



BLDE **(DEEMED TO BE UNIVERSITY)**

Competency Based Medical Education **(CBME)**

PG CURRICULUM **2019-20** **MD Paediatrics**

Published by

BLDE

(DEEMED TO BE UNIVERSITY)

Declared as Deemed to be University u/s 3 of UGC Act, 1956

The Constituent College

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

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

BLDE (DU): Phone: +918352-262770, Fax: +918352-263303, Website: www.bldedu.ac.in, E-mail: office@bldedu.ac.in

College: Phone: +918352-262770, Fax: +918352-263019, E-mail: bmppmc.principal@bldedu.ac.in



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BLDE(DU)/REG/PG-Curr/2019-20/268

May 06, 2019

NOTIFICATION

Sub: **Competency Based Medical Education (CBME) based Revision of Post Graduate Curriculum**

- Ref: 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 28th meeting Academic Council of the University held on April 26, 2019.
3. Minutes of the 47th meeting Board of Management held on May 04, 2019.

The Board of Management of the University is pleased to approve the CBME based Revised Curriculum for Post Graduate Degree Course at in its 47th meeting held on May 04, 2019.

The Revised Curriculum shall be effective, from the Academic Session 2020-21 onwards, for Post Graduate Degree Course in the Constituent College of the University viz. Shri B. M. Patil Medical College, Hospital and Research Centre, Vijayapura.

REGISTRAR
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BLDE (Deemed to be University)
Vijayapura-586103, Karnataka.

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 Secretary, MCI
- The Controller of Examinations
- The Vice Principal
- The Vice Principal (Academics)
- The Prof. & HODs Pre, Para and Clinical Departments
- The Co-ordinator, IQAC
- PS to the Hon'ble Chancellor
- PS to the Hon'ble Vice-Chancellor

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

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College : Phone: +918352-262770, Fax: +918352-263019, E-mail: bmpmc.principal@bldedu.ac.in

Our Vision

“To be a Leader and be recognized as an Institution striving for maintenance and enhancement of Quality Medical Education and Healthcare”

Our Mission

- To be committed to promote sustainable development of higher education including Health science education, consistent with the statutory and regulatory requirements.
- Reflect the needs of changing technology and make use of the academic autonomy to identify the academic programs that are dynamic.
- Adopt global concepts in education in the healthcare sector.

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 [May2018]

- (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 May 2018]

Eligibility for Admission:

1. Post graduate degree course:

The candidate seeking admission should have passed MBBS from a college recognized by Medical Council of India.

As per requisites of statutory bodies & as laid out in Post graduate regulations of MCI & its amendments thereof, the minimum percentage of marks obtained in the entrance test

conducted by competent authority shall be as per MCI regulations & its amendments as applicable time to time.

Eligibility for Foreign / PIO / NRI students will be based on qualifying examination marks and MCI amendments as applicable at the time of selection and admission process.

Candidates seeking admission to superspeciality [M.Ch]

The candidate seeking admission to superspeciality course should have passed MS/MD in concerned subjects (As per MCI regulations & its amendments thereof) or passed DNB in concerned broad specialities & should fulfill requirements of MCI regulations.

2. As per requisites of statutory bodies & as laid out in Post graduate regulations of MCI & its amendments thereof, the minimum percentage of marks obtained in the entrance test conducted by competent authority shall be as per MCI regulations & its amendments as applicable time to time.

Eligibility for Foreign / PIO / NRI students will be based on qualifying examination marks and MCI amendments as applicable at the time of selection and admission process.

The MCI norms to qualify for Admissions

Candidates seeking admission to these Post Graduate Degree courses should have passed M.B.B.S. recognized 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 Courses even if he/she is placed in the merit list of statutory authority and BLDE (Deemed to be University).

Obtaining Eligibility Certificate by the University before making Admission

Candidate shall not be admitted for any postgraduate degree 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/DNB 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 completed 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 completed years including examinations.

Training Method

The postgraduate training for degree 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 superspeciality [M.Ch] 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 as well.

Attendance, Progress and Conduct

A candidate pursuing degree 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 specialties, 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 outcomes to be assessed include:

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

The following selected common topics for post graduate students of all specialties to be covered are suggested here. These topics can be addressed in general with appropriate teaching-learning methods centrally or at departmental level.

- History of medicine with special reference to ancient Indian medicine
- Basics of health economics and health insurance
- Medical sociology, Doctor –Patient relationship, role of family in disease
- Professionalism & Medical code of Conduct and Medical Ethics
- Research Methods, Bio-statistics
- Use of library, literature search ,use of various software and databases

- Responsible conduct of research
- How to write an article, publication ethics and Plagiarism
- Journal review and evidence based medicine
- Use of computers & Appropriate use of AV aids
- Rational drug therapy
- National Health and Disease Control Programmes
- Roles of specialist in system based practice
- Communication skills.
- Bio medical waste management
- Patient safety, medical errors and health hazards
- Patient's rights for health information and patient charter.

These topics may preferably taken up in the first few weeks of the 1st year commonly for all new postgraduates and later in 2nd year or 3rd year as required during their progression of the programme. The specialty wise topics can be planned and conducted at departmental level.

- a) 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

Attitude and Communication skills:

Candidates should be trained in proper communication skills towards interaction and communication with patients, attendees and society in general. There should be appropriate training in obtaining proper written informed consent, discussion and documentation of the proceedings. Structured training in various areas like consent, briefing regarding progress and breaking bad news are essential in developing competencies.

Variety of teaching –learning methods like Role play, video based training, standardized patient scenarios, reflective learning and assisting the team leader in all these areas will improve the skills. Assessment can be done using OSCE simulated scenarios and narratives or any appropriate means. Training to work as team member, lead the team whenever situation demands is essential. Mock drills to train and assess the readiness are very helpful.

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 gap 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,

Assessment

Assessment should be comprehensive & objective. It should address the stated competencies of the course. The assessment needs to be spread over the duration of the course.

FORMATIVE ASSESSMENT, ie., assessment during the training would include:

Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

General Principles

Internal Assessment should be frequent, cover all domains of learning and used to provide feedback to improve learning: it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and clinical examination.

Quarterly assessment during the Postgraduate training course should be based on following educational activities:

1. Journal based/recent advances learning
2. Patient based/Laboratory or Skill based learning
3. Self directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and outreach Activities/CMEs

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 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 (Deemed to be 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. 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 and 4th paper on Recent advances, which 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 300.

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 pass & distinction: 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)

Obtaining a minimum of 40% marks in each theory paper and not less than 50% cumulatively in all the four papers for degree examinations. Obtaining of 50% marks in Practical examination shall be mandatory for passing the examination as a whole in the said degree examination as the case may be.[amendment of MCI PG Regulations clause 14 dated 5.4.2018]

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 300.

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 passing and distinction: 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).

Obtaining a minimum of 40% marks in each theory paper and not less than 50% cumulatively in all the four papers for degree examinations. Obtaining of 50% marks in Practical examination shall be mandatory for passing the examination as a whole in the said degree examination as the case may be.[amendment of MCI PG Regulations clause 14 dated 5.4.2018]

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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.

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
- DM/M.Ch Maximum of 3 per day

Additional annexure to be included in all curricula

Postgraduate Students Appraisal Form
Pre/Para/Clinical Disciplines

Name of Department/Unit :
Name of the PG Student :
Period of Training : FROM..... TO.....

Sr. No	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1	Journal based/recent advances learning				
2	Patient based /Laboratory or Skill based learning				
3	Self directed learning and teaching				
4	Departmental and interdepartmental learning activity				
5	External and Outreach Activities/CMEs				
6	Thesis/Research work				
7	Log Book Maintenance				

Publications Yes/No

Remarks*
.....
.....
.....

*Remarks: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

SIGNATURE OF GUIDE

SIGNATURE OF HOD

SIGNATURE OF UNIT CHIEF

SECTION II**MD IN PAEDIATRICS****Preamble**

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

A post graduate student after undergoing the required training should be able to deal effectively with the needs of the community and should be competent to handle the problems related to his specialty including recent advances. S/He should also acquire skills in teaching of medical/para-medical students.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of “domains of learning” under the heading “competencies”.

SUBJECT SPECIFIC OBJECTIVES

The objectives of MD Course in Paediatrics are to produce a competent pediatrician who:

- Recognizes the health needs of infants, children and adolescents and carries out professional obligations in keeping with principles of the National Health Policy and professional ethics
- Has acquired the competencies pertaining to Paediatrics that are required to be practiced in the community and at all levels of health system
- Has acquired skills in effectively communicating with the child, family and the community
- Is aware of contemporary advances and developments in medical sciences as related to child health
- Is oriented to principles of research methodology
- Has acquired skills in educating medical and paramedical professionals
- Is able to recognize mental conditions and collaborate with Psychiatrists/Child Psychologists for the treatment of such patients

SUBJECT SPECIFIC COMPETENCIES**A. Cognitive domain**

At the end of the MD course in Paediatrics, the students should be able to:

1. Recognize the key importance of child health in the context of the health priority of country
2. Practice the specialty of Paediatrics in keeping with the principles of professional ethics
3. Identify social, economic, environmental, biological and emotional determinants of child and adolescent health, and institute diagnostic, therapeutic, rehabilitative, preventive and promotive measures to provide holistic care to children
4. Recognize the importance of growth and development as the foundation of Paediatrics and help each child realize her/his optimal potential in this regard
5. Take detailed history; perform full physical examination including neuro-development and behavioral assessment and anthropometric measurements in the child and make clinical diagnosis
6. Perform relevant investigative and therapeutic procedures for the paediatric patient
7. Interpret important imaging and laboratory results
8. Diagnose illness based on the analysis of history, physical examination and investigations
9. Plan and deliver comprehensive treatment for illness using principles of rational drug therapy
10. Plan and advice measures for the prevention of childhood disease and disability
11. Plan rehabilitation of children with chronic illness and handicap and those with special needs
12. Manage childhood emergencies efficiently
13. Provide comprehensive care to normal, 'at risk' and sick neonates
14. Demonstrate skills in documentation of case details, and of morbidity and mortality data relevant to the assigned situation
15. Recognize the emotional and behavioral characteristics of children, and keep these fundamental attributes in focus while dealing with them
16. Demonstrate empathy and humane approach towards patients and their families and keep their sensibilities in high esteem
17. Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities
18. Develop skills as a self-directed learner. Recognize continuing educational needs; use appropriate learning resources and critically analyze published literature in order to practice evidence-based Paediatrics
19. Demonstrate competence in basic concepts of research methodology and epidemiology
20. Facilitate learning of medical/nursing students, practicing physicians, paramedical health workers and other providers as a teacher-trainer
21. Implement National Health Programs, effectively and responsibly

22. Organize and supervise the desired managerial and leadership skills
23. Function as a productive member of a team engaged in health care, research and education.
24. Recognize mental conditions, characterized by self absorption, reduced ability to respond, abnormal functioning in social interaction with or without repetitive behavior, poor communication (autism) and collaborate with Psychiatrists/Child Psychologists for the treatment of such patients.

All PG students joining the course should have an orientation session to acquaint them with the requirements and other details. A plan for orientation session has been given at Annexure 1.

B. Affective Domain:

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

C. Psychomotor domain

At the end of the course, the student should have acquired following skills:

I. History and Examination

The student must gain proficiency in eliciting, processing and systemically presenting Paediatrics history and examination with due emphasis of the important and minimization of less important facts. The following skills must be achieved:

- i) Recognition and demonstration of physical findings
- ii) Recording of height, weight, head circumference and mid arm circumference and interpretation of these parameters using growth reference standard assessment of nutritional status and growth
- iii) Assessment of pubertal growth
- iv) Complete developmental assessment by history and physical examination, and recognizing developmental disabilities, including autism
- v) Systemic examination
- vi) Neonatal examination including gestation assessment by physical/ neurological criteria

- vii) Examination of the fundus of eye and the ear-drum
- viii) Skills related to IMNCI and IYCF

II. Monitoring Skills

Non-invasive monitoring of blood pressure, pulse and respiratory rates, O₂ saturation; ECG

III. Investigative Procedures

- i) Venous, capillary and arterial blood sampling using appropriate precautions
- ii) Pleural, peritoneal, pericardial aspiration; subdural, ventricular and lumbar puncture
- iii) Tuberculin test
- iv) Biopsy of liver and kidney
- v) Urethral catheterization and suprapubic tap
- vi) Gastric content aspiration

IV. Therapeutic Skills

- i) Breast feeding assessment and counseling; management of common problems
- ii) Establishment of central and peripheral vascular access; CVP monitoring
- iii) Administration of injections using safe injection practices
- iv) Determination of volume and composition of intravenous fluids and their administration
- v) Neonatal and Pediatric basic and advanced life support
- vi) Oxygen administration, CPAP and Nebulization therapy
- vii) Blood and blood component therapy
- viii) Intraosseous fluid administration
- ix) Phototherapy, umbilical artery and venous catheterization and exchange transfusion
- x) Nasogastric feeding
- xi) Common dressings and abscess drainage; intercostal tube insertion
- xii) Basic principles of rehabilitation
- xiii) Peritoneal dialysis
- xiv) Mechanical ventilation- Invasive and non-invasive ventilation
- xv) Point of care Ultrasound : a) Neurosonogram
b) Functional echo

V. Bed side investigations, including

- i) Complete blood counts, micro ESR, peripheral smear
- ii) Urinalysis
- iii) Stool microscopy and hanging drop

- iv) Examination of CSF and other body fluids
- v) Blood sugar
- vi) Shake test on gastric aspirate

- vii) Gram stain, ZN stain

VI. Patient Management Skills

- i) Proficiency in management of pediatric emergencies, including emergency triaging
- ii) Drawing and executing patient management plan and long term care
- iii) Documenting patient records on day to day basis and problem oriented medical record
- iv) Care of a normal and sick newborn, management of neonatal disorders hypothermia, sepsis, convulsions, jaundice, metabolic problems.
- v) Identifying surgical emergencies ,confirming by investigations, surgical referral,and post-op care
- vi) Identifying need for timely referral to appropriate departments/health facility and pre-transport stabilization of the sick child

VII. Communication Skills; Attitudes; Professionalism

- i) Communicating with parents/child about nature of illness and management plan prognostication, breaking bad news, Death certificate
- ii) Counseling parents on breast feeding, nutrition, immunization, disease prevention, promoting healthy life style
- iii) Genetic counseling
- iv) Communication and relationship with colleagues, nurses and paramedical workers
- v) Appropriate relation with pharmaceutical industry
- vi) Health economics
- vii) Professional and research ethics
- viii) HIV Counseling

VIII. Interpretation of Investigations

- i. Plain x-ray chest, abdomen, skeletal system
- ii. Contrast radiological studies: Barium swallow, barium meal, barium enema, MCU
- iii. Ultrasound skull and abdomen
- iv. Histopathological, biochemical and microbiological investigations
- v. CT Scan and MRI (skull, abdomen, chest)
- vi. Electrocardiogram, electroencephalogram
- vii. Arterial and venous blood gases
- viii. **Desirable:** Interpretation of radio-isotope studies, audiogram, neurophysiological studies, (BERA, VER, Electromyography [EMG], Nerve Conduction Velocity [NCV]), lung function tests

IX. Academic Skills

- i. Familiarity with basic research methodology, basic IT skills. Planning the protocol of the thesis, its execution and final report
- ii. Review of literature

- iii. Conducting clinical sessions for undergraduate medical students
- iv. Desirable: writing and presenting a paper. Teaching sessions for nurses and medical workers

Syllabus

Course contents:

Guidelines

During the training period, effort must be made that adequate time is spent in discussing child health problems of public health importance in the country or particular region.

Basic Sciences

- Principles of inheritance, chromosomal disorders, single gene disorders, multifactorial / polygenic disorders, genetic diagnosis and prenatal diagnosis, pedigree drawing.
- Embryogenesis of different organ systems especially heart, genitourinary system, gastro-intestinal tract. Applied anatomy and functions of different organ systems.
- Physiology of micturition and defecation; placental physiology; fetal and neonatal circulation; regulation of temperature, blood pressure, acid base balance, fluid electrolyte balance and calcium metabolism.
- Vitamins and their functions.
- Hematopoiesis, hemostasis, bilirubin metabolism.
- Growth and development at different ages, growth charts; puberty and its regulation.
- Nutrition: requirements and sources of various nutrients.
- Pharmacokinetics of common drugs, microbial agents and their epidemiology.
- Basic immunology, biostatistics, clinical epidemiology, ethical and medico-legal issues.
- Teaching methodology and managerial skills.

Understanding the definition, epidemiology, aetiopathogenesis, presentation, complications, differential diagnosis and treatment of the following, but not limited to:

Growth and development

- principles of growth and development
- normal growth and development
- failure to thrive and short stature
- normal growth and development
- sexual maturation and its disturbances
- Autism (as mentioned in objective 24)

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

Neonatology

□ perinatal care

□ low birth weight

□ care in the labor room and resuscitation

□ newborn feeding

□ prematurity

□ respiratory distress

□ common transient phenomena

□ apnea

□ infections

Convulsions

□ anemia and bleeding disorders

- jaundice
- neurologic disorders
- renal disorders
- thermoregulation and its disorders
- gastrointestinal disorders
- malformations
- understanding of perinatal medicine

Nutrition

- maternal nutritional disorders;
weight impact on fetal outcome
- infant feeding including
deficiencies complementary feeding
- protein energy malnutrition
- adolescent nutrition
- nutritional management of systemic illness (GI, hepatic, renal illness)
- nutrition for the low birth
□ breast feeding
- vitamin and mineral
- obesity
- parenteral and enteral nutrition

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

Cardiovascular

- congenital heart diseases (cyanotic and acyanotic)
- infective endocarditis
- disease of myocardium (cardiomyopathy, myocarditis)
- hyperlipidemia in children
- rheumatic fever and rheumatic heart disease
- arrhythmia
- diseases of pericardium
- systemic hypertension

Respiratory

- congenital and acquired disorders of nose tonsils and adenoids
- congenital anomalies of lower respiratory tract
- foreign body in larynx trachea and bronchus
- subglottic stenosis (acute, chronic)
- bronchial asthma
- acute pneumonia, bronchiolitis
- recurrent, interstitial pneumonia
- atelectasis
- pleural effusion
- infections of upper respiratory tract
- obstructive sleep apnea
- acute upper airway obstruction
- trauma to larynx
- neoplasm of larynx and trachea
- bronchiolitis
- aspiration pneumonia, GER
- suppurative lung disease
- lung cysts, mediastinal mass

Gastrointestinal and liver disease

- disease of oral cavity esophagus
- peptic ulcer disease
- intestinal obstruction disorders
- disorders of deglutition and
- congenital pyloric stenosis
- acute and chronic pancreatic

- malabsorption syndrome
- irritable bowel syndrome
- Hirschsprung disease
- hepatitis
- chronic liver disease
- metabolic diseases of liver

Nephrologic and Urologic disorders

- acute and chronic glomerulonephritis
- hemolytic uremic syndrome
- VUR and renal scarring
- renal tubular disorders
dysfunction
- congenital and hereditary renal disorders
- posterior urethral valves
- undescended testis, hernia, hydrocoele

Neurologic disorders

- seizure and non-seizure paroxysmal events
- meningitis, encephalitis
- febrile encephalopathies
- neurocysticercosis and other neuroinfestations
- SSPE
- neurometabolic disorders
- neuromuscular disorders
- learning disabilities
- acute flaccid paralysis and AFP surveillance
- movement disorders

Hematology and Oncology

- deficiency anemias
- aplastic anemia
- thrombocytopenia
- blood component therapy
- bone marrow transplant/stem cell transplant
- myelodysplastic syndrome
- neuroblastoma

Endocrinology

- hypopituitarism/hyperpituitarism
- pubertal disorders

- acute and chronic diarrhea
- inflammatory bowel disease
- anorectal malformations
- hepatic failure
- Budd-Chiari syndrome
- cirrhosis and portal hypertension

- xanthema syndrome
- urinary tract infection
- involvement in systemic diseases
- neurogenic bladder, voiding
- renal and bladder stones
- hydronephrosis
- Wilms tumor

- epilepsy, epileptic syndromes
- brain abscess
- Guillain-Barre syndrome
- HIV encephalopathy
- cerebral palsy
- neurodegenerative disorders
- mental retardation
- muscular dystrophies
- malformations
- Tumors

- hemolytic anemias
- pancytopenia
- disorders of hemostasis
- transfusion related infections
- acute and chronic leukemia
- Lymphoma
- hypercoagulable states

- diabetes insipidus
- hypo – and hyper-thyroidism

- adrenal insufficiency
- adrenogenital syndromes
- hypoglycemia
- gonadal dysfunction and intersexuality

- Cushing's syndrome
- diabetes mellitus
- short stature
- obesity

Infections

- bacterial (including tuberculosis)
- fungal
- rickettsial
- protozoal and parasitic
- control of epidemics and infection prevention

- viral (including HIV)
- parasitic
- mycoplasma
- nosocomial infections
- safe disposal of infective material

Emergency and Critical Care

- emergency care of shock
- respiratory failure
- status epilepticus
- fluid and electrolyte disturbances
- poisoning
- scorpion and snake bites

- cardio-respiratory arrest
- acute renal failure
- acute severe asthma
- acid-base disturbances
- accidents

Immunology and Rheumatology

- arthritis (acute and chronic)
- immunodeficiency syndromes

- vasculitides
- systemic lupus erythematosus

ENT

- acute and chronic otitis media
- post-diphtheritic palatal palsy
- allergic rhinitis/sinusitis

- hearing loss
- acute/chronic tonsillitis/adenoids
- foreign body

Skin Diseases

- exanthematous illnesses
- pigment disorders
- infections
- atopic, seborrheic dermatitis
- alopecia

- vascular lesions
- vesicobullous disorders
- Steven-Johnson syndrome
- drug rash
- ichthyosis

Eye problems

- refraction and accommodation
- cataract
- strabismus

- partial/total loss of vision
- night blindness
- conjunctival and corneal disorders

□ disorders of retina, including tumors

Behavioral and Developmental disorders

□ rumination, pica	□ enuresis, encopresis
□ sleep disorders	□ habit disorders
□ breath holding spells	□ anxiety disorders
□ mood disorders	□ temper tantrums
□ attention deficit hyperactivity disorders	□ autism (as mentioned in objective 24)

Social/Community Paediatrics

□ national health programs related to child health	□ IMNCI
□ Vaccines: constituents, efficacy, storage, contraindications and adverse reactions	
□ rationale and methodology of pulse polio immunization	
□ child labor, abuse, neglect	□ adoption
□ disability and rehabilitation	□ rights of the child
□ National policy of child health and population	□ juvenile delinquency
□ Principles of prevention, control of infections (food, water, soil, vector borne)	
□ Investigation of an epidemic	

Orthopaedics

□ major congenital orthopedic deformities	□ bone and joint infections
□ common bone tumors	

Approach to clinical problems

Growth and development

□ precocious and delayed puberty	□ developmental delay
□ impaired learning	

Neonatology

□ low birth weight newborn	□ sick newborn
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Nutrition

□ lactation management and complementary feeding	□ protein energy malnutrition (underweight, wasting, stunting) and micronutrient deficiencies
□ failure to thrive	

Cardiovascular

□ Murmur	□ cyanosis
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- congestive heart failure
- arrhythmia

- systemic hypertension
- shock

GIT and Liver

- Acute diarrhea
- abdominal pain and distension
- vomiting
- gastrointestinal bleeding
- hepatosplenomegaly

- persistent and chronic diarrhea
- ascites
- constipation
- jaundice
- hepatic failure and encephalopathy

Respiratory

- Cough/chronic cough
- wheezy child

- hemoptysis
- respiratory distress

Infections

- acute onset pyrexia
- recurrent infections
- nosocomial infections

- prolonged pyrexia with and without localizing signs
- fever with xanthema

Renal

- Hematuria/dysuria
- voiding dysfunctions
- hypertension

- bladder/bowel incontinence
- renal failure (acute and chronic)

Hematology and Oncology

- anemia

- bleeding

Neurology

- limping child
- paraplegia, quadriplegia
- macrocephaly and microcephaly
- acute flaccid paralysis

- convulsions
- cerebral palsy
- floppy infant
- headache

Endocrine

- thyroid swelling
- obesity

- ambiguous genitalia
- short stature

Miscellaneous

- skin rash
- epistaxis
- arthralgia, arthritis

- lymphadenopathy
- proptosis

TEACHING AND LEARNING METHODS

Postgraduate teaching programme

General principles

Acquisition of practical competencies being the keystone of PG medical education, PG training should be skills oriented. Learning in PG program should be essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

Teaching methodology

This should include regular bedside case presentations and demonstrations, didactic lectures, seminars, journal clubs, clinical meetings, and combined conferences with allied departments. The post graduate student should be given the responsibility of managing and caring for patients in a gradual manner under supervision. Department should encourage e-learning activities.

Formal teaching sessions

In addition to bedside teaching rounds, at least 5-hr of formal teaching per week are necessary. The departments may select a mix of the following sessions:

Case Discussion	:	Once in a week
Journal Club	:	Once in a week
Internal department meet	:	Once in Month
Seminar	:	Once in a week
CPC	:	Once in a month
Mortality meeting	:	Once in a month
Pedagogy	:	Once in a Month
Theory class for PG	:	Once in a month

Attend accredited scientific meetings (CME, symposia, and conferences).

- Additional sessions on resuscitation, basic sciences, biostatistics, research methodology, teaching methodology, hospital waste management, health economics, medical ethics and legal issues related to pediatric practice are suggested.
- There should be a training program on Research methodology for existing faculty to build capacity to guide research.
- The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
- A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

- **Log book:** During the training period, the post graduate student should maintain a Log Book indicating the duration of the postings/work done in Pediatric Wards, OPDs and Casualty. This should indicate the procedures assisted and performed, and the teaching sessions attended. The purpose of the Log Book is to:
 - a) Help maintain a record of the work done during training,
 - b) Enable Consultants to have direct information about the work; intervene if necessary,
 - c) Use it to assess the experience gained periodically.

The log book shall be used to aid the internal evaluation of the student. The Log books shall be checked and assessed periodically by the faculty members imparting the training.

Rotations

The postgraduate student should rotate through all the clinical units in the department.

In addition, following special rotations should be undertaken:

Mandatory

Neonatology, perinatology - 3 months per year (Total 9 months for 3 years)

Intensive care, emergency- 3 months per year (Total 9 months for 3 years)

Desirable

Posting in Out Patient Services of the following specialties is recommended

Skin -1 week

Pediatric Surgery- 1 week

Radiology- 1 week

Nephrology -1 week

Physical Medicine and Rehabilitation- 1 week

Community Medicine- 1 week

Note: Additionally, the PG students may be sent to allied specialties (Cardiology, Neurology, nephrology *etc.*) depending on facilities available. It should be ensured that the training conforms to the curriculum.

- **Thesis**

Objectives

By carrying out a research project and presenting his work in the form of thesis, the student shall be able to:

- identify a relevant research question
- conduct a critical review of literature
- formulate a hypothesis
- determine the most suitable study design
- state the objectives of the study
- prepare a study protocol
- undertake a study according to the protocol

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- analyze and interpret research data, and draw conclusions
- write a research paper

Guidelines

While selecting the topic, following should be kept in mind:

- the scope of study is limited to enable its conduct within the resources and time available
- the study must be ethically appropriate
- the emphasis should be on the process of research rather than the results
- the protocol, interim progress and final presentation is made formally to the department
- only one student per teacher/thesis guide

There should be periodic department review of the thesis work, as per following schedule:

End of 6 months	Submission of protocol
During 2 nd yr	Mid-term presentation
6 months prior to examination	Final presentation; submission

During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently. For this purpose, provision of skills laboratories in medical colleges is mandatory.

ASSESSMENT

FORMATIVE ASSESSMENT, ie., assessment to improve learning

Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

General Principles

Internal Assessment should be frequent, cover all domains of learning and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and practical/clinical examination.

Quarterly assessment during the MD training should be based on:

- 1. Journal based / recent advances learning**
- 2. Patient based /Laboratory or Skill based learning**
- 3. Self directed learning and teaching**
- 4. Departmental and interdepartmental learning activity**
- 5. External and Outreach Activities / CMEs**

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).

SUMMATIVE ASSESSMENT, ie., assessment at the end of training

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.

The postgraduate examination shall be in three parts:

1. Thesis

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. Theory examination

The examinations shall be organized on the basis of 'Grading' or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D./ MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

There shall be four theory papers. Each paper should have 10 short essay questions (SEQ).

Paper I: Basic sciences as applied to Paediatrics

Paper II: Neonatology and community Paediatrics

Paper III: General Paediatrics including advances in Paediatrics relating to

Nutrition, Growth and Development, Immunization, Infectious disease, Genetics, Immunology, Rheumatology, Psychiatry and Behavioral Sciences, Skin, Eye, ENT, Adolescent Health, Critical Care, Accidents and Poisoning

Paper IV: Paediatric Medicine including advances in Paediatrics relating to

Neurology and Disabilities, Nephrology, Hematology, Oncology, Endocrinology, Gastroenterology and Hematology, Respiratory and Cardiovascular disorders

3. Practical/clinical and Oral/viva voce examination

Practical examination

b) Clinical Examination

300 Marks

	No. of Cases	Marks	
Long Case	1	150	15

Short Case	1	75
Newborn	1	75
<hr/>		<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.

OSCE may be used.

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

Recommended Reading:

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.

A

**Annexure I Orientation sessions for PG
students joining MD in
Paediatrics**

This could be spread over 4-5 sessions once or twice a week depending on departmental routine and feasibility.

For all PG students

Orientation to the Hospital: Various Departments and facilities available

- Communication skills: Patients and colleagues
- Literature search
- Basic research methodology
- Protocol writing and thesis

Pediatric PGs

Introducti
on to
Residency
in
Paediatric
s

- Universal precautions and appropriate disposal of hospital waste
- Management of shock
- Congestive cardiac failure
- Normal fluid and electrolyte requirement and their disorders
- Interpretation and management of disorders of acid-base balance
- Evaluation of a sick newborn
- Management of seizures, hypothermia and hypoglycemia in the newborn
- Management of seizures and status epilepticus
- Management of comatose patients
- Hospital management of severe PEM
- Acute kidney injury
- Fulminant hepatic failure
- Management of respiratory distress
- Management of acute diarrhea
- Approach to a bleeding child and its management
- Rational antibiotic therapy

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 - III**ANNEXURES I****MODEL CHECK-LIST FOR EVALUATION OF JOURNAL****REVIEW PRESENTATIONS**

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl. No	Items for observation during presentation	Poor 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:

Name of the Faculty/Observer:

Date:

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:

Name of the Unit Head:

Date:

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:

Name of the Faculty:

Date:

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 I 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				
	Complete list				
	Relevant investigations pretesting to case				
	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:

Name of the Faculty:

Date:

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					

**Annexure: VII
Postgraduate Students Appraisal Form
Pre / Para /Clinical Disciplines**

Name of the Department/Unit:

Name of the PG Student :

Period of Training : FROM.....TO.....

Sr. No.	PARTICULARS	Not Satisfactory			Satisfactory			More Than Satisfactory			Remarks
		1	2	3	4	5	6	7	8	9	
1.	Journal based / recent advances learning										
2.	Patient based /Laboratory or Skill based learning										
3.	Self directed learning and teaching										
4.	Departmental and interdepartmental activity										
5.	External and Outreach Activities / CMEs										
6.	Thesis / Research work										
7.	Log Book Maintenance										

Publications
No

Yes/

Remarks* _____

***REMARKS:** Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

SIGNATURE OF CONSULTANT

SIGNATURE OF HOD

Types of Teaching Session	Weeks			
	1 st week(hours)	2 nd week (hours)	3 rd week (hours)	4 th week (hours)
Journal Club	01	01	01	01
Seminar	01	01	01	01
Case Discussion	01	01	01	01
CPC(problem solving)			01	
Mortality meeting (Reflective learning)	01			
Integrated (Inter departmental)Teaching		02		
Pedagogy	01			
Theory class for PG			01	
OSCE				02

SECTION - IV**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 2017
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.


REGISTRAR
BLDE (Deemed to be University)
Vijayapura-586103. Karnataka