherefrom he has obtained his basic medical qualification ,and is duly recognized by the corresponding Medical Council or concerned authority..

If the candidate fails to fulfill the relevant eligibility requirements as mentioned above he/she will not be considered eligible for admission for Medical Postgraduate Degree and Diploma Courses even if he/she is placed in the merit list of BLDEU-PGET/BLDEU-SUPERSPECIALTY ET.

Obtaining Eligibility Certificate by the University before making Admission

Candidate shall not be admitted for any postgraduate degree/diploma course unless he/she has obtained and produced the eligibility certificate used by the University. The candidate has to make an application to the University with the following documents along with the prescribed fee:

1. MBBS pass/degree certificate issued by the University.
2. Marks cards of all the university examinations passed MBBS course.
3. Attempt Certificate issued by the Principal
4. Certificate regarding the recognition of the Medical College by the Medical Council of India.
5. Completion of internship certificate.
6. In case internship was done in a non-teaching hospital, a certificate from the Medical Council of India that the hospital has been recognized for internship.

7. Registration by any State Medical council and
 8. Proof of SC/ST or OBC or physically handicapped status, as the case may be.
- In addition to the above mentioned documents, candidate applying for admission to superspeciality courses has to produce degree/pass certificate of MD/MS degree with prescribed fee.

Intake of Students

The intake of students to each course shall be in accordance with the ordinance in this behalf.

Course Duration

a. M.D. / M.S. Degree Courses:

The course of study shall be for a period of 3 years consisting of 6 terms including examinations. For Candidates possessing recognized two year Postgraduate Diploma in the same subject the duration of the course shall be two years including examinations. (MCI PG REG 2000 10:1)

b. D.M/M Ch Degree Courses; (MCI PG REG 2000, 10:2)

The duration of these courses shall be for a period of 3 years including examinations.

c. Diploma Courses:

The course of study shall be for a period of 2 years consisting of 4 terms including examinations (MCI PG REG 2000, 10.3).

Training Method

The postgraduate training for degree/diploma shall be of residency pattern. The post graduate shall be trained 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 should be required to participate in the teaching and training program 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. Exposure to applied aspects of their learning should be addressed Similarly, clinical subjects' students should be posted to basic medical sciences and allied specialty departments or institutions.

Training of superspecialty should follow similar pattern. In addition, they have to be trained in advanced techniques of diagnosis and treatment pertaining to their specialty, participate actively in surgical operations [M.Ch] as well.

Attendance, Progress and Conduct

A candidate pursuing degree/diploma course should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run a clinic/laboratory/nursing home 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. This shall include assignments, assessment of full time responsibilities and participation in all facets of educational process. 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. Leave benefits shall be as per university rules.

A post graduate student pursuing degree course in broad specialities, MD, MS and superspeciality courses DM, M.Ch would be required to present one poster presentation, read one paper in 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/her to be eligible to appear at the university degree examinations. (MCI, PG 2000, 13.9)

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

Monitoring Progress of Studies

The learning process of students should be monitored through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring is done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment done by using checklists that assess various aspects.

The learning out comes to be assessed include:

- Personal Attitudes,
- Acquisition of Knowledge,
- Clinical and operative skills, skills of performing necessary tests/experiments
- Teaching skills.

Personal Attitudes:

The essential items are:

- Caring attitude, empathy
- Initiative in work and accepting responsibilities
- Organizational ability
- Potential to cope with stressful situations and undertake graded 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. Any appropriate methods can be used to assess these. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers. However every attempt should be made to minimize subjectivity.

Acquisition of Knowledge:

Lectures: Lectures/theory classes as necessary may be conducted. It is preferable to have one class per week if possible. They may, be employed for teaching certain topics. Lectures may be didactic or integrated.

a) Didactic Lectures: Recommended for selected common topics for post graduate students of all specialties. Few topics are suggested here.

- Bio-statistics
- Use of library,
- Journal review
- Use of computers,
- Appropriate use of AV aids
- Research Methods,
- Search of literature,
- Rational drug therapy
- Medical code of Conduct and Medical Ethics
- National Health and Disease Control Programmes
- Communication skills etc.
- Bio medical waste

These topics may preferably taken up in the first few weeks of the 1st year commonly for all new postgraduates. The specialty wise topics can be planned and conducted at departmental level.

b) Integrated teaching: These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice,Diabetes mellitus,thyroid diseases etc. They should be planned well in advance and conducted.

Journal Review Meeting (Journal club):

The ability to do literature search, in depth study, presentation skills, use of audio – visual aids, understanding and applying evidence based medicine are to be focused and 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.

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

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

Clinical Meetings:

Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list.

Group discussions: Group discussions are one of the means to train and assess the student's ability to analyse the given problem or situation, apply the knowledge and make appropriate decisions. This method can be adopted to train and assess the competency of students in analyzing and applying knowledge.

Death review meetings/Mortality meetings: Death review meetings is important method for reflective learning. A well conducted morbidity and mortality meetings bring about significant reduction in complications, improve patient care and hospital services. They also address system related issues. Monthly meetings should be conducted with active participation of faculty and students. Combined death review meetings may be required wherever necessary.

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.

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

Work diary / Log Book:

Every candidate shall maintain a Work Diary/Log Book and record his/her participation in the training programs 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, conducted by the candidate. A well written and validated Log Book reflects the competencies attained by the learner and points to the gaps which needs address. This Log Book shall be scrutinized by concerned teachers periodically and certified, by the Head of Department and Head of the Institution, and presented during University Practical / Clinical examination.

Periodic tests:

In case of degree courses of three years duration (MD/MS, DM, M.Ch), the concerned 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, practical / clinical and viva voce.

One of these practical/clinical tests should be conducted by OSPE (objective structured practical examination or OSCE (objective structured clinical examination) method.

.Records and marks obtained in such tests will be maintained by the Head of Department and sent to the University, when called for,

In case of diploma courses of two years duration, the concerned departments may conduct two tests, one of them be 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.

One of these practical/clinical tests should be conducted by OSPE or OSCE method.

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

Procedure for defaulter:

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.

Dissertation: Every candidate pursuing MD/MS degree course is required to carry out work on a selected research project under the guidance of a recognized 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 post graduate student in research methods and techniques. It includes identification of a problem, formulation of 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 Registrar (Academic) of the 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 University. The synopsis shall be sent through the proper channel.

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

The dissertation shall be written under the following headings:

1. Introduction
2. Aims or Objectives of study
3. Review of Literature
4. Material and Methods
5. Results

6. Discussion
7. Conclusion
8. Summary
9. References
10. Tables
11. Annexure

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.

Adequate number of copies as per norms and a soft copy 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 University.

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

Guide:

The academic qualification and teaching experience required for recognition by this University as a guide for dissertation work is as per Medical Council of India Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998 and its amendments thereof. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Lecturer or Assistant Professor gained after obtaining post graduate degree shall be recognized as post graduate teachers.

A Co-guide may be included provided the work requires substantial contribution from a sister department or from another medical institution recognized for teaching/training by this University / Medical Council of India. The co-guide shall be a recognized post graduate teacher of BLDE University

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 university.

Schedule of Examination:

The examination for M.D. /M.S and DM/M.Ch 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 (four academic terms).

The university shall conduct two examinations in a year at an interval of four to six months between the two examinations. Not more than two examinations shall be conducted in an academic year.

Scheme of Examination

M.D. /M.S. Degree

M.D. / M.S. Degree examinations in any subject shall consist of dissertation, written papers (Theory), Practical/Clinical and Viva Voce.

Dissertation:

Every candidate shall carryout work and submit a Dissertation as indicated above. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

Written Examination (Theory):

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 should also be asked.

Practical / Clinical Examination:

In case of practical examination, it should be aimed at assessing competence and skills of techniques and procedures as well as testing students ability to make relevant and valid observations, interpretations and inference of laboratory or experimental work relating to his/her subject.

In case of clinical examination, it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and two short cases minimum. However additional assessment methods can be adopted which will test the necessary competencies reasonably well.

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

Viva Voce:

Examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills.

The total marks shall be 100:

- 80 Marks, for examination of all components of syllabus
- 20 Marks for Pedagogy

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 University Examination: A candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory, (2) Practical/clinical and (3) viva voce examination. The candidate should pass independently in practical/clinical examination and Viva Voce vide MCI pg 2000 reg no 14(4) (Ciii)

A candidate securing less than 50% of marks as described above 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 distinction: A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate of marks is 75 percent and above.

Distinction will not be awarded for candidates passing the examination in more than one attempt.

D.M/M.Ch Degree

DM/M.Ch Degree examinations in any subject shall consist of written theory papers (theory), practical/clinical and Viva voce.

Written Examination (Theory):

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 should also be asked.

Practical / Clinical Examination:

In case of practical examination, it should be aimed at assessing competence and skills of techniques and procedures as well as testing students ability to make relevant and valid observations, interpretations and inference of laboratory or experimental work relating to his/her subject.

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

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

Viva Voce:

Examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills.

The total marks shall be 100:

- 80 Marks, for examination of all components of syllabus
- 20 Marks for Pedagogy

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 University Examination: A candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory, (2) Practical including clinical and (3) viva voce examination. The candidate should pass independently in practical/clinical examination vide MCI pg 2000 reg no 144-c (iii).

Declaration of distinction: A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate of marks is 75 percent and above.

A candidate securing less than 50% of marks as described above 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 distinction: A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate of marks is 75 percent and above.

Distinction will not be awarded for candidates passing the examination in more than one attempt.

Diploma Examination:

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 should also be asked.

Practical / Clinical Examination:

In case of practical examination it should 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 should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should 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 should aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 50.

Criteria for declaring as pass in University Examination: A candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory, (2) Practical / clinical and viva voce examination.

A candidate securing less than 50% of marks as described above 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 distinction: A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate of marks is 75% and above. Distinction will not be awarded for candidates passing the examination in more than one attempt.

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.

Number of Candidates per day:

The maximum number of candidates for practical / clinical and viva-voce examination shall be as under:

MD / MS Courses:	Maximum of 8 per day
Diploma Course:	Maximum of 8 per day
DM/M.Ch	Maximum of 3 per day

SECTION - II

MD PAEDIATRICS

Goal:

The postgraduate course M.D. (Paediatrics) should enable a medical graduate to become a competent specialist, acquire knowledge and skills in educational technology for teaching medical, dental and health sciences and conduct research in bio-medical science.

Objectives:

- (i) Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy;
- (ii) Who shall have mastered most of the competencies, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;
- (iii) Who shall be aware of the contemporary advances and developments in Paediatrics;
- (iv) Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
- (v) Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.
- (vi) Continue to evince keen interest in continuing Paediatrics education irrespective of whether he is in a teaching institution or is a practicing Paediatrician.

Specific Learning Objectives:

The specific learning objectives of postgraduate training course in Paediatrics would be to train a MBBS doctor who will:

- Practice Paediatrics efficiently and effectively, backed by scientific knowledge and skill base.
- Exercise empathy and a caring attitude and maintain high ethical standards of Profession.
- Be a motivated ‘teacher’ – defined as a Paediatrician keen to share his knowledge and skills with a colleague or a junior or any learner.
- 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 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.

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 etio-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 and by participating in continued medical education programs utilizing media – spoken, written, Print and electronic.
- Teach 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 Paediatric or Neonatal emergencies.

Communication Skills:

- 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 Paediatrics.

Course Contents

Knowledge

Must Know

The Field of Paediatrics

1. Evaluating Medical Literature
Critical Appreciation of Journal articles
2. Overview of Child Health
3. The Normal Child
4. Preventive and Social Paediatrics
5. Epidemiology, Statistics and Research
Methodology including Dissertation
6. Ethical Issues in Paediatrics
7. History of Paediatrics
8. Traditions and Cultural Issues pertaining
to Child Care

Growth and Development

1. Biopsychological Models of
Development
2. Fetal growth and development
3. The newborn G/D
4. Infant, Preschool, Early school,
Adolescence G/D
5. Assessment of Growth
6. Developmental Assessment
7. Standards / Normograms (including
Indian)
8. Approach to short stature
9. Approach to Obesity
10. Approach to Undernutrition
11. IQ assesement

Psychological Disorders

Knowledge

Must Know

1. Assessment and Interviewing CNS injury
2. Vegetative Disorders-Rumination, Pica, Enuresis, Encopresis, Sleep
3. Habit disorders
4. Anxiety Disorders
5. Suicide
6. ADHD
7. Autism
8. Poor Scholastic performance in school age child
9. Psychosomatic Illness
10. Psychiatric considerations of
11. Mood Disorders
12. Disruptive Behavioral disorders
13. Sexual behaviour variations
14. Psychosis
15. Psychological treatment
16. Neurodevelopment dysfunction
17. Learning Disorders

Social Issues

1. Adoption
2. Street Child
3. Child care
4. Separation, death

5. Abuse and Neglect
6. Child Labor
7. Media (TV, Movies) and its effect on the child
8. Effects of a mobile society
9. Impact of Violence
10. Street Child
11. Single parent child
12. Foster care

Children with special Needs

1. Failure to Thrive – Problems, Approach and Evaluation
2. Developmental disabilities, Chronic Illness
3. Mental Retardation – Problems, Approach and Evaluation
4. Care of Child with fatal illness
5. Children in Poverty
6. Homeless children
7. Foster Children
8. Runaway Children

Nutrition

1. Nutritional Requirements – Water, Energy, proteins, CHO, Fats, Minerals, Vitamins,
2. Diet/Nutrition Evaluation
3. Diet for later childhood and Adolescent
4. Infant and Child Feeding

5. Breast Milk Feeding, Human Lactation Management, BFHI
6. Nutrition Values of Indian Foods, Recipes
7. Weaning foods
8. Feeding through 1 and 2nd years
9. Nutritional Disorders Including Obesity
10. Athletic Diet
11. Protein Energy Malnutrition
12. Vitamin Deficiencies and Excess
13. Micro-nutrient Malnutrition
14. Nutrition in Special situations – LBW, Premature, ITEM, Chronic Illness, Surgery, Critically ill child
15. TPN

Patho-Physiology of Body Fluids and Fluid therapy (Approach and Management)

1. Physiology of Fluids, Electrolytes and Acid Bases
2. Dehydration and fluid management
3. Dyselectrolytemia
4. Acid Base Disorders
5. Special situations – Pyloric stenosis, CNS disorders, Burns, Peri-operative, Endocrine disorders, Renal Failure.

Acutely Ill child

1. Evaluation in Emergency
2. Injury Control

3. Emergency Medical Services
4. Paediatric Critical Care
 - Respiratory Failure, Ventilation
 - Circulatory Failure and Shock
 - Acute Neurological Dysfunction
 - Resuscitation – Basic and Advanced, NALS/PALS
 - Post Resuscitation stabilization
 - Cost/Heat Injury
5. Transportation of Sick Child/neonate
6. Post-operative supportive care
7. Paediatric Anaesthesia
8. Organization of a PICU/NICU
9. Equipment for Intensive care

Emergencies / Critical Care Paediatrics

1. Fluid abnormalities
2. Electrolyte abnormalities
3. Thermoregulation problems
4. Acute Renal failure
5. Hypertensive crisis
6. Congestive Cardiac failure
7. Cardiogenic shock
8. Pericardial tamponade

Knowledge

Must Know

9. Cyanotic spells

10. Unstable and stable arrhythmias
11. Vomiting and diarrhea
12. GI Bleeds – Hematemesis, Melena, Hematochezia
13. Adrenal Crisis
14. Metabolic problems – hyperammonemia, lactic acidosis
15. Septicemic shock, Viral infections and shock
16. Pneumothorax, empyema, pleural effusion, ascites
17. Severe Anemia, Bleeding child, Neutropenia
18. Pain management, Drug therapy
19. ARDS
20. Respiratory Failure
21. Burns/electrocution
22. Animal Bites
23. Preanaesthetic check up PAC
24. Sickle cell crisis, Severe complicated malaria
25. Acute severe asthma, Bronchiolitis
26. Status epilepticus
27. Febrile seizure
28. Coma, Increased intra-cranial pressure
29. Cardiopulmonary resuscitation
30. Shock
31. Upper airway obstruction
32. Near drowning

33. Poisoning
34. Snake bite
35. Scorpion sting
36. Physical abuse
37. Sexual abuse

Human Genetics

1. Molecular Basis of disorders
2. Molecular Diagnosis
3. Inheritance Patterns
4. Chromosomal/genetic clinical Abnormalities
5. Genetic Counseling
6. Human Genoma Project
7. Dysmorphism
8. Gene therapy

Metabolic Disorders

1. Approach to IEM defects
2. Common aminoacid Metabolic defects
3. Porphyria
4. Common Lipid Metabolism
5. Common CHO Metabolism
6. Mucopolysaccharidosis
7. Hypoglycemia
8. Purine and pyrimidine metabolism
9. Rare Amino acid Metabolic Defects

10. Rare Lipid Metabolism-

11. Rare CHO Metabolism-

12. Mucopolysaccharidosis

Fetus and Newborn

1. Mortality and morbidity
2. Newborn – history, examination, routine delivery care, nursery care, bonding
3. High risk pregnancies
4. Dysmorphology
5. Fetus

Growth/Development

Fetal distress

Maternal diseases

Maternal medications

Detection, treatment, prevention of fetal diseases

Antenatal diagnosis

Fetal therapy

Antenatal therapy

Counseling

Teratogens, radiation

6. High risk infant

Multiple pregnancies

Prematurity

Postdated

IUGR/LBW

LFD

7. Congenital anomalies/malformations

8. Birth injuries
9. Hypoxia – ischemia asphyxia
10. Organization and levels of newborn care
11. Normal Newborn
12. Common problems in a normal newborn

Knowledge

Must Know

13. Delivery room emergencies
14. Respiratory disorders
15. Oxygen therapy, Toxicity
16. Ventilation
16. GI disturbances including NEC
17. Hyperbilirubinemia
18. Cardiac problems
19. PPHN
20. Blood disorders
 - Polycythemia
 - Anemia
 - Hemorrhagic disease of newborn
 - Hemolytic disease of newborn
 - Thrombocytopenia
21. Genitourinary disturbances
22. Metabolic disorders
23. Endocrine disorders – IDM, CAH
24. Fluid and electrolytes in Newborn care
25. Nutrition and feeding the newborn –
 - term/preterm, LBW, IUGR

26. Neonatal transport

27. Surgical problems

TEF

Anorectal malformations

Diaphragmatic Hernia/Eventration

Hirschsprung

Urogenital anomalies

NEC

Congenital Lobar Emphysema

Volvulus

28. Thermoregulation

29. Neonatal follow-up

30. ROP (Retinopathy of Prematurity)

Neonatal Infections

1. Epidemiology

2. Intrauterine infections

3. Viral infections Emphasis on- Hand Foot
Mouth disease, Ebola and Zika viruses

4. Neonatal sepsis/meningitis

5. Pneumonia

6. UTI

7. Hepatitis

8. Nosocomial

9. Universal precautions

Knowledge

Must Know

10. Prevention of infections
11. Therapy- antimicrobials, adjuvants

Adolescent Health

1. Epidemiology
2. Sexual Development and SMR stages
3. Deliveries of health care
4. Pregnancy
5. Contraception
6. STD
7. Menstrual problems
8. Anorexia nervosa, bulimia
9. Depression
10. Suicide

Immunological system

1. Basics of Immunology
2. Approach to immunodeficiency
3. HIV
4. Bone marrow 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. Adhesion disorders

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. Adverse food reaction

14. Rheumatology

1. Autoimmunity
2. Laboratory evaluation
3. JRA
4. SLE
5. Vasculitis
6. Dermatomyositis
7. Erythema Nodosum
8. Ankylosing spondylosis
9. Neonatal Lupus
10. Scleroderma

11. Mixed connective Tissue Disease
12. Behcet
13. Sjogren
14. Non Rheumatic conditions
15. Pain syndromes, panniculitis, polychondritis, amyloidosis

Infectious diseases

1. Fever
2. Clinical use of Micro Lab
3. Fever without a focus
4. Sepsis and Shock
5. CNS Infections
6. Pneumonia
7. Gastroenteritis
8. Osteomyelitis, Septic arthritis
9. Compromised host infections
10. Bacterial Infections
11. Anaerobic infections
12. Viral Infections
13. Mycotic infections
 - Candidiasis
 - Aspergillosis
14. Parasitic infections
 - Helminthiasis
15. Protozoal
 - Malaria

Kalazar

Leishmania

Giardia

Amoeba

16. Antiparasitic drugs

17. Antimicrobials

18. Antiviral drugs, interferon

19. Preventive measures

Health advice for traveling

Infection control

20. Immunization

Principles

Schedules

Controversies

Standard and Optional Vaccines

Recent advances in Vaccines

Adolescent immunization.

Digestive system

Knowledge

1

Must Know

1. Normal tract-

Physiology, Anatomy, Development

2. Clinical features of Disorders

3. Disorders of Esophagus

4. Disorders of Stomach

5. Disorders of Intestine except Food allergy

6. Disorders of Pancreas
7. Disorders of Liver and biliary system
Acute Hepatitis, Chronic Hepatitis,
Cirrhosis,
Metabolic Liver Diseases, Cholestatic
liver disease,
Neonatal Obstructive Cholangiopathy,
Complications of Liver Disease –
Portal Hypertension, Encephalopathy,
Coagulopathy,
8. Disorders of Peritoneum
9. GI function tests
10. Approach to Malabsorption
11. Food allergy

Respiratory system

1. Development and function
2. Disorders of Upper Respiratory tract
3. Disorders of Lower Respiratory tract
4. Pleural disorders
5. Chronic Respiratory disease
Interstitial fibrosis, ILD, empyema,
Lug abscess, bronchiectasis
6. Recurrent Respiratory Disease
7. Ventilation
8. Pulmonary Function tests
9. Cystic Fibrosis
10. Obstructive sleep apnea

11. Pulmonary Hemosiderosis
12. Neuromuscular skeletal disorders
13. Bronchial Asthma
14. Congenital disorders of nose
15. Hypoventilation
16. Hypostatic pneumonia
17. Kyphoscoliosis
18. Central hyperventilation
19. Obesity
20. Cough Syncope

Knowledge

Must Know

Knowledge

Desirable to Know

Cardiovascular system

1. Investigations – Lab, ECG, CXR, ECHO, Cath
2. Physiology and Pathophysiology of Transitional Circulation
Embryology
3. Congenital Heart Disease
Epidemiology
Approach
Cyanotic
Acyanotic
4. Cardiac Arrhythmia
5. Acquired heart disease

Infective Endocarditis

Rheumatic Heart Disease

6. Diseases of the Myocardium – Myocarditis, Cardiomyopathy
7. Cardiac Therapeutics
8. Sick Sinus
9. Tumors of heart
10. Heart Lung, Heart Transplants
11. Aneurysms and fistulae

Blood

1. Development of Hematopoietic system
2. Anemias
 - Inadequate production
 - Nutrition – Iron, Folate, B12
 - Bone Marrow failure
 - Hemolytic
 - Congenital and Acquired
3. Constitutional pancytopenia
4. Polycythemia
5. Granulocyte transfusions
6. Pancytopenia
7. Blood and component transfusions
8. Thrombotic disorders
9. Hemorrhagic disorders – acquired and congenial

Physiology

Bleeding disorders

Coagulation disorders

10. Hyposplenism, trauma, splenectomy

11. Physiology and Disorders of the Spleen

12. Lymphatics

13. Elliptocytosis

14. Stomatocytosis

15 .Other membrane defects

16. Lymphatic vessel disorders

Neoplasms

1. Principles of diagnosis

2. Principles of treatment

3. Leukemia

4. Lymphomas

5. Neuroblastomas

6. Liver neoplasm

7. Kidney tumors

8. Bone Neoplasms

9. Retinoblastoma

10 Epidemiology

11. Molecular pathogenesis

12 Soft tissue sarcomas

13. Gonadal, germ cell tumours

14. GI neoplasm

15 Carcinomas

16. Skin Cancer

17 .Benign tumours

Knowledge

Must Know

Nephrology

1. Structure and function of kidney
2. Hematuria and conditions
3. HUS
4. Evaluation
5. Proteinuria
6. Nephrotic syndrome
7. Acute Glomerulonephritis
8. Tubular disorders
 - Function
 - RTA
 - DI
9. Renal Failure
10. RPGN
11. Renal Replacement therapy
12. Bartter syndrome
13. Investigations
14. Toxic nephropathy
15. Membranous GN
16. Lupus nephritis
17. Membr Prolif GN
18. Chronic infn GN
19. Goodpasture disease
20. Interstitial nephritis
21. Cortical necrosis

Urological disorders

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

Gynaecological Problems

1. Menstrual Problems
 2. Vulvovaginitis
 3. Development anomalies
 4. A child with special gynaecological needs
-
5. Neoplasms
 6. Breast Disorders
 7. Hirsutism, polycystic ovaries

- 8. Gyne imaging
- 9 .Athletic problems

Knowledge

Must Know

Endocrine

- 1. Hypothalamus and pituitary
 - Hyperpituitarism
 - Hypopituitarism, Growth hormone
 - DI
 - ADH
 - Physiology of Puberty
 - Disorders of puberty
 - Precocious Puberty
 - Delayed puberty
- 2. Thyroid
 - Thyroid studies
 - Hypothyroidism
 - Thyroiditis
 - Goitre
 - Hyperthyroidism
- 3. Parathyroid and disorders
- 4. Diabetes mellitus
- 5. Adrenal Disorders
 - CAH
 - Cushing
 - Addisons
 - Excess mineralocorticoids
 - Ferminizing adrenal tumours

Pheochromocytoma

- 6 .Carcinoma of thyroid
7. Tumours of testis/ovary
8. Multiple endocrine Disorders

CNS

1. Examination, Localization of lesions
2. Congenital anomalies
3. Seizures
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. Investigations
15. Antiepileptic drugs
16. SSPE
17. Movement disorders
18. Rabies Vaccine Encephalomyelitis,
19. Acute Demyelinating
Encephalomyelitis

20. Approach, Investigations of UMN, LMN, Extrapyramidal, Cerebellar lesions
21. Cerebral Palsy
22. Neuroinfectins
23. Encephalopathies

Neuromuscular

1. Evaluation, investigations
2. Muscular Dystrophies, Congenital Myopathy, Myositis
3. Neuromuscular transmission and motor neuron abnormalities
4. GB syndrome
5. Bell's Palsy
6. Floppy Infant
7. Myasthenia Gravis
8. Development disorders of muscle
9. Endocrine
10. Metabolic
11. Motor sensory neuropathy
12. Autonomic

Eye

1. Examination of eye
2. Diseases of Eye movement and alignment disorders
3. Diseases of Conjunctiva – Conjunctivitis
6. Diseases of Lens – cataracts

7. Diseases of Optic nerve – Papillitis, Neuritis, Papilledema
8. Diseases of Cornea – Clouding
8. Vitamin A deficiency
9. Lacrimal problems – Dacrocystitis
10. Retinopathy of Prematurity
11. VER
12. Refraction, accommodation
13. Vision
14. Pupils and iris
15. Lids
16. Uveal tract
17. Retina and vitreous
18. Glaucoma
19. Orbital abnormalities
20. Injuries to eye

Ear

1. Clinical manifestations
2. Hearing loss
3. External Otitis
4. Otitis media
5. BAER

6. Congenital malformations
7. Inner Ear dis
8. Trauma
9. Tumors

Knowledge

Must Know

Skin

1. Morphology
2. Evaluation
3. Principles of therapy
4. Diseases of neonate
5. Ectodermal dysplasias
6. Vascular disorders
7. Cutaneous nevi
8. Pigment Disorders
 - Hyperpigmentation
 - Hypopigmentation
9. Vesiculobullous dis
10. Eczema
- 11, Curaneous Infections – Bacterial, Viral, fungal
12. Arthropod bites, infestations
13. Acne
14. Nutritional diseases
15. Drug Reactions
16. Cutaneous defects
17. Hypersensitivity
18. Epidermis dis
19. Kertinization dis
20. Dermis dis

21. Subcutn dis
22. Sweat glands
- 23 Hair
24. Nail
25. Tumors
- 26 . Mucous membranes

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. Upper limb
10. Arthrogyrosis
11. Common Fractures
12. Arthritis – approach, investigations,
Management
12. Congenital Dislocation of Hip
13. Osteomyelitis
14. Septic Arthritis

15. Rickets – Nutritional and non nutritional
16. Sports medicine
17. Pseudoachondroplasia
18. Diagnosis, assessment of genetic
19. skeletal disorders
20. Dysplasias – Thanophoric,
21. diastrophic, camptomelic
22. Ellis van Creveld
23. Osteochondrodysplasia
24. Hypophosphatasia
25. primary Chondrodystrophy
26. Idiopathic hypercalcemia
27. Hyperphosphatasia
28. Inherited osteoporosis

Knowledge

Must Know

Genetic skeleton

1. Lethal and nonlethal bone dysplasias
2. Achondroplasia
3. Osteopetrosis
4. Marfans

Metabolic Bone disease

1. Bone and vitamin D
2. Familial Hypophosphatemia
3. Rickets – Nutritional and non nutritional

Unclassified disease

1. SIDS
2. Histiocytosis
3. Cystic fibrosis
4. Sarcoidosis
5. Progeria
6. Chronic fatigue syndrome

Environmental

1. Lead poisoning
2. Envenomation
3. Mammalian bites
4. Common Poisonings - OP, Kerosene,
Phenobarbitone, Iron etc
5. Chronic fatigue syndrome
6. Radiation
7. Chemical pollutants
8. Mercury
9. Nonbacterial poisoning

HEALTH STATISTICS, NATIONAL PROGRAMS

ORGANIZATION OF OFFICE PRACTICE

Equipment, Documentation, Records, Space and functioning

RECENT ADVANCES IN PAEDIATRICS

DURATION 5 hours

ALLIED SUBJECTS

Anatomy

Applied Embryology, Development of major organ systems

Physiology

Applied Physiology with regard to major organ systems

Biochemistry

Biochemical basis of 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, culture

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

Paediatric Surgery

Recognition and referral of surgical conditions in Paediatrics

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

I. Postgraduate Skills

Please note code:

PI: Perform Independently, PA: Perform with assistance, O: Observe

Number at end of item indicates minimum number of supervised and documented skills.

Psychomotor skills

Procedural

Procedures: List of PI Skills

- Clinical History and Physical examination 10
- Human Lactation management (counseling and practical skills) 20
- Neonatal resuscitation 30
- Paediatric resuscitation 30
- Teaching encounters 5
- Intravenous injections 50
- Intravenous cannulation 50
- Lumbar puncture 50
- Test dose 10
- Infusions 10
- Blood transfusions 10
- Neonatal Exchange transfusions 10
- ABG 10
- Central line, CVP 10
- Intraosseous 10
- Bone marrow aspiration, trephine biopsy 10
- Pleural tap 10
- Paracentesis – diagnostic and therapeutic 10
- Mantoux test 10
- DPT, OPV, Measles vaccination 10
- Sampling for Fluid culture 10
- Liver biopsy 10
- Neonatal, Paediatric Partial exchange 5

Respiratory Management (All PI)

- Nebulization 50
- Inhaler therapy 10
- Oxygen delivery 50

Critically Ill Child (All PI)

- Monitoring a sick child 50
- Pulse oximetry 10
- Infant feeding tube/ Ryles tube, stomach wash 10
- Urinary catheterization 10
- Restraining a child for a procedure 10
- ORS and ORT 10
- Prognostication 10

Laboratory – Diagnostic (All PI)

- Urine Protein, sugar, microscopy 10
- Peripheral blood smear 10
- Malarial smear 10
- Ziehl Nielson smear – sputum, gastric aspirate 10
- Grams smear – CSF, pus 10
- Stool pH, reducing substances, microscopy 10
- KOH smear 2

Neonatal tests (All PI)

- Apt test 5
- Shake test 5

Clinical Assessment skills (All PI)

- Clinical History and Physical examination -
- Anthropometry 50
- Dietary recall, calorie and protein estimation 50
- Nutritional advice 50
- Gestational assessment 10
- Neurological examination of newborn 10
- Primitive reflexes 10
- Fundoscopy 10
- Otoscopy 10
- Examination of external genitalia – male and female 10
- Tanner's SMR scales 5
- DDST or Baroda scales, TDS 5
- Amiel Telson's angles 5
- Per rectal examination 2

Interpretation (All PI)

- Clinical History and Physical examination -
- Blood, Urine, CSF and Fluid investigations – hematology,
- Biochemistry 50
- Chest Xray 50
- ECG 20
- ABG interpretation 20
- Abdominal Xray 20
- Bone and joint Xray 20
- CT scan Brain 20
- Barium studies 10
- IVP, VUR 10
- Ultrasound abdomen 10
- Neurosonogram 10
-

Communication Skills (All PI)

- Clinical History and Physical examination
- 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

List of observations:

- Genetic counseling 2
- Classification of diseases 2

List of PA skills:

- Sedation 10
- Analgesia 10
- Brain death 10
- Intercostal tube placement with underwater seal 5

List of PA skills:

- Peritoneal dialysis 2
- Subdural, Ventricular tap 5

Point of care

- Neurosonography 30
- Echocardiography 30

Pediatric advanced life support (PALS)

Neonatal advanced life support (NALS)

Teaching Learning Activities

Methods suggested for Paediatric 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.

Example:

Potential introductory topics to Paediatrics like Fluid and Electrolytes, Early recognition of Shock and Respiratory Failure, DTTU management, recent advances, Basic Sciences/ 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 or 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:**

Objectives:

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, Paediatric Tuberculosis, Paediatric HIV, Bronchial Asthma, Chronic Liver Disease and its complications.

Frequency:

Three 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.

- **Journal club:**

Objectives:

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:

Ideally, in 3 per monts. MDs get the first opportunity and juniors begin after their first year in the course.

Pedagogy

Principles of learning, objectives, teaching learning methods, evaluation Research Methodology Computer Application.

- **Undergraduate Teaching Clinics:**

Objectives:

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:

Beside 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**

Objectives:

To learn bedside techniques – interview, physical examination, analysis, diagnostic decision making, investigation decisions, treatment and communication.

Example:

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.

Frequency:

Once in a month 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 presuming the Head of Unit or Department does not daily interfere with the day to day management of the ward except in special circumstances.

- **Inter-departmental Meetings**

Objective:

To experience inter-departmental cooperation and develop a healthy professional respect for each others 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 or twice in a month and rotated between departments – Radiology, Paediatric 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 a month. 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.

Dissertation

1. Every candidate pursuing degree course is required to carry out work on a selected research project under the guidance of a recognized post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.
2. The dissertation is aimed to train a post graduate 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, comparison of results and drawing conclusions. The topic for dissertation shall be selected within 2 months of joining.
3. Every candidate shall submit to the Registrar (Academic) of BLDE UNIVERSITY in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within three months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.
4. Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.
5. The dissertation should be written under the following headings:-
 - i) Introduction
 - ii) Aims or Objectives of study
 - iii) Review of Literature
 - iv) Material and Methods
 - v) Results
 - vi) Discussion
 - vii) Conclusion
 - viii) Summary
 - ix) References
 - x) Tables

xi) Annexures

6. The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, table, questionnaires and other annexures. 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.
7. Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.
8. The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.

Rotation Postings

Core

Paediatrics	--	18-23 months
Neonatology	--	6-8 months
Intensive Care/Emergency	--	2-3 months

Optional Specialities (optional subject to availability) -- 6 months

Oncology
Neurology
Paediatric Surgery
Nephrology
Cardiology
Clinical Hematology
Dermatology
Pulmonology
Gastroenterology
Clinical Microbiology
Community/Rural

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. Checklists are given in Chapter IV.

The learning out comes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, (iv) Teaching skills and (v) Dissertation.

i) **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.

ii) **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.

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, in Chapter IV)

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 IV)

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.

iii) *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 (see Model checklist IV, Chapter IV).

Clinical and Procedural Skills: The candidate should 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 IV)

iv) *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 IV)

v) *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 University for registration, again before finalization for critical evaluation and another before final submission of the completed work (See Model Checklist VI & VII, Chapter IV)

vi) *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, practicals/clinicals and viva voce.

- vii) **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 may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.
- viii) **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 University or MCI.
- ix) Participation and presentation at conference, candidate should present one poster/ Oral paper at State and National Conference.
- x) One research paper should be published /accepted for publication before appearing for examination.

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 IV. 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

Scheme of Examination

a) Theory

There shall be four question papers, each of three hours duration. Each paper shall consist of ten essay questions each question carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

Paper I : Fetal and Newborn

Paper II : General Paediatrics I*

*General Paediatrics I includes: - Respiratory, CNS, Hematology, Nutrition, Growth and Development, Oncology, Endocrine, Metabolic, Allergy/Immunology, Psychiatry.

Paper III : General PaediatricsII**

Includes: Infections, Gastroenterology, Hepatology, Immunization, Renal, CVS, Surgical, Adolescent, Collagen Vascular, Miscellaneous.

**Paper IV : Ambulatory (OPD) Paediatrics, Community and Social Paediatrics,
Emergency and Critical Care Paediatrics**

Basic Sciences and Recent Advances as applied to clinical paediatric disorders should be **incorporated** into relevant and appropriate question papers covering the respective areas.

Note: The distribution of chapters / topics shown against the papers are suggestive only.

b) Clinical Examination

300 Marks

	No. of Cases	Marks
Long Case	1	150
Short Case	1	75
Newborn	1	75
<hr/>		
Total	3	300

c) Viva-Voice: 100 Marks

1) Viva-Voce Examination: (80 Marks)

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be give case reports, charts, gross specimens, pathology slides, X-rays, ultrasound, CT scan images, for interpretation. It may include discussion on dissertation also.

2) *Pedagogy Exercise:* (Marks 20)

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

Maximum Marks for	Theory	Practical	Viva	Grand Total
M.D. degree course	400	300	100	800

Recommended Books and Journals

Texts:

Essential Text books

1. Nelson's Textbook of Paediatrics, Harcourt Asia Saunders 19th Edition
2. Cloherty's Manual of Neonatal Care
3. Meharban Singh's Care of the Newborn
4. Harriat Lane
5. Manual of Paediatric Therapeutics, Little Brown's Children's Hospital, Boston.
6. O.P. Ghai's Textbook of Paediatrics.

Reference books

1. Rudolf's Paediatrics, Appelton and Lange
2. Forfar and Arneil's Textbook of Paediatrics, ELBS
3. Frank Oski's Principles and Practice of Paediatrics
4. Avery's Disease of the Newborn
5. Robertson's Textbook of Neonatology
6. Illingworth's The normal child
7. Guha's Textbook of Neonatology

8. IAP Textbook of Paediatrics
9. Nadas' Paediatric 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 Paediatric Nephrology
15. Caffey's Paediatric X-ray diagnosis
16. Alleyne's Protein Energy Malnutrition
17. Miller, Tuberculosis
18. Vimlesh Seth, Tuberculosis
19. Swanson's Paediatric Surgery
20. Cherry and Feigen's Paediatric Infectious Diseases
21. Frenichel's Paediatric Neurology
22. Kendig's Respiratory Diseases in Paediatrics
23. Alex Mowat's Liver Disease in Children
24. Roger's Paediatric Critical Care
25. H.P.S. Sachdev's Principles of Paediatric and Neonatology Emergencies
26. Smith's Recognition patterns of Human Malformations

Indexed Journals

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

Reference Series

1. Suraj Gupts's Recent Advances in Paediatrics
2. David's Recent Advances in Paediatrics
3. Advances in Paediatrics
4. Year Book of Paediatrics.

Diploma in Child Health (DCH)

Goal:

The postgraduate course DCH (Paediatrics) should enable a medical graduate to become a competent specialist, acquire knowledge and skills in educational technology for teaching medical, dental and health sciences and conduct research in bio-medical science.

Objectives:

- (i) Who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy;
- (ii) Who shall have mastered most of the competencies, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;
- (iii) Who shall be aware of the contemporary advances and developments in Paediatrics;
- (iv) Who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
- (v) Who shall have acquired the basic skills in teaching of the medical and paramedical professionals.
- (vi) Continue to evince keen interest in continuing Paediatrics education irrespective of whether he is in a teaching institution or is a practicing Paediatrician.

Specific Learning Objectives:

The specific learning objectives of postgraduate training course in Paediatrics would be to train a MBBS doctor who will:

- Practice Paediatrics efficiently and effectively, backed by scientific knowledge and skill base.
- Exercise empathy and a caring attitude and maintain high ethical standards of profession.
- Be a motivated ‘teacher’ – defined as a Paediatrician keen to share his knowledge and skills with a colleague or a junior or any learner.
- 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 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.
- Knowledge:

- Describe, identify and monitor normal patterns of growth and development of children.
 - Describe etio-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 and by participating in continued medical education programs utilizing media-spoken, written, Print and electronic.
 - Teach 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 Paediatric 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 Paediatrics.

Course Contents

Knowledge

Must Know

The Field of Paediatrics

1. Evaluating Medical Literature

Critical Appreciation of Journal articles

2. Overview of Child Health
3. The normal child
4. Preventive and Social Paediatrics
5. Epidemiology, Basic Statistics
6. Ethical Issues in Paediatrics
7. History of Paediatrics
8. Traditions and Cultural Issues pertaining to child care

Growth and Development

1. Biopsychological Models of IQ assessment

Development

2. Fetal growth and development
3. The newborn G/D
4. Infant, Preschool, Early school, Adolescence G/D/
5. Assessment of Growth
6. Development Assessment
7. Standards/Normograms (including Indian)
8. Approach to short stature
9. Approach/management of obesity

10. Approach/management of Under nutrition
11. Approach/management of failure to thrive
12. Approach/ management of developmental delay, regression of milestones

Knowledge

Must Know

Psychological Disorders

1. Assessment and Interviewing
2. Vegetative Disorders-Rumination, Pica, Enuresis, Encopresis, Sleep
3. Habit Disorders
4. Anxiety Disorder
5. ADHD

6. Suicide
7. Neurodevelopment dysfunction in School age child
8. Learning Disorders
- 9 Neurodevelopment dysfunction in School age child
10. Learning Disorders

1. Street Child
2. Child care
3. Separation, death
4. Abuse and Neglect
5. Child Labor
6. Media (TV, Movies) and its effect on the
Child
7. Adoption

Children with Special Needs

1. Failure to Thrive – Problems, Approach
and Management
2. Development disabilities, Chronic Illness
3. Mental Retardation – Problems,
Approach and management.
Care of Child with fatal illness
4. Children in Poverty

Nutrition

1. Nutritional Requirements – Water,
energy, proteins, CHO, Fats, Minerals,
Vitamins,
2. Diet/Nutrition Evaluation
1Diet for later childhood and Adolescent
2. TPN

4. Infant and Child Feeding
5. Breast Milk Feeding, Human Lactation
Management, BFHI
6. Nutrition Values of Indian Foods,
Recipes
7. Weaning foods
8. Feeding through 1 and 2nd years
9. Nutritional Disorders Including Obesity
10. Protein Energy Malnutrition
11. Vitamin Deficiencies and Excess
12. Micro-nutrient Malnutrition Premature.
Nutrition in Special situations –
LBW, IEM, Chronic illness, Surgery,
Critically ill child

Knowledge

Must Know

Patho-physiology of Body Fluids and Fluid therapy (Approach and Management)

1. Physiology of Fluids, Electrolytes and
Acid Bases
2. Dehydration and fluid management
3. Dyselectrolytemia
4. Acid Base Disorders
5. Special Situations – Pyloric stenosis,
CNS disorders, Burns, Peri-operative,

Endocrine disorders, Renal Failure.

Acutely Ill child (Approach and Management)

1. Evaluation in Emergency
2. Injury Control
3. Emergency Medical Services
4. Paediatric Critical Care

Respiratory Failure, Concepts of Ventilation

Circulatory Failure and Shock

Acute Neurological Dysfunction

Resuscitation – Basic and Advanced, NALS/PALS

Post Resuscitation stabilization

Cold/Heat Injury

5. Transportation of Sick Child/neonate
6. Basics of Pre Anaesthesia Check up
7. Level II equipment for Intensive care

Emergencies/Critical Care Paediatrics

(Approach and Management)

1. Fluid abnormalities
2. Electrolyte abnormalities lactic acidosis,
3. Thermoregulation problems

4. Acute Renal failure
5. Hypertensive crisis
6. Congestive Cardiac failure
7. Cardiogenic shock
8. Pericardial tamponade
9. Cyanotic spells
10. Vomiting and Diarrhea
11. GI Bleeds – Hematemesis, Melena,
Hematochezia
12. Adrenal Crisis
13. Unstable and stable Arrhythmias
14. Metabolic – hyperammonemia,
15. Pre-anaesthetic check up PAC

16. Severe Anemia, Bleeding child,
Neutropenia
17. Pain management, Drug therapy
18. ARDS
19. Respiratory Failure
20. Burns/electrocution
21. Animal Bites
22. Sickle cell crisis, severe complicated
malaria
23. Acute severe asthma, Bronchiolitis
24. Status epilepticus

25. Febrile seizure
26. Coma, Increased intra-cranial pressure
27. Cardiopulmonary resuscitation
28. Shock
29. Upper airway obstruction
30. Near drowning
31. Poisoning
32. Snake bite
33. Scorpion sting
34. Physical abuse
35. Sexual abuse

Human Genetics

1. Inheritance Patterns
2. Chromosomal/genetic clinical
Abnormalities
3. Genetic Counseling
4. Dysmorphism
5. Molecular Basis of Disorders
6. Molecular Diagnosis
7. Human Genome Project
8. Gene therapy

Knowledge

Must Know

Metabolic Disorders (Approach and Management)

1. Approach to IEM
2. Purine and pyrimidine metabolism defects
3. Amino acid Metabolic Defects
4. Lipid Metabolism – Common
5. CHO Metabolism – Common
6. Mucopolidosis,
Mucopolysaccharidosis
7. Aminoacid Metabolic defects –
Common

Fetus and New born (Approach and Management)

1. Organization and levels of newborn care
2. Antenatal Diagnosis/treatment
3. Mortality and morbidity
4. Newborn – history, examination, routine delivery care,
5. High risk pregnancies
6. Dysmorphology
7. Fetus
 - a. Fetal distress
 - b. Maternal diseases
 - c. Maternal medications
8. High risk infant
 - a. Multiple pregnancies
 - b. Prematurity
 - c. Postdated

- d. IUGR/LBW
- e. LFD
- 9. Congenital anomalies/malformations-
Recognition and Referral
- 10. Birth injuries
- 11. Hypoxia – ischemia, asphyxia
- 12. Normal Newborn
- 13. Common problems in a normal newborn
- 14. Delivery room emergencies
- 15. Respiratory disorders
- 16. Oxygen therapy, toxicity
- 17. Cardiac problems
- 18. PPHN
- 19. Genitourinary disturbances
- 20. Blood disorders
 - a. Polycythemia
 - b. Anemia
 - c. Hemorrhagic disease of newborn
 - d. Hemolytic disease of newborn
 - e. Thrombocytopenia
- 21. Metabolic disorders
- 22. Endocrine disorders – IDM, CAH-
Recognition and Referral
- 23. Ambiguous genitalia – Recognition and
Referral
- 24. Fluid and electrolytes in Newborn care
- 25. Nutrition and feeding the newborn-
term/preterm, LBW, IUGR
- 26. Neonatal transport

27. Surgical problems-Recognition and referral
28. Thermoregulation
29. Neonatal follow-up

Knowledge

Must Know

Neonatal Infections

(Approach and Management)

1. Epidemiology
2. Intrauterine infections
3. Viral Infections
4. Neonatal sepsis/meningitis
5. Pneumonia
6. UTI
7. Hepatitis
8. Nosocomial
9. Universal precautions
10. Prevention of infections
11. Therapy – antimicrobials, adjuvants

Adolescent Health

1. Epidemiology 1.
2. Sexual development and SMR stages
3. Deliveries of health care
4. Menstrual problems – Recognition and Referral

5. Pregnancy
6. Contraception
7. STD

Immunological system

1. Basics of Immunology
2. Approach to immunodeficiency
3. HIV
4. Bone marrow transplantation

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. Insect allergy
- 11 Ocular allergy
- 13 Adverse food reaction

Knowledge

Must Know

Rheumatology

(Approach and Management)

1. Autoimmunity
2. Laboratory evaluation
3. JRA
4. SLE
5. Vasculitis
6. Dermatomyositis
7. Erythema Nodosum

Infectious diseases

(Approach and Management)

1. Fever
2. Clinical use of Micro Lab
3. Fever without a focus
4. Sepsis and Shock
5. CNS Infections
6. Pneumonia
7. Gastroenteritis
8. Osteomyelitis, Septic arthritis
9. Compromised host infections
10. Bacterial Infections

11. Anaerobic infections

12. Viral Infections

13. Mycotic infections

Candidiasis

Aspergillosis

14. Parasitic infections

Helminthiasis

15. Protozoal

Malaria

Kalazar

Leishmania

Giardia

Amoeba

16. Antiparasitic drugs

17. Antimicrobials

18. Antivirals drugs, interferon

19. Preventive measures

Health advice for traveling

Infection control

20. Emerging and re-emerging diseases of tropics like dengue, chikungunya , H1N1 flu, Hand foot mouth disease, Ebola and Zica

Knowledge

Must Know

Immunization

Principles, Schedules, Controversies, Standard and Optional Vaccines, Recent Advances in Vaccines like JE vaccines, rotaviral, H1N1. Adolescent immunization.

Digestive system

(Approach and Management)

1. Normal tract – Physiology, Anatomy, Development
2. Clinical features of Disorders
3. Esophagitis, GER, Achalasia
4. Ulcer, Acid Peptic disease, GI bleeds
5. Malabsorption, Obstruction
6. Pancreatitis
7. Disorders of Liver and biliary system
 - Acute Hepatitis, Chronic Hepatitis, Cirrhosis,
 - Metabolic Liver Diseases, Cholestatic liver disease,
 - Neonatal Obstructive Cholangiopathy, Complications
 - of Liver Disease – Portal Hypertension, Encephalopathy,
 - Coagulopathy,
8. Peritonitis
9. GI function tests
10. Approach to Malabsorption

Respiratory system

(Approach and Management)

1. Development and Physiological function
2. Disorders of Upper Respiratory tract
3. Disorders of Lower Respiratory tract
4. Pleural disorders
5. Chronic Respiratory Disease, Interstitial fibrosis, ILD, empyema, lung abscess, bronchiectasis
6. Recurrent Respiratory Disease
7. Basics/Indications of Ventilation
8. Bronchial Asthma
9. Pulmonary Function tests
10. Cystic Fibrosis

Knowledge

Must Know

Cardiovascular System

(Approach and Management)

1. Investigations – Lab, ECG, CXR,
2. Physiology and Pathophysiology of Transitional Circulation

Embryology

3. Congenital Heart Disease

Epidemiology

Approach

Cyanotic

Acyanotic

4. Acquired heart disease
 - Infective endocarditis
 - Rheumatic Heart Disease
5. Diseases of the Myocardium – Myocarditis, Cardiomyopathy
6. ECHO
7. Cardiac Arrhythmia
8. Cardiac Therapeutics

Blood

(Approach and Management)

1. Development of Hematopoietic system
2. Anemia
 - a. Inadequate production
 - i. Nutrition – Iron, Folate, B12
 - ii. Bone Marrow failure
 - b. Hemolytic
 - i. Congenital and Acquired
3. Constitutional pancytopenia
4. Pancytopenia
5. Blood and component transfusions
6. Granulocyte transfusions
7. Hemorrhagic disorders – acquired and congenital
 - a. Physiology
 - b. Bleeding disorders
 - c. Coagulation disorders
8. Hyposplenism, trauma, splenectomy

9. Physiology and Disorders of the Spleen

Neoplasms (Approach and Management)

1. Principles of diagnosis
2. Principles of treatment
3. Leukemia
4. Lymphomas
5. Neuroblastomas
6. Liver neoplasm
7. Kidney tumors
8. Retinoblastoma

Knowledge

Must Know

Nephrology (Approach and Management)

1. Structure and function of kidney
2. Hematuria and conditions
3. HUS
4. Evaluation
5. Proteinuria
6. Nephrotic syndrome
7. Acute Glomerulonephritis
8. Renal Failure
9. Investigations

10. Tubular disorders

11. RPGN

12. Renal Replacement therapy

Urological disorders

(Approach and Management)

1. Penis, urethra anomalies
2. Urinary lithiasis
3. Scrotal anomalies
4. Investigations – imaging, renal function tests

Gynecological problems

(Approach and Management)

1. Mentruation – Normal
2. Vulvovaginitis

3. Menstrual Problems
4. Breast Disorders
5. Developmental anomalies
6. A child with special gynae needs

Endocrine (Approach and Management)

1. Physiology of Puberty

2. Thyroid

Thyroid studies

Hypothyroidism

Thyroiditis

Goitre

3. Diabetes mellitus

Adrenal Disorders

CAH

Cushing

Addisons

4. Parathyroid and disorders

5. Approach to short stature

6. Hypothalamus and pituitary

Hyperpituitarism

Hypopituitarism,

Growth hormone

DI

ADH

7. Disorders of puberty

Precocious Puberty

8. Adrenal-Excess mineralocorticoids

Feminizing adrenal tumours

Pheochromocytoma

9. Hyperthyroidism

Knowledge

Must Know

CNS (Approach and Management)

1. Examination, Localization of lesions
2. Congenital anomalies
3. Seizures

4. Headaches
5. Coma
6. Brain death
7. Head Injury
8. Acute Stroke
9. Brain abscess
10. Tumors
11. Investigations
12. Antiepileptic drugs
13. Rabies Vaccine encephalomyelitis,
14. Acute Demyelinating encephalomyelitis
15. Approach, Investigations of UMN, LMN,
Extrapyramidal, Cerebellar lesions
16. Cerebral Palsy
17. Neuroinfections

18. Encephalopathies
19. Neurocutaneous disorders
20. Neurodegenerative disorders –

Approach, Grey/white

21. Spinal cord disorders
22. SSPE

Neuromuscular

(Approach and Management)

1. Evaluation, investigations
2. Muscular Dystrophy

3. GB syndrome
4. Bell's Palsy
5. Floppy Infant
6. Congenital Myopathy, Myositis
7. Neuromuscular transmission and
motor neuron abnormalities
8. Myasthenia Gravis

Eye

1. Examination of eye
2. Squint
3. Diseases of Conjunctiva -
Conjunctivitis
4. Diseases of Lens – Cataracts

5. Papilledema

6. Vitamin A deficiency

7. Lacrimal problems – Dacrocystitis

8. Refraction, accommodation
9. Vision
10. Injuries to eye
11. Diseases of Eye movement and alignment disorders
12. Diseases of Optic nerve – Papillitis, Neuritis
13. Diseases of Cornea – Clouding
14. Retinopathy of Prematurity
15. Visual evoked response

Skin

1. Eczema

2. Cutaneous Infections – Bacterial, Viral, Fungal

3. Arthropod bites, infestations

4. Acne

5. Nutritional diseases

6. Drug Reactions

7. Atopic dermatitis

8. Leprosy

Bone/Joint

1. Evaluation

2. Arthritis – approach, investigations, Management

3. Congenital Dislocation of Hip
4. Osteomyelitis
5. Septic Arthritis
6. Rickets – Nutritional and non nutritional
7. Lethal and nonlethal bone dysplasias
8. Achondroplasia
9. Osteopetrosis
- 10 Marfan syndrome

Metabolic Bone disease

1. Bone and vitamin D
2. Rickets – Nutritional and non nutritional

Unclassified disease

1. SIDS
2. Histiocytosis
3. Cystic fibrosis

Environmental

1. Lead poisoning
2. Envenomation
3. Mammalian bites
4. Common Poisonings – OP, Kerosene, Phenobarbitone, Iron, etc

HEALTH STATISTICS, NATIONAL PROGRAMS

ORGANIZATION OF OFFICE PRACTICE

Equipment, Documentation, Records, Space and functioning

RECENT ADVANCES IN PAEDIATRICS especially with regard applied clinical common Paediatric problems

DURATION 5 years

ALLIED SUBJECTS

Anatomy

Applied Anatomy

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 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.

Paediatric Surgery

Recognition and referral of surgical conditions in Paediatrics

Radiology

Clinical Indications and interpretations of Xray, Ultrasound, CT, MRI

Legal and Ethical Medicine

Rights and protection of children, Consumer Protection Act, Basic Principles of Ethics

Postgraduate Skills

Please note code:

PI : Perform Independently

PA : Perform with assistance

O : Observe

Number at end of item indicates minimum number of supervised and documented skills.

Psychomotor skills

Procedural

Procedures: List of PI Skills

- Clinical History and Physical examination -
- Breast Feeding Management Skills 20
- Neonatal resuscitation – Basic and Advanced 20
- Paediatric resuscitation – Basic and Advanced 20
- Intravenous injections 30
- Intravenous cannulation 30
- Lumbar puncture 25
- Test dose 10
- Infusions 10
- Mantoux test 10
- DPT, OPV, Measles vaccination 10
- Blood transfusions 5
- Neonatal exchange transfusions 5
- ABG 5
- Central line, CVP 5
- Intraosseous 5
- Bone marrow aspiration, trephine biopsy 5
- Pleural tap 5
- Paracentesis – diagnostic and therapeutic 5
- Sampling for Fluid cultures 5
- Liver biopsy 5
- Neonatal, Paediatric Partial exchange 2

Respiratory management (All PI)

- Nebulization 30
- Inhaler therapy 10
- Oxygen delivery 30

Critically Ill Child (All PI)

- Monitoring a sick child 25
- ORS and ORT 10
- Infant feeding tube/Ryles tube, stomach wash 5
- Urinary catheterization 5
- Restraining a child for a procedure 5
- Prognostication -

Microbiology/ Pathology (All PI)

- Urine Protein, sugar, microscopy 5
- Peripheral blood smear 5
- Malarial smear 5
- Ziehl Nielson smear – sputum, gastric aspirate 5
- Grams smear – CSF, pus 5
- Stool pH, reducing substances, microscopy 5
- KOH smear 1

Neonatal tests (All PI)

- Apt test 2
- Shake test 2

Assessment skills (All PI)

- Antropometry 30
- Dietary recall, calorie and protein estimation 30
- Nutritional advice 30
- Fundoscopy 10
- Otoscopy 10
- Gestational assessment 5
- Neurological examination of newborn 5
- Premitive reflexes 5

- Examination of external genitalia – male and female 5
- Tanner’s SMR scales 2
- DDST or Baroda scales, TDS 2
- Amiel Telson’s angels 2
- Per rectal examination 1

Interpretation (All PI)

- Clinical History and Physical examination -
- Blood, Urine, CSF and Fluid investigations – hematology, biochemistry 30
- Chest X ray 30
- ECG 10
- Abdominal X ray 10
- ABG interpretation 5
- All PA*
- CT scan Brain 10
- Bone and joint X ray 5
- Barium studies 5
- IVP, VUR studies 5
- Ultrasound abdomen 5
- Neurosonogram 5

Communication skills

All PI:

- Clinical History and Physical examination -
- Communicating management details -
- Communicating good health, disease -
- Communicating about a seriously ill or mentally abnormal child -
- Communicating death -
- Informed consent -
- Empathy with a family -
- Referral letters -
- Discharge summaries -
- Death Certificates -
- Pre-counseling for HIV -
- Post counseling for HIV -

List of Observations:

- Genetic counseling 2
- Classification of diseases 2

List of PA skills:

- Sedation 5
- Analgesia 5
- Death declarations -
- Intercostal tube placement with underwater seal 2
- Peritoneal dialysis 1
- Subdural, Ventricular tap 2

Point of care

- Neurosonography 30
- Echocardiography 30

Pediatric advanced life support (PALS)

Neonatal advanced life support (NALS)

Teaching Learning Activities

Methods suggested for Pediatric Postgraduate Training Programs:

- **Didactic Lectures:** (Faculty lectures)

Objectives:

To introduce a broad-based concept in an important area of learning to orient the postgraduate student.

Examples:

Potential introductory topics to Paediatrics 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, Paediatric Tuberculosis, Paediatric HIV, Bronchial Asthma, Chronic Liver Disease and its complications.

Frequency:

Three 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 in depth study. Seniors should have also a more difficult part of the topic when presented as a two-person seminar. Junior 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:

Ideally, once in 1-2 months. MDs get the first opportunity and juniors begin after their first year in the course.

- **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:

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 hyperkalemia.

Frequency:

Once in a month 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 hepato-splenomegaly, multi-systemic disease.

Frequency:

Once in a week presuming the Head of Unit or Department does not daily interfere with the day to day management of the ward except in special circumstances.

- **Inter-departmental Meetings**

Objective:

To experience inter-departmental cooperation and develop a healthy professional respect for each others 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.

Example:

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 or twice in a month and rotated between departments – Radiology, Paediatric 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.

Rotation Postings

Core

Paediatrics	--	13-17 months
Neonatology	--	3-5 months
Intensive Care/Emergency	--	1-2 months
Optional Specialities (optional subject to availability)	--	4 months
Oncology		
Neurology		
Paediatric Surgery		
Nephrology		
Cardiology		
Clinical Hematology		
Dermatology		
Pulmonology		
Gastroenterology		
Clinical Microbiology		
Community/Rural		

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. Checklists are given in Chapter IV.

The learning out comes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of Knowledge, and (iii) Clinical and operative skills.

i) 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.

- ii) ***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.

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, in Chapter IV)

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 IV)

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.

iii) Clinical Skills

iv)

Day to day wor: 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 (see Model checklist IV, Chapter IV).

Clinical and Procedural Skills: The candidate should 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 IV)

v) Formative assessment: The departments may conduct two tests, annually, one 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, practicals / clinicals and viva voce.

vii) 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 may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.

viii) 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 University or MCI.

ix) Pedagogy

x) Innovative

a) Computer Application in teaching and learning.

b) Participation in workshops of IMNCI with UGs.

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 IV. 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

Scheme of Examination

a) Theory

There shall be three question papers, each of three hours duration. Each paper shall consist of ten essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

Paper I: - Emergency/Critical Paediatrics

- New born

Paper II: General Paediatrics I

- Respiratory, CNS, Hematology, Endocrine

- Gastroenteology, Heaptology, Renal, CVS, Oncology, Collagen Vascular

-

Paper III: General Paediatrics II

- Infections

- Miscellaneous (Ped Surg, Psych, ENT, Ophthal, Metabolic, Immunology, etc.)

- Ambulatory (OPD) Paediatrics,

Community/ Social Paediatrics including Nutrition, Immunization.

Note: The distribution of chapters / topics shown against the papers are suggestive only

b) Clinical Examination**200Marks**

	No. of Cases	Marks
Long Case	1	100
Short Case	1	50
New born	1	50
Total	3	200

c) Viva-Voce:**100 Marks**

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, charts, gross specimens, Histo pathology slides, X-rays, ultrasound, CT scan images, etc., for interpretation. Questions on use of instruments may be asked.

d)

Maximum marks for	Theory	Practical	Viva	Grand Total
DCH	300	200	100	600

Recommended Books and Journals**Textbooks:****Essential**

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

Reference

1. Rudolf's Paediatrics, Appelton and Lange
2. Forfar and Arneil's Textbook of Paediatrics, ELBS
3. Frank Oski's Principles and Practice of Paediatrics
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 Paediatrics
9. Nadas' Paediatric Cardiology
10. Perloff's Approach to Congenital Heart Disease
11. Moss and Adm'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 Paediatric Nephrology
15. Caffey's Paediatric X-Ray diagnosis
16. Alleyne's Protein Energy Malnutrition
17. Miller, Tuberculosis
18. Vimlesh Seth, Tuberculosis
19. Swanson's Paediatric Surgery
20. Cherry and Feigen's Paediatric Infectious Diseases
21. Fenichel's Paediatric Neurology
22. Kending's Respiratory Diseases in Paediatrics
23. Alex Mowat's Liver Disease in Children
24. Roger's Paediatric Critical Care
25. H.P.S. Sachdev's Principles of Paediatric and Neonatology Emergencies
26. Smith's Recognition patterns of Human Malformations.

Indexed Journals

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

Reference Series

1. Suraj Gupte's Recent Advances in Paediatrics
2. David's Recent Advances in Paediatrics
3. Advances in Paediatrics
4. Year Book of Paediatrics

SECTION - III

MEDICAL ETHICS & MEDICAL EDUCATION

Sensitization 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 patient, 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 (i), General Objectives (ii) stated in Chapter II (pages 2.1 to 2.3), and develop human values it is urged that **ethical sensitization** be achieved by lectures or discussion on ethical issues, clinical case discussion of cases with an important ethical component and by including ethical aspects in discussion in all case presentations, bedside rounds and academic postgraduate programs.

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 0

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 Behavior 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 cares
Malpractice and Negligence

8. Research Ethics
 - Animal and experimental research / humanness
 - Human experimentation
 - Human volunteer research – Informed Consent
 - Drug trials\
 - ICMR Guidelines for Ethical Conduct of Research – Human and Animal
 - ICH / GCP Guidelines
 - Schedule Y of the Drugs and Cosmetics Act.
9. Ethical work -up of cases
 - Gathering all scientific factors
 - Gathering all human factors
 - Gathering value factors
 - Identifying areas of value – conflict, setting of priorities,
 - Working our criteria towards decisions

Recommended Reading

1. Francis C. M., **Medical Ethics**, 2nd Ed, 2004 Jaypee Brothers, Bangalore/-
2. Ethical guidelines for biomedical research on human participants, ICMR publication 2006
3. Santosh Kumar: the elements of research, writing and editing 1994, Dept of Urology, JIPMER, Pondicherry
4. Srinivas D.K et al, Medical Education Principles and Practice, 1995, National Teacher Training Centre, JIPMER, Pondicherry
5. Indian National Science Academy, Guidelines for care and use of animals in scientific Research, New Delhi, 1994
6. International committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991
7. Kirkwood B.R, Essentials of Medical Statistics, 1st Ed., Oxford: Blackwell Scientific Publications 1998
8. Mahajan B.K. Methods in bio statistics for medical students, 5th Ed, New Delhi, Jaypee, Brothers Medical Publishers, 1989
9. Raveendran, B. Gitanjali: A Practical approach to PG dissertation, New Delhi, Jaypee Publications, 1998.

10. John A Dent, Ronald M Harden, A Practical guide for medical teacher, 4th Edition, Churchill Livingstone, 2009.
11. Tejinder Singh Anshu, Principles of Assessment in Medical Education, Jaypee brothers
12. Dr. K.Lakshman, A Hand Book on Patient Safety, RGUHS & Association of Medical Consultants, 2012
13. Bernard Mogs, Communication skills in health & social care, 3rd Edition, (S) SAGE, 2015
14. Manoj Sharma , R. Lingyak Petosa, Measurement and Evaluation for Health Educators, Jones & Bartlett Learning.
15. David E. Kern, Patricia A, Thomas Mark T, Hughes, Curriculum Development for Medical Education. A six-step approach, The Johns Hopkins University press/Baltimore.
16. Tejinder Singh Piyush Gupta Daljit Singh, Principles of Medical Education (Indian Academy of Paediatrics), 4th Edition, Jaypee Brothers, 2013.
17. Robert Reid, Torri Ortiz Linenemann, Jessica L.Hagaman, Strategy Instruction for Students with learning disabilities, 2nd Edition, The Guilford Press London.
18. Lucinda Becker Pan Demicolo, Teaching in higher education, (S) SAGE, 2013.
19. C.N. Prabhakara, Essential Medical Education (Teachers Training), Mehta publishers.
20. Tejinder Singh Piyush Gupta, Principles of Evaluation & Research for health care programmes, 4th Edition, IAP National Publication House (Jaypee Brothers).
21. R.L.Bijlani, Medical Research, Jaypee Brothers, 2008
22. Stephen Polgar Shane A Thomas, Introduction to Research in the Health Sciences, Churchill Livingstone Elsevier, 2013.
23. Amar A,Sholapurkar. Publish & Flourish -A practical guide for effective scientific writing, Jaypee Brothers, 2011
24. Charles R.K.Hind, Communication Skills in Medicine, BMJ, 1997.

SECTION - IV

ANNEXURES

Record to be maintained by Post graduate students

Name	Academics			Service		Skills		Responsibility	
Name	Teaching Programs	Discussion	Patient work up	Patient Care	Procedure	Communication	Discipline	Punctuality	Anecdotal events +/-

Paediatric Postgraduate Training Log Book

Contents:

1. Personal Data:

- Name
- Institution
- Dates of Postgraduation studies
- Joining
- Completion
- Degree
- University
- Dissertation Title
- Name and Designation of Guide
- Signature of candidate
- Signature of Supervisor
- Signature of Head of Department

2. Professional Education:(eg. MBBS, DCh)

Degree	Institution	University	Dates of Training

3. Professional Experiences: (eg. SHO Paediatrics, CMO, Tutor)

Professional Post	Institution	Dates of Work period

4. Clinical Postings: (eg. General Paediatrics, PICU, NICU, Oncology, Neurology)

Speciality	Duration	Dates of Posting

5. Case Presentations: (eg. clinics, tutorials)

Date	Name/age/sex	Problem/Diagnosis	Grade	Supervisor

6. Seminars: (eg. Seminar on TB)

Date	Topic of Presentation	Grade	Supervisor

7. Mortality Meetings: (eg. Mortality case discussion)

Date	Name/age/sex	Problem/Diagnosis	Supervisor

8. Multi-disciplinary Meetings: (eg. *Urinary Lithiasis with Urology and Nephrology*)

Date	Topic	Departments involved

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

Date	Description of Activity	Supervisor

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

Date	Title of Paper presented	Supervisor

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

Date	Topic	Supervisor

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

Date	Title	Organization

13. Training Courses (eg. *BFHI Lactation course, PALS, NALS, Research Methodology*)

Date	Title	Supervisor

SECTION - IV

ANNEXURES

MODEL CHECK-LIST FOR EVALUATION OF JOURNAL

REVIEW PRESENTATIONS

Name of the Student:

Date:

Name of the Faculty/Observer:

Sl. No	Items for observation during presentation	Poor 1	Average 2	Good 3	Excellent 4
1.	Article Chosen was				
2.	Primary objectives				
3.	Secondary objectives				
4.	Extent of understanding of scope & objectives of the paper by the candidate				
5.	Type of study and study Design				
6	Sample Size				
7.	Whether cross references have been consulted				
8.	Whether other relevant publications consulted				
9.	Ability to respond to questions on the paper / subject				

10.	Audio-Visual aids used				
11.	Ability to defend the paper				
12.	Conclusion				
13	Correlation between objectivities & Conclusion				
14.	Clarity of presentation				
15.	Any other observation				
	Total Score				

Check List – II

MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Student:

Date:

Name of the Faculty/Observer:

Sl. No	Items for observation during presentation	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted				
2.	Whether cross references have been consulted				
3.	Basic concepts of the topic in brief				
4.	Completeness of Preparation				
5.	Clarity of Presentation				
6..	Understanding of subject				
7..	Ability to answer questions				
8.	Time scheduling				
9..	Appropriate use of Audio-visual aids				
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:

Date:

Name of the Unit Head:

Sl. No.	Points to be considered	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.	Bedside manners				
8.	Rapport with patients				
9.	Counseling patient's relatives for blood donation or Postmortem and Case follow up.				
10.	Over all quality of Ward work				
	Total Score				

Check List – IV

EVALUATION FORM FOR CLINICAL PRESENTATION

Name of the Student:

Date:

Name of the Faculty:

Sl. No .	Points to be considered	Below Average 1	Average 2	Good 3	Very Good 4
1.	Completeness of history				
2.	Birth History				
3.	Nutritional History				
4.	Developmental l History				
5.	Whether all relevant points elicited				
6.	Clarity of Presentation				
7.	Provisional diagnosis based on history				
8.	Logical order				
9.	Mentioned all positive and negative points of importance				
10.	Anthropometric evaluation (with percentile chart)				
11.	Accuracy of general physical examination				
12.	Final clinical diagnosis				
13.	Whether all physical signs elicited correctly				

14.	Whether any major signs missed or misinterpreted				
15	Final diagnosis				
16.	Diagnosis: Whether it follows logically from history and findings				
	Investigations required				
	<ul style="list-style-type: none"> ▪ Complete list 				
	<ul style="list-style-type: none"> ▪ Relevant investigations pretesting to case 				
	<ul style="list-style-type: none"> ▪ Interpretation of investigations Any specific investigation 				
17	Ability to react to questioning Whether it follows logically from history and findings				
18	Final diagnosis				
19.	Ability to defend diagnosis				
20.	Ability to justify differential diagnosis				
21.	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 sequences 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 SYNOPSIS PRESENTATION

Name of the Student:

Date:

Name of the Faculty:

Sl. No	Points to be considered	Poor	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 presentation	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:

College:

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:

College:

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

LOG BOOK

Table 3: Diagnostic and Operative procedures performed

Name:

Academic 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

Name of the College:

Academic Year:

Sl. No.	Faculty Member & Others	Name of Student and Mean Score									
		A	B	C	D	E	F	G	H	I	J
1.											
2.											
3.											
4.											
5.											
Total Score											

Note: Use separate sheet for each year.


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