



BLDE **(DEEMED TO BE UNIVERSITY)**

**Competency Based Medical Education
(CBME)**

**Regulations and Curriculum
for Post Graduate Degree
in Emergency Medicine**

2020-21

M.D.
Emergency Medicine

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.

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Contents

Notification

Vision & Mission

Section – I Goals and Objectives

Section – II Course Description M. D. Emergency Medicine

Section – III Monitoring Learning Progress

Section – IV Medical Ethics



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SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL AND RESEARCH CENTRE
BLDE(DU)/REG/PG-Curr/2020-21/144 April 30, 2020

NOTIFICATION

Sub: Competency Based Medical Education (CBME) based 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 4th meeting Standing Committee of Academic Council of the University held on April 23, 2020.

3. On approval of the Hon'ble Vice-Chancellor vide order no.1816 dt. April 30, 2020.

The Standing Committee of the Academic Council is pleased to approve the CBME based Curriculum for Post Graduate Degree Course in Respiratory Medicine, Psychiatry and Emergency Medicine.

The 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
REGISTRAR

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

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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. Postgraduate 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.

1. 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 out comes 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 the 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 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 (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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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.

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

Curriculum of M.D. Emergency Medicine

Goals:

The goals of postgraduate training for M.D. Emergency Medicine students are to train a M.B.B.S. doctor who will be capable and competent to:

- Practice Emergency Medicine with adequate competency and skills with sound knowledge.
- Practice Emergency Medicine in ethical manner, with empathy and due care to the needy.
- Continue to update with the advances regularly.
- Treat his/her team and juniors as learners and share his/her knowledge and skills.
- Be aware of national priorities in health and serve as per need towards achieving the goals of national health policies.

Objectives:

The following objectives are laid out to achieve the goals of the course. These objectives are to be achieved by the time the candidate completes the course. The Objectives are considered under the sub headings.

- Knowledge (Cognitive domain)
- Skills (Psycho motor domain)
- Human Values, Ethical practice and Communication abilities (Affect or domain)
- Importance of golden hour and window period etc.

Knowledge:

A list of objectives related to knowledge and higher cognitive abilities that are expected to be achieved during the course are given.

At the end of the training, the candidate must be able and competent to:

- Understand and describe etiology, pathophysiology principles of diagnosis and management of common medical , surgical, pediatric emergencies and apply the same knowledge and skills in the management of patients
- Understand, describe and practice effectively the indications and methods for fluid and electrolyte replacement therapy including blood transfusion nutrition.
- Demonstrate understanding of basic sciences relevant to emergency conditions.

- Identify social, economic, environmental and emotional determinants in a given case, and take them into account during planning therapeutic measures, advice regarding the operative or non-operative management of the case and to carry out the management effectively.
- Undertake audit, use information technology tools and carry out research, both basic and clinical, with the intent of generating knowledge & spread it through publications and presentations for the benefit of scientific community and general public.
- Recognize & refer conditions outside the competency level to appropriate expertise.
- Attend, update and upgrade professional skills regularly as required by participating in instructional courses, workshops, CMEs, conferences or training programmes.
- Be a good teacher by inculcating teaching methodology and skills so as to teach students, colleagues and support staff. .
- Use evidence based medicine and effectively & advocate them in decision making.
- Be capable of managing medico-legal aspects of trauma and other non traumatic emergency conditions.
- Be effective team leaders in secondary health care facilities & team member.
- Be capable of organizing and executing effective treatment in mass casualties.
- Develop knowledge of ventilator and its setting in different conditions.

Skills

- Be a competent clinician to take proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the surgical conditions.
- Be a competent emergency physician to perform minor operative procedures. Competent in providing basic and advance life saving support services (BLS & ACLS) in emergencies and manage them, manage poly trauma, acute surgical emergencies including abdominal and thoracic emergencies
- Undertake thorough wound management including various traumatic wounds and burns.
- Mechanical ventilation
- Central venous line, central arterial line etc.

Human Values, Ethical practice and Communication abilities:

- Practice emergency medicine ethically and provide care irrespective of other considerations like caste, creed, religion etc. and social status. Should be sensitive and responsiveness towards patients' age, culture, religion, gender and disability etc.
- Be honest and maintain professional integrity, accountability, compassion and respect in all aspects of patient care.
- Be a good communicator who can explain patients in lay terms the outcome, various options of management and obtain true informed consent.
- Be able to respect patients' autonomy, confidentiality, right for information and decision making.

- Understand the limitations of his knowledge and skills and ask for help from experts and colleagues.
- Follow ethical guidelines during research in animals or human subjects.
- Be a motivated leader to bring about best in his team.
- The student should demonstrate a commitment to excellence and continuous professional development.

The course contents have been identified and categorized as essential knowledge as under.

A. SYSTEMWISE APPROACH TO EMERGENCIES

I. Cardiovascular Emergencies in Adults and Children

1. Arrhythmias
2. Congenital heart disorders
3. Contractility disorders, pump failure
4. Cardiomyopathies, congestive heart failure, acute pulmonary oedema, tamponade
5. Valvular emergencies
6. Inflammatory and infectious cardiac disorders
7. Endocarditis, myocarditis, pericarditis
8. Ischemic heart disease - Acute coronary syndromes, stable angina
9. Traumatic injuries
10. Vascular and thromboembolic disorders
11. Aortic dissection/aneurysm rupture, deep vein thrombosis, hypertensive emergencies, occlusive arterial disease, thrombophlebitis, pulmonary embolism, pulmonary hypertension

II. Dermatological Emergencies in Adults and Children

1. Inflammatory and Infectious disorders.
2. Skin manifestations of immunological disorders, systemic disorders & toxic disorders.

III. Endocrine and Metabolic Emergencies in Adults and Children

1. Acute presentation of inborn errors of metabolism.
2. Adrenal insufficiency, crisis and other adrenal emergencies.
3. Disorders of glucose metabolism.
4. Hyperosmolar hyperglycemic state, hypoglycemia, ketoacidosis.
5. Thyroid emergencies hyperthyroidism, hypothyroidism, myxedema, thyroid storm.

IV. Fluid and Electrolyte Disturbances

1. Acid-Base disorders.
2. Electrolyte disorders.
3. Volume status and fluid balance.

V. Ear, Nose, Throat, Oral and Neck Emergencies in Adults and Children

1. Bleeding.
2. Complications of tumors.
3. Airway obstruction, bleeding.
4. Foreign bodies.
5. Inflammatory and Infectious disorders.
6. Angioedema, epiglottitis, laryngitis, tonsillar abscess.
7. Traumatic problems.
8. Post-operative complications.

VI. Gastrointestinal Emergencies in Adults and Children.

1. Inflammatory and Infectious disorder –appendicitis, cholecystitis, cholangitis, diverticulitis.
2. Complications of inflammatory bowel diseases, gastritis, gastroenteritis, Pancreatitis, peritonitis.
3. Traumatic and mechanical problems- foreign bodies, hernia strangulation, intestinal obstruction and occlusion.
4. Acute hepatitis, Cirrhosis of liver and complication.
5. Vascular disorders: Ischemia and Bleeding.
6. Ischemic colitis, upper and lower gastrointestinal bleeding, mesenteric ischemia.

VII. Gynaecological and Obstetric Emergencies

1. Obstetric emergencies- Hypertension, diabetes, anemia, thyroid disorders, ectopic pregnancy, emergency delivery, eclampsia ,HELLP syndrome during pregnancy, hyperemesis gravidarum, placenta praevia, Abruption placentae.
2. Post-partum hemorrhage.
3. Traumatic and related problems.
4. Ovarian torsion.
5. Vaginal bleeding.
6. Cardiac arrest in pregnancy- resuscitation, peri-mortem caesarian section.

VIII. Haematology and Oncology Emergencies in Adults and Children

1. Anemias.
2. Complications of lymphomas and leukaemias.
3. Congenital disorders- Haemophilias and Von Willebrand's disease, hereditary hemolytic, anemias, sickle cell disease.
4. Inflammatory and Infectious disorders.
5. Neutropenic fever, infections in immuno-compromised patients.
6. Vascular disorders: Ischemia and Bleeding.
7. Acquired bleeding disorders (coagulation factor deficiency, disseminated intravascular coagulation), drug induced bleeding (anticoagulants, antiplatelet

agents, fibrinolytics), idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic purpura.

8. Transfusion reactions, Massive transfusion.

IX. Immunological Emergencies in Adults and Children

1. Allergies and anaphylactic reactions.
2. Inflammatory and Infectious disorders.
3. Acute complications of vacuities.

X. Infectious Diseases and Sepsis in Adults and Children

1. Common viral and bacterial infections.
2. Food and water-borne infectious diseases.
3. HIV infection and AIDS.
4. Common tropical diseases.
5. Parasitic infestations.
6. Rabies.
7. Sepsis and septic shock.
8. Streptococcal toxic shock syndrome
9. Tetanus

XI. Musculo-Skeletal Emergencies

1. Dislocated hip, osteogenesis imperfecta
2. Inflammatory and Infectious disorders
3. Cellulitis, complications of systemic rheumatic diseases, necrotizing fasciitis, osteomyelitis, soft tissue infections
4. Complications of osteoporosis and other systemic diseases
5. Traumatic and degenerative disorders
6. Common fractures and dislocations, compartment syndromes, crush syndrome, osteoarthritis, rhabdomyolysis, soft tissue trauma

XII. Neurological Emergencies in Adults and Children

1. Inflammatory and Infectious disorders - brain abscess, meningitis, encephalitis, febrile seizures in children, Guillain-Barrè syndrome, meningitis, peripheral facial palsy (Bell's palsy), temporal arteritis
2. Traumatic and related problems - Complications of CNS devices, spinal cord syndromes, peripheral nerve trauma and entrapment, traumatic brain injury
3. Tumors - common presentations and acute complications of neurological a metastatic tumors
4. Vascular disorders: Ischemia and Bleeding Carotid artery dissection, stroke, subarachnoid hemorrhage, subdural and extramural hematoma, transient ischemic attack, venous sinus thrombosis
5. Other problems - Acute complications of chronic neurological conditions (e.g. myasthenic crisis, multiple sclerosis), acute peripheral neuropathies, seizures and Status epileptic's

XIII. Ophthalmic Emergencies in Adults and Children

1. Inflammatory and Infectious disorders: conjunctivitis, dacryocystitis, endophthalmitis, iritis, keratitis, orbital and Periorbital cellulitis, uveitis
2. Traumatic and related problems: Foreign body in the eye, ocular injuries,
3. Vascular disorders: Ischemia and Bleeding -retinal artery and vein occlusion, vitreous hemorrhage
4. Acute glaucoma, retinal detachment

XIV. Pulmonary Emergencies in Adults and Children

1. Congenital -cystic fibrosis.
2. Inflammatory and Infectious disorder -asthma, bronchitis, bronchiolitis, pneumonia, empyema, COPD exacerbation, lung abscess, pleurisy and pleural effusion, pulmonary fibrosis, tuberculosis.
3. Traumatic and related problem foreign body inhalation, haemothorax, tension pneumothorax, Pneumomediastinum.
4. Tumors - common complications and acute complications of pulmonary and metastatic tumors.
5. Vascular disorders pulmonary embolism.
6. Acute lung injury, atelectasis, ARDS, spontaneous pneumothorax, Hemoptysis.

XV. Psychiatric and Behaviour Disorders

1. Behavior disorders.
2. Affective disorders, confusion and consciousness disturbances, intelligence disturbances, memory disorders, perception disorders, psycho-motor disturbances, thinking disturbances.
3. Acute psychosis, anorexia and bulimia complications, anxiety and panic attacks, conversion disorders, deliberate self-harm and suicide attempt.
4. Depressive illness, personality disorders, substance, drug and alcohol abuse.

XVI. Renal And Urological Emergencies in Adults and Children

1. Metabolic disorders- Acute kidney Injury, uremia, hemolytic uremic syndrome.
2. Traumatic and related problems.
3. Urinary retention, testicular torsion.
4. Vascular disorders: Ischemia and Bleeding.
5. Comorbidities in dialysis and renal transplanted patients.
6. Complications of urological procedures and devices.

XVII. Trauma in Adults and Children

1. Origin of trauma: Thermal Injury, Chemical injury, Ionizing radiation Injury blunt trauma, penetrating trauma.

2. Anatomical location of trauma: Head and neck, maxillo-facial, thorax, abdomen, pelvis, spine, extremities Polytrauma patient.
3. Trauma in specific populations: children, elderly, pregnant women.

B. COMMON PRESENTING SYMPTOMS

I. Acute Abdominal Pain

1. Gastrointestinal causes-appendicitis, cholecystitis, cholangitis, acute pancreatitis, complications of hernias, diverticulitis, hepatitis, hiatus hernia, inflammatory bowel disease, intestinal obstruction, ischemic colitis, mesenteric ischemia, peptic ulcer, peritonitis, hollow viscus perforation.
2. Cardiac/vascular causes - acute myocardial infarction, aortic dissection, aortic aneurysm rupture.
3. Dermatological causes - herpes zoster, other local inflammatory & infective causes.
4. Endocrine and metabolic causes- Addison's disease, diabetic ketoacidosis, other metabolic acidosis, porphyria.
5. Gynecological and Obstetric causes-complications of pregnancy, ectopic pregnancy, pelvic inflammatory disease, rupture of ovarian cyst, ovarian torsion.
6. Hematological causes- acute porphyria crisis, Familial Mediterranean fever, sickle cell crisis.
7. Musculo-skeletal causes referred pain from thoraco-lumbar spine.
8. Renal and Genitourinary causes- pyelonephritis, renal stones.
9. Respiratory causes- pneumonia, pleurisy.
10. Toxicology – poisoning.
11. Trauma- Abdominal.

II. Altered Behaviour and Agitation

1. Neurological causes- cerebral space-occupying lesions, dementia, hydrocephalus, intracranial hypertension, CNS infections.
2. Toxicology- alcohol and drug abuse, poisoning.
3. Endocrine and metabolic causes- hypoglycemia, hyperglycemia, electrolyte imbalance, hyperthermia, hypoxemia.
4. Cardiac/Vascular causes- hypertension, vasculitis.
5. Psychiatric causes- acute psychosis, depression.

III. Altered Level of Consciousness in Adults and Children

1. Neurological causes -cerebral tumor, epilepsy and status epilepticus, meningitis, encephalitis, stroke, subarachnoid hemorrhage, subdural and extradural hematoma, traumatic brain injury.
2. Cardiovascular causes- hypoperfusion states, shock.
3. Endocrine and metabolic causes-electrolyte imbalances, hepatic coma, hypercapnia, hypothermia, hypoxia, hypoglycemia/ hyperglycemia, uremia.

4. Gynecological and Obstetric causes –eclampsia.
5. Infectious causes - septic shock.
6. Psychiatric causes - Conversion syndrome.
7. Respiratory causes - Respiratory failure.
8. Toxicology - Alcohol intoxication, carbon-monoxide poisoning, narcotic and sedative poisoning, other substances.

IV. Back Pain

1. Musculo-Skeletal causes - Fractures, intervertebral disc strain and degeneration, strain of muscles, ligaments and tendons, spinal stenosis, arthritides, arthrosis.
2. Cardiovascular causes- aortic aneurysm, aortic dissection.
3. Infectious causes- osteomyelitis, discitis, pyelonephritis, prostatitis.
4. Endocrine and metabolic causes- Paget's disease.
5. Gastrointestinal causes- pancreatitis, cholecystitis.
6. Dermatological causes- herpes zoster.
7. Gynecological causes- endometriosis, pelvic inflammatory disease.
8. Hematological and Oncological causes- abdominal or vertebral tumors.
9. Neurological cause- subarachnoid hemorrhage.
10. Renal and Genitourinary causes- renal abscess, renal calculi.
11. Trauma.

V. Bleeding (Non Traumatic)

1. Ear, Nose, Throat causes Ear bleeding (otitis, trauma, tumors), epistaxis.
2. Gastrointestinal causes Hematemesis and melena (acute gastritis, gastroduodenal ulcer, Mallory Weiss syndrome, esophageal varices) rectal bleeding (acute diverticulitis, hemorrhoids, inflammatory bowel disease, tumors).
3. Gynecological and Obstetric causes Menorrhagia/metrorrhagia (abortion, abruptio placentae, tumors).
4. Renal and Genitourinary causes Hematuria (pyelitis, tumors, urolithiasis)
5. Respiratory causes Hemoptysis (bronchiectasis, pneumonia, tumors, tuberculosis).

VI. Cardiac Arrest

1. Cardiac arrest treatable with defibrillation Ventricular fibrillation, pulseless ventricular tachycardia.
2. Pulseless electric activity Acidosis, hypoxia, hypothermia, hypo/hyperkalemia, hypocalcaemia, hypo/hyperglycemia, hypovolemia, tension pneumothorax, cardiac tamponade, myocardial infarction, pulmonary embolism, poisoning Asystole.

VII. Chest Pain

1. Cardiac/vascular causes Acute coronary syndrome, aortic dissection, arrhythmias, pericarditis, pulmonary embolism.

2. Respiratory causes Pneumonia, pneumomediastinum, pneumothorax (especially tension pneumothorax), pleurisy.
3. Gastrointestinal causes -Gastro-esophageal reflux, esophageal rupture, esophageal spasm.
4. Musculo-Skeletal causes costosternal injury, costochondritis, intercostal muscle pain, pain referred from thoracic spine.
5. Psychiatric causes - anxiety, panic attack.
6. Dermatological causes - herpes zoster.

VIII. Crying Baby

1. Infections: herpes stomatitis, meningitis, osteomyelitis, urinary tract infection testicular torsion, trauma, teeth problems.
2. Cardiac: arrhythmias, congestive heart failure.
3. Reaction to milk, reaction to medications, reflux.
4. Immunization and allergic reactions, insect bites.
5. Eye corneal abrasions, glaucoma, ocular foreign bodies.
6. Some gastrointestinal causes: hernia, intussusception, volvulus.

IX. Diarrhoea

1. Infectious causes: AIDS, bacterial enteritis, viral, parasites, food-borne, toxins
2. Toxicological causes: drug related, poisoning (including heavy metals, mushrooms, organophosphates, rat poison, and seafood).
3. Endocrine and metabolic causes: carcinoids, diabetic neuropathy.
4. Gastrointestinal causes: diverticulitis, dumping syndrome, ischemic colitis, inflammatory bowel disease, enteritis due to radiation or chemotherapy.
5. Hematological and Oncological causes: toxicity due to cytostatic therapies.
6. Immunology: food allergy.
7. Psychiatric disorders: diarrhea “factitia”.

X. Dyspnoea

1. Respiratory Causes: airway obstruction, broncho-alveolar obstruction, parenchymal diseases, pulmonary shunt, pleural effusion, atelectasis, pneumothorax.
2. Cardiac/vascular causes: cardiac decompensation, cardiac tamponade, pulmonary embolism.
3. Ear, Nose, Throat causes: epiglottitis, croup and pseudocroup.
4. Fluid & Electrolyte disorders: hypovolemia, shock, anemia.
5. Gastrointestinal causes: hiatus hernia.
6. Immunological causes: vasculitis.
7. Metabolic causes: metabolic acidosis, uremia.
8. Neurological causes: myasthenia gravis, GuillainBarrè syndrome, amyotrophic lateral sclerosis.
9. Psychiatric disorders: conversion syndrome.
10. Toxicology: CO intoxication, cyanide intoxication.

11. Trauma: flail chest, lung contusion, traumatic pneumothorax, haemothorax.

XI. Fever and Endogenous increase in Body Temperature

1. Systemic infectious causes: sepsis and septic shock, parasitosis, flu-like syndrome.
2. Organ-specific infectious causes: endocarditis, myocarditis, pharyngitis, tonsillitis, abscesses, otitis, cholecystitis and cholangitis, meningitis, encephalitis.
3. Non-infectious causes: Lyell syndrome, Stephen-Johnson syndrome, thyroid storm, pancreatitis, inflammatory bowel disease, pelvic inflammatory disease, toxic shock.
4. Hematological and Oncological causes: leukemia and lymphomas, solid tumors.
5. Immunological causes: arteritis, arthritis, lupus, sarcoidosis.
6. Musculo-Skeletal causes: osteomyelitis, fasciitis and cellulitis.
7. Neurological causes: cerebral hemorrhage.
8. Psychiatric causes: factitious fever.
9. Renal and Genitourinary causes: pyelonephritis, prostatitis
10. Toxicology.

XII. Headache in Adults and Children

1. Vascular causes: migraine, cluster headache, tension headache, cerebral hemorrhage, hypertensive encephalopathy, ischemic stroke.
2. Hematological and Oncological causes: brain tumors.
3. Immunological causes: temporal arteritis, vasculitis.
4. Infectious causes: abscesses, dental infections, encephalitis, mastoiditis, meningitis, sinusitis.
5. Musculo-Skeletal causes: cervical spine diseases, temporomandibular joint syndrome.
6. Neurological causes: trigeminal neuralgia.
7. Ophthalmological causes: optic neuritis, acute glaucoma.
8. Toxicology: alcohol, analgesic abuse, calcium channel blockers, glutamate, nitrates, opioids and caffeine withdrawal.
9. Trauma: head trauma.

XIII. Jaundice

1. Gastrointestinal causes: cholangitis, hepatic failure, pancreatic head tumor, pancreatitis, obstructive cholestasis.
2. Cardiac/Vascular causes: chronic cardiac decompensation.
3. Hematological and Oncological causes: hemolytic anemias, thrombotic thrombocytopenic purpura, hemolytic uremic syndrome, disseminated intravascular coagulation.
4. Infectious causes: malaria, leptospirosis, infective endocarditis.
5. Gynecological causes: HELLP syndrome.

6. Toxicology: drug induced, hemolytic anemias, snake venom.

XIV. Pain in Arms

1. Cardiac/Vascular causes: aortic dissection, deep venous thromboembolism, ischemic heart disease.
2. Musculo-skeletal causes: peri-arthritis, cervical spine arthrosis.
3. Trauma.

XV. Pain in Legs

1. Cardiac/Vascular causes: acute ischemia, arteritis, deep venous thrombosis, superficial thrombophlebitis.
2. Immunological causes: polymyositis.
3. Infectious causes: arthritis, cellulites, necrotizing fasciitis, osteomyelitis.
4. Musculo-Skeletal causes: sciatalgia.
5. Neurological causes: sciatica.
6. Nervous system causes: peripheral nerve compression.
7. Trauma.

XVI. Palpitations

1. Cardiac/Vascular causes: brady-arrhythmias (including sinus bradycardia and AV blocks), extrasystoles, tachy-arrhythmias (including atrial fibrillation, sinus tachycardia, supraventricular tachycardia, ventricular tachycardia).
2. Endocrine and metabolic causes: Thyrotoxicosis, phaeochromocytoma.
3. Toxicology – Drugs.

XVII. Seizures in Adults and Children

1. Neurological causes.
2. Generalized epilepsy, partial complex or focal epilepsy, status epilepticus.
3. Cardiac/Vascular causes: hypertensive encephalopathy, syncope, dysrhythmias, migraines.
4. Endocrine and metabolic causes: metabolic seizures.
5. Gynecological causes: eclampsia.
6. Infective causes: febrile seizures in children.
7. Psychiatric causes: narcolepsy, pseudo-seizures.
8. Respiratory causes: respiratory arrest.
9. Toxicology: drugs/toxins.

XVIII. Shock in Adults and Children

1. Anaphylactic.
2. Cardiogenic.
3. Hypovolemic.
4. Obstructive.
5. Cardiac/Vascular causes - cardiogenic shock, arrhythmias.
6. Endocrine and metabolic causes - Addison's crisis.

7. Fluid and Electrolyte disorders - hypovolemic shock.
8. Gastrointestinal causes - vomiting, diarrhea.
9. Gynecological causes - toxic shock.
10. Immunological causes - anaphylactic shock.
11. Infectious causes - septic shock.
12. Neurological causes - neurogenic shock.
13. Trauma - hypovolemic shock, neurogenic shock.

XIX. Skin Manifestations in Adults and Children

1. Dermatological causes - eczema, psoriasis, skin tumors.
2. Immunological causes - vasculitides, urticaria, Stevens-Johnson syndrome, Lyell syndrome (TENS).
3. Infectious causes - viral exanthemata, meningococemia, herpes zoster/simplex, abscesses of the skin.
4. Psychiatric causes - Self-inflicted skin lesions or from abuse.
5. Toxicology.
6. Hematological and Oncological causes- idiopathic thrombocytopenic purpura, thrombotic thrombocytopenic purpura.

XX. Syncope

1. Cardiac/vascular causes: aortic dissection, cardiac arrhythmias (including brady-tachy syndrome, Brugada syndrome, drug overdose, long QT syndrome, sick sinus syndrome, torsades de pointes, ventricular tachycardia), other causes of hypoperfusion (including ischemia, valvular, hemorrhage, obstruction: e.g. aortic stenosis, pulmonary embolism, tamponade)orthostatic hypotension.
2. Endocrine and metabolic causes: Addison's disease.
3. Fluid and Electrolyte disorders: hypovolemia.
4. Gastrointestinal causes - vomiting, diarrhea.
5. Neurological causes - autonomic nervous system disorder, epilepsy, vasovagal reflex.
6. Toxicology - alcoholic or drug consumption.

XXI. Urinary Symptoms (Dysuria, Oligo/Anuria, Polyuria)

1. Renal and Genitourinary causes: acute renal failure, acute urinary retention, cystitis and pyelonephritis, prostatitis.
2. Cardiac/Vascular causes: cardiac decompensation.
3. Endocrine and metabolic causes - diabetes mellitus, diabetes insipidus
4. Fluid and Electrolyte disorders: Hypovolemia.

XXII. Vertigo and Dizziness

1. Ear and Labyrinth causes: benign postural vertigo, Meniere's disease, otitis, vestibular neuritis, viral labyrinthitis.
2. Cardiac/Vascular causes: arrhythmias, hypotension.

3. Endocrine and metabolic causes: hypoglycemia.
4. Hematological and Oncological causes: anemias.
5. Nervous system causes: acoustic neuroma, bulbar or cerebellar lesions, multiple sclerosis, temporal lobe epilepsy.
6. Psychiatric causes: anxiety.
7. Respiratory causes: hypoxia.
8. Toxicology: alcohol abuse, drugs and substances.

XXIII. Vomiting

1. Gastrointestinal causes: appendicitis, cholecystitis, gastroparesis, gastric obstruction and retention, gastroenteritis, hepatitis, pancreatitis, pyloric stenosis, small bowel obstructions.
2. Cardiac/Vascular causes - myocardial ischemia.
3. Ear, Nose, Throat causes, vestibular disorders.
4. Endocrine and metabolic causes -diabetic ketoacidosis, hypercalcemia
5. Fluid and Electrolyte disorders – hypovolemia.
6. Gynecological and Obstetric causes – pregnancy.
7. Infectious causes -sepsis, meningitis.
8. Neurological causes - cerebral edema or hemorrhage, hydrocephalus, intracranial space occupying lesions.
9. Ophthalmological causes - acute glaucoma.
10. Psychiatric causes - eating disorders.
11. Renal and Genitourinary causes - renal calculi, uremia.
12. Toxicology.

C. SPECIFIC ASPECTS OF EMERGENCY MEDICINE

I. Abuse and Assault in Adults and Children

1. Abuse in the elderly and impaired.
2. Child abuse and neglect.
3. Intimate partner violence and abuse.
4. Sexual assault.
5. Patient safety in Emergency Medicine.
6. Violence management and prevention in the Emergency Department.

II. Analgesia and Sedation in Adults and Children

1. Pain transmission (anatomy, physiology, pharmacology).
2. Pain assessment.
3. Pharmacology of sedative and pain relieving drugs.
4. Psychological and social aspects of pain in pediatric, adult and elderly patients.

III. Disaster Medicine

1. Disaster preparedness.

2. Major incident planning/procedures/practice.
3. Disaster response.
4. Mass gatherings.
5. Specific medical topics (triage, bioterrorism, blast and crush injuries, chemical agents, radiation injuries).
6. Debriefing and mitigation.

IV. Environmental Accidents in Adults and Children

1. Electricity (electrical and lightning injuries).
2. Flora and Fauna (injuries from exposure, bites and stings).
3. High-altitude (medical problems).
4. NBCR (nuclear, biological, chemical and radiological:., decontamination, specific aspects).
5. Temperature (heat and cold related emergencies).
6. Travel medicine.
7. Water (near-drowning, dysbarism and complications of diving, marine fauna).

V. Problems in the Elderly

1. Atypical presentations (e.g. abdominal pain, infections, myocardial infarction).
2. Delirium.
3. Dementia.
4. Falls (causes & investigations).
5. Immobility.
6. Multiple pathology and multiple therapies.
7. Self-dependency.
8. Trauma & co-morbidity.

VI. Toxicology in Adults and Children

1. General principles of toxicology and management of poisoned patients.
2. Principles of drug interactions.
3. Specific aspects of poisoning
 - a) Drugs (including paracetamol, amphetamine, anticholinergics, anticonvulsants, antidepressants, antihypertensives, benzodiazepines, digitalis, monoamine oxidase inhibitors, neuroleptics).
 - b) Industrial, chemicals.
 - c) Plants & mushrooms.
 - d) Alcohol abuse and alcohols poisoning.
 - e) Drugs of abuse.
4. Organization and information (e.g. poison centers, databases).

VII. Pre-Hospital Care

1. Emergency Medical Services organization (administration, structure, staffing, resources).
2. Medical transport (including neonates and children, air transport).

3. Paramedic training and function.
4. Safety at the scene.
5. Collaboration with other emergency services (e.g. police, fire department).

VIII. Psycho-Social Problems

1. Social wellbeing of specific populations
2. Patients with social issues
3. Frequent visitors
4. Social care following discharge

D. CORE CLINICAL PROCEDURES AND SKILLS

I. CPR Skills

1. Cardio-pulmonary resuscitation procedures in a timely and effective manner according to the current AHA-ECC guidelines for adults and children.
2. BLS, ACLS Certification Mandatory.

II. Airway Management Skills

1. Open and maintain the airway in the emergency setting (insertion of oropharyngeal or nasopharyngeal airway).
2. Endotracheal intubation.
3. Alternative airway techniques in the emergency setting (e.g. laryngeal mask insertion, surgical airway).
4. Difficult airway management algorithm.
5. Use of rapid sequence intubation in the emergency setting.

III. Analgesia and Sedation Skills

1. Assessment of the level of pain and sedation.
2. Monitor vital signs and potential side effects during pain management.
3. Provide procedural sedation and analgesia including conscious sedation (including testing of life support equipment).
4. Use of appropriate local, topical and regional anaesthesia techniques.

IV. Breathing and Ventilation Management Skills

1. Assessment of breathing and ventilation.
2. Oxygen therapy.
3. Interpretation of blood gas analysis, pulse oximetry and capnography.
4. Bag-mask-valve ventilation.
5. Thoracocentesis.
6. Chest tube insertion, connection to under-water drainage and assessment of functioning.
7. Non-invasive ventilation techniques.
8. Invasive ventilation techniques.

V. Circulatory Support and Cardiac Skills and Procedures

1. Administration of fluids including blood and substitutes.
2. Monitoring of ECG and the circulation.
3. Defibrillation and pacing (e.g. cardioversion, transcutaneous pacing).
4. Emergency pericardiocentesis .
5. ED thoracotomy.
6. Vascular access (peripheral venous, arterial, and central venous catheterization, intraosseous access).

VI. Diagnostic Procedures and Skills

1. Interpretation of ECG.
2. Appropriate request and interpretation of laboratory investigations (blood chemistry, blood gases, respiratory function testing and biological markers).
3. Appropriate request and interpretation of imaging (e.g. x-rays, ultrasound, CT/MRI).
4. Performance of focused sonographic assessment.

VII. ENT Skills and Procedures

1. Anterior rhinoscopy.
2. Insertion of nasal pack.
3. Inspection of oropharynx and larynx.
4. Otoscopy.
5. Removal of foreign body if airway is compromised.
6. Insertion and replacement of tracheostomy tube.

VIII. Gastrointestinal Procedures

1. Insertion of nasogastric tube.
2. Gastric lavage.
3. Peritoneal lavage.
4. Abdominal paracentesis.
5. Measurement of abdominal pressure.
6. Proctoscopy.

IX. Genitourinary Procedures

1. Insertion of indwelling urethral catheter.
2. Suprapubic cystostomy.
3. Testicular torsion reduction.
4. Evaluation of patency of urethral catheter.
5. Management of paraphimosis.
6. Dorsal slit operation.

X. Hygiene Skills and Procedures

1. Decontamination of patient and the environment.
2. Patient isolation and staff protection.

3. Hand hygiene and surgical hand scrub.
4. Aseptic technique of performing procedures.

XI. Musculoskeletal Techniques

1. Aseptic joint aspiration.
2. Fracture immobilization.
3. Reduction of joint dislocation.
4. Log roll and spine immobilization.
5. Splinting (plasters, braces, slings, tapes and other bandages).
6. Management of compartment syndrome.
7. Fasciotomy, escharotomy.

XII. Neurological Skills and Procedures

1. Evaluation of consciousness.
2. Evaluation of Stroke.
3. Fundoscopy.
4. Lumbar puncture.
5. Interpretation of neuro-imaging.

XIII. Obstetric and Gynaecological Skills and Procedures

1. Emergency delivery.
2. Vaginal examination using speculum.
3. Assessment of the sexual assault victim.
4. Peri-mortem caesarian section.

XIV. Ophthalmic Skills and Procedures

1. Removal of foreign body from the eye.
2. Fundus examination.
3. Slit lamp use.
4. Lateral canthotomy.

XV. Temperature Control Procedures

1. Measuring and monitoring of body temperature.
2. Cooling techniques (evaporative cooling, ice water or slush immersion).
3. Internal cooling methods.
4. Warming techniques.
5. Monitoring heat stroke patients.
6. Treatment and prevention of hyper- and hypothermia.

XVI. Transportation of the Critically Ill Patient

1. Telecommunication and telemedicine procedures
2. Preparation of the EMS vehicle
3. Specific aspects of monitoring and treatment during transportation

XVII. General Surgical Skills

1. Abscess incision and drainage.
2. Aseptic techniques.
3. Treatment of lacerations and soft tissue injuries.
4. Wound irrigation and wound closure.
5. Wound debridement.
6. Minor amputations.
7. Minor surgical procedures.
8. Abdominal hernia reduction.
9. Resuscitation and Management of burns patient including dressing burns patient.
10. ATLS Certification is mandatory.

Teaching and Learning Activities

A candidate pursuing the course should work in the institution as a full time student. No candidate should be permitted to run a clinic/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself/herself from work without valid reasons.

A list of teaching and learning activities designed to facilitate students acquired essential knowledge and skills outlined is given below:

Lectures:

Lectures should be employed for teaching certain topics. Lectures may be didactic or integrated.

Didactic Lectures:

Recommended for selected common topics for post graduate students of all specialties.

Integrated Lectures and group discussions:

These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes mellitus, thyroid disorders etc.

Attendance and participation of Orientation programme and workshop regarding research methodology, literature search, synopsis and dissertation writing, biostatistics and basics of teaching skills, research ethics and other topics of common interest is compulsory.

Journal Club:

Recommended to be held once a week. All the post graduate students are expected to attend and actively participate in discussion and enter in the Log Book relevant details. Further, every candidate must make a presentation from the allotted journal(s) selected articles at least four times a year. The presentations would be evaluated using checklists. (See checklists in section IV). A time table with names of the student and the moderator should be announced well in advance.

Subject Seminar/Clinical seminar:

Recommended to be held once a week. All the Post graduate students are expected to attend and actively participate in discussion and enter in the Log Book relevant details.

Further, every candidate must present on selected topics at least four times a year. The presentations would be evaluated using checklists (See checklist in Section IV). A timetable for the subject with names of the student and the moderator should be scheduled well in advance.

Clinical case discussions:

Case presentations may be held weekly. Cases can be clinically interesting cases or problem based case discussions. Spotters and short case discussions can be conducted.

Clinico Pathological Conference:

Recommended at regular intervals for all post graduate students. Presentation should be done by rotation. If cases are not available due to lack of clinical postmortems, it could be supplemented by published CPC.

Death review meetings:

Death review meetings should be held regularly once a month for objective discussion on the deaths. It is an important method of reflective learning. It improves patient care and system of service.

Group discussions:

Group discussion is a good method of learning. It can be adopted in problem based case discussions, decision making and plan for complex situations. It trains the students in leadership skills, analysis of situation and problem solving approach.

Interdepartmental Meetings/Integrated teaching:

Interdepartmental meetings should be held mainly with pathology, radiodiagnosis, anesthesiology or any other relevant departments at regular intervals. Interesting cases should be discussed and relevance of recent advances can be discussed.

Radiology:

Adequate exposure to conventional radiology and training in modern imaging like Ultrasound, Doppler, CT scan MRI and angiography should be planned and done.

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.

Teaching Skills:

Post graduate students must teach under graduate students (Eg. medical, nursing) by taking demonstrations, bed side clinics, tutorials, lectures etc. Assessment is made using a checklist by surgery faculty as well students. (See model check in Section IV). Record of their participation should be entered in Log book. Training of post graduate students in Educational Science and Technology is recommended.

Guest lecturers:

Guest lecture by eminent personalities, superspecialties, administrators and specialists in the concerned field should be arranged regularly.

Continuing Medical Education Programmes & Workshops:

Recommended that at least 2 state level CME programmes and workshops should be attended by each student in 3 years.

Conferences:

Attending conferences is compulsory. One state level conference and one national conference should be attended in 3 years.

Please note:

As per recent MCI guidelines every post graduate is required to present a poster, present oral presentation in national/state conference. He/she is also required to present one research publication which should be published/accepted for publication/sent for publication so as to be eligible for appearing final university examination. The guide is required to guide regarding these presentations.

Rotation and posting in other departments:

The listed knowledge and skills are to be learnt over a period of 3 years. The process is a continuous one. However the recommended period and timing of training in basic subjects, allied departments and specialty departments is given below. Basic Science Basic science should be an essential part of training. It should be done as concurrent studies during the 1st year of training. At least two hours daily may be in the first six months of the course. In the first year, during the morning session, time is spent in the parent department. In the afternoons basic science teaching relevant to emergency medicine can be done in the respective departments. Topics for study include anatomy, physiology, pathology, microbiology, pharmacology, anesthesia and radiology. Radiology: concurrent study. Adequate exposure to modern imaging modalities like ultrasound, CT, MRI and angiography.

Allied Specialty Training Postings to other specialty departments and duration of postings are as under scheduled in second year.

Department	Duration in weeks
Neuro Surgery and SICU	4
ICCU and MICU	4
PICU	2
OBG	2
Total	3 Months

Dissertation:

Every candidate pursuing MD 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 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 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. Every candidate shall submit to the Registrar (Academic) of the Deemed to be University in the prescribed form, a synopsis containing particulars of proposed dissertation work within six months from the date of commencement of the course, on or before the dates notified by the Deemed to be University. The synopsis shall be sent through proper channel. Such synopsis will be reviewed and the dissertation topic will be registered by the Deemed to be University. No change in the dissertation topic or guide shall be made without prior approval of the Deemed to be University.

The dissertation should be written under the following headings:

1. Introduction
2. Aims or Objectives of study
3. Review of Literature
4. Material and Methods
5. Results
6. Discussion
7. Conclusion
8. Summarys
9. References
10. Tables
11. Annexures

The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, 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. 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 Deemed to be University. The dissertation shall be valued by examiners appointed by the Deemed to be University. Approval of dissertation work is an essential precondition for a candidate to appear in the Deemed to be University examination.

G. Monitoring the Learning Progress:

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

The learning outcomes to be assessed should include:

1. Personal attitudes,
2. Acquisition of knowledge,
3. Clinical and operative skills,
4. Teaching skills and
5. Dissertation.

1. Personal Attitudes:

The essential items are:

- a) Caring attitudes.
- b) Initiative.
- c) Organizational ability.
- d) Potential to cope with stressful situations and undertake responsibility.
- e) Trust worthiness and reliability.
- f) To understand and communicate intelligibly with patients and others.
- g) To behave in a manner that establishes professional relationships with patients and colleagues.
- h) Ability to work in team.
- i) A critical enquiring approach to the acquisition of knowledge.

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

2. Acquisition of Knowledge:

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

- a) **Journal Review Meeting (Journal Club):** The ability to do literature search, in-depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist
- b) **Seminars / Symposia:** The topics should be assigned to the student well in advance to facilitate detailed 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
- c) **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.
- d) **Audit:** Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

3. Clinical skills:

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

4. Teaching skills:

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

5. Dissertation in the Department:

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

6. Periodic tests:

The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months

before the final examination. The tests may include written papers, practical / clinical and viva voce.

7. Work diary / Log Book:

Every candidate shall maintain a work diary 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, if any conducted by the candidate. 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 program of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

8. Records:

Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the Deemed to be University or MCI. Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counselled 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.

H. Scheme of Examination:

THEORY - **400 marks**

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions, each question carrying 20 marks and 6 short 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 – Physiology, Biochemistry, Pathology, and Pharmacology as applied to emergency medicine. General Emergency Medicine concepts – CPR, Resuscitation, Pre-hospital systems, Disaster medicine, Blood transfusion, Shock, Multi-organ failure

Paper II - Cardiovascular, Respiratory, Gastrointestinal, Neurological, Nephrology, Endocrine and metabolic emergencies, and other medical emergencies including emergencies due to infectious diseases.

Paper III – Obstetric and gynecological emergencies, surgical emergencies including Trauma, Acute pain management including procedural sedation.

Paper IV - Pediatric, Toxicological, Ophthalmic, Oto-rhino-laryngological, Psychiatric, and Dermatological emergencies and recent advances in emergency medicine

PRACTICALS: **Total 400 marks**

Template for Practical Examination of Final Year MD Emergency Medicine candidates

Clinical cases **300 marks**

Long cases 4, each carrying 50 marks

Short cases 4, each carrying 25 marks

Viva **100 marks**

1. Skill stations and Spotters **60 marks**

- a) USG skills
- b) Airway station /Megacode (ACLS)
- c) Breaking bad news
- d) Toxicology
- e) Radiology, ECG, and ABG
- f) Images from ENT, Ophthalmology, Dermatology

2. Pedagogy **20 marks**

3. Candidates Aptitude Assessment **20 marks**

Recommended books and Journals

Text books:

1. Tintinallis Emergency Medicine- Comprehensive study guide, Judith E .Tintinallis, 9th edition , MC Graw Hill
2. Rosen's Emergency Medicine: Concepts and Clinical Practice ,9th edition, by Ron M. Walls, Robert S. Hockberger, Marianne Gausche-Hill, Katherine Bakes, Jill Marjorie Baren, Timothy B. Erickson, Andy S. Jagoda, Amy H. Kaji, Michael VanRooyen, and Richard D. Zane., Elsevier
3. Robert and Hedge clinical Procedures in Emergency Medicine, Robert S Custalow Thomsen, 6th edition , Elsevier
4. Goldfrank's Toxicologic Emergencies, 11th ed Lewis S. Nelson, Mary Ann Howland, Neal A. Lewin, Silas W. Smith, Lewis R. Goldfrank, Robert S. Hoffman.
5. Atlas of Emergency Medicine, Keith Stone , 8th ed ,Mc Graw Hill
6. Ma and Matters Emergency Ultrasound, 3rd ed , O. John Ma , James R .Mateer, Robert F, Reardon, Scott A . Joing
7. Clinical Application of Mechanical Ventilation 4th ed, David W. Chang
8. Pilbeam's Mechanical Ventilation Physiological and Clinical Applications , 6th Ed, Cairo, J. M.
9. An introduction to electrocardiography 8th ed, by Leo Schamroth
10. Reichman's Emergency Medicine Procedures, 3rd ed , Eric F. Reichman
11. Simon's Emergency Orthopedics, 8th ed Scott C. Sherman
12. Hagberg and Benumof's airway management 4th ed, Carin A Hagberg; Carlos A Artime; Michael F Aziz.
13. Irwin and Rippe's Intensive Care Medicine, 7th ed. Richard S. Irwin, M.D., F.C.C.P., and James M. Rippe, M.D. Philadelphia, Lippincott Williams & Wilkins,
14. Marino's The ICU Book, 4th ed Paul L. Marino Published By: Lippincott Williams & Wilkins
15. Rapid Interpretation Of ECG , Dale Dubin, 6th ed
16. Practical Guidelines On Fluid Therapy, Dr sanjay Pandya 2nd ed
17. Current Emergency Diagnosis and Treatment, Keith Stone , Mc Graw Hill 8th ed
18. Textbook of Pediatric Emergency Medicine ,Peter Cameroon, Elsevier 3rd ed
19. Interpretation Of Emergency Head CT, Erskine J Holmes, 2nd ed , Cambridge University Press
20. Washington Manual of Emergency Medicine, Washington, Lippincott Williams and Wilkins 1st ed

Journals

1. The BMJ -Academic edition.
2. American Journal of Emergency Medicine.
3. Journal of Emergencies, Truma and shok.
4. Annals of Emergency Medicine.
5. The New England Journal of Medicine.
6. The Lancet.
7. Indian Journal of Critical care Medicine.
8. Indian Journal of Nephrology.
9. Indian Heart Journal
10. Indian Journal Of Clinical practice

Section-III

Format of Model Check Lists

Check List-I.

MODEL CHECK-LIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the Student: _____

Name of the Faculty/Observer: _____ Date _____

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

Check list-II

MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Student: _____

Name of the Faculty/Observer: _____ Date: _____

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

Check List-III

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

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

Name of the Student _____

Name of the Unit Head _____ Date: _____

Sl. No.	Points to be considered	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Investigations work up					
7.	Bedside manners					
8.	Rapport with patients					
9.	Counseling patient's relatives for blood donation or Postmortem and Case follow up or appropriate treatment					
10.	Overall quality of Ward work					
Total Score						

Check List-IV**EVALUATION FORM FOR CLINICAL PRESENTATION**

Name of the Student _____

Name of the Faculty _____ Date: _____

Sl No.	Points to be considered	Poor 0	Below Average 1	Average 2	Above Average 3	Very Good 4
1.	Completeness of history					
2.	Whether all relevant points elicited					
3.	Clarity of Presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs elicited correctly					
8.	Whether any major signs missed or misinterpreted					
9.	Diagnosis: Whether it follows logically from history and findings					
10.	Investigations required * Complete					
	*Relevant order					
	*Interpretation of investigations					
11.	Ability to react of questioning Whether it follows logically from history and findings					
12.	Ability to defend diagnosis					
13.	Ability to justify differential diagnosis					
14.	Others					
	Grand Total					

Signature of Teacher

Check List-V

MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

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

Check List-VI

**MODEL CHECK LIST FOR DISSERTATION
PRESENTATION**

Name of the Student: _____

Name of the Faculty: _____ Date: _____

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

Check List-VII

CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE/CO-GUIDE

Name of the Student: _____

Name of the Faculty: _____ Date: _____

Sl. No.	Items for observation during presentations	Poor	Below Average	Average	Good	Very Good
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					

Check List-VIII

Model Checklists for Assessment of Scientific Papers for Publication

Sl. No.	Criteria	Distribution of Marks	Marks awarded
1.	Originality	10	
2.	Clarity & Quality of presentation	10	
3.	Relevance	10	
4.	Review of Literature	10	
5.	Quantum of works involved	15	
6.	Methodology, Sensitivity, Sample size, controlled, not Controlled study etc.,	25	
7.	Advancement of knowledge	20	
	Total	100	

Signature of the Evaluator -----

Name -----

Designation -----

MODEL CHECK LIST FOR ASSESSMENT OF PARTICIPATION IN GROUP
DISCUSSION
ANNEXURE X

Sl. No.	Criteria	Distribution of Marks	Marks awarded
1.	Originality of content	10	
2.	Clarity & Quality of presentation	10	
3.	Relevance and skills of application	20	
4.	Listens to others	10	
5.	Summarizes appropriately	15	
6.	Pro active Leadership qualities present	25	
7.	Advancement of knowledge	10	
	Total	100	

Signature of the Evaluator -----

Name -----

Designation -----

BLDE (Deemed to be University)



B.L.D.E.(Deemed to be University)
SHRI B. M. PATIL MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTER,
VIJAYAPUR-586103 (KARNATAKA)

**POSTGRADUATE LOG BOOK
FIRST YEAR**

**DEPARTMENT
OF
Emergency Medicine**

B.L.D.E.(Deemed to be University)
SHRI B. M. PATIL MEDICAL COLLEGE HOSPITAL AND RESEARCH
CENTER
VIJAYAPUR– 586103, KARNATAKA

Name of the Student :

Postgraduate Degree :

Academic Year :

Name and Designation of Guide :

Signature of the Student :

CERTIFICATE

Certified that the content of this Log-book is the bonafied work of Dr. _____, a Postgraduate student of Department of Emergency Medicine in B.L.D.E.(DU) Shri B. M. Patil Medical College, Hospital & R.C. Vijayapur for the academic year _____.

Signature, Name
and seal of Guide

Signature, Name
and seal of
Professor & HOD.

Signature, Name
and seal of Principal

Date:

Date:

Date:

Place:

Place:

Place:

LOG BOOK

Table – 1: Academic presentations made by the student.

Name:

Admission year:

Date	Topic	Type of Presentation – Seminar, Journal Club, Case presentation, UG teaching, etc.	Signature of the Moderator

Table – 2: Academic activities attended by the student.

Name:

Admission year:

Date	Type of Presentation	Moderator Name		Signature of the Moderator
		Student		

Table – 3:
Diagnostic and operative procedures/interventional procedures performed.

Name:

Admission year:

Date	Pts. Name	I.P. No.	Procedure	Category O, A, PA, PI*

- *KEY**
- O - Washed up and observed.
 - A - Assisted a more senior.
 - PA - Performed procedure under the direct supervision of a senior surgeon/specialist.
 - PI - Performed independently

Model Overall Assessment Sheet

Name of the student:

Year of admission;

Academic Year:

Sl. No.	Guide, Unit Faculty, senior PG, Support Staff, HOD,	Name of Student and Mean Score					
		A	B	C	D	E	F
1.							
2.							
3.							
4.							
5.							
Total Score							

BLDE (Deemed to be University)



B.L.D.E.(Deemed to be University)
SHRI B. M. PATIL MEDICAL COLLEGE HOSPITAL AND RESEARCH
CENTER, VIJAYAPUR-586103 (KARNATAKA)

**POSTGRADUATE LOG BOOK
SECOND YEAR**

**DEPARTMENT
OF
EMERGENCY MEDICINE**

B.L.D.E. (Deemed to be University)
SHRI B. M. PATIL MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTER
VIJAYAPUR– 586103, KARNATAKA

Name of the Student :

Postgraduate Degree :

Academic Year :

Name and Designation of Guide :

Signature of the Student :

CERTIFICATE

Certified that the content of this Log-book is the bonafied work of Dr. _____, a Postgraduate student of Department of Emergency Medicine in B.L.D.E.(DU) Shri B. M. Patil Medical College, Hospital & R.C. Vijayapur for the academic year _____.

Signature, Name
and seal of Guide.

Signature, Name
and seal of
Professor & HOD.

Signature, Name
and seal of Principal

Date:

Date:

Date:

Place:

Place:

Place:

Table – 1:
Academic presentations made by the student.

Name:

Admission year:

Date	Topic	Type of Presentation – Seminar, Journal Club, Case presentation, UG teaching, etc.	Signature of the Moderator

Table – 3:

Diagnostic and operative procedures/interventional procedures performed.

Name:

Admission year:

Date	Pts. Name	I.P. No.	Procedure	Category O, A, PA, PI*

- *KEY**
- O - Washed up and observed.
 - A - Assisted a more senior.
 - PA - Performed procedure under the direct supervision of a senior surgeon.
 - PI - Performed independently

Model Overall Assessment Sheet

Name:

Academic Year:

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

B.L.D.E.(Deemed to be University)
SHRI B. M. PATIL MEDICAL COLLEGE HOSPITAL AND
RESEARCH CENTER, VIJAYAPUR-586103 (KARNATAKA)

**POSTGRADUATE LOG BOOK
THIRD YEAR**

**DEPARTMENT
OF
EMERGENCY MEDICINE**

B.L.D.E.(Deemed to be University)
SHRI B. M. PATIL MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTER
VIJAYAPUR– 586103, KARNATAKA

Name of the Student :

Postgraduate Degree :

Academic Year :

Name and Designation of Guide :

Signature of the Student :

CERTIFICATE

Certified that the content of this Log-book is the bonafied work of Dr. _____, a Postgraduate student of Department of Emergency Medicine in B.L.D.E.(DU) Shri B. M. Patil Medical College, Hospital & R.C. Vijayapur for the academic year _____.

Signature, Name
and seal of Guide.

Signature, Name
and seal of
Professor & HOD.

Signature, Name
and seal of Principal

Date:

Date:

Date:

Place:

Place:

Place:

Table – 3:

Diagnostic and operative procedures/interventional procedures performed.

Name:

Admission year:

Date	Pts. Name	I.P. No.	Procedure	Category O, A, PA, PI*

- *KEY**
- O - Washed up and observed.
 - A - Assisted a more senior.
 - PA - Performed procedure under the direct supervision of a senior surgeon.
 - PI - Performed independently

Model Overall Assessment Sheet

Name:

Academic Year:

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

Procedure to be done in first year of PG course			
Procedure	Observed (O)	Performed with assistance(PA)	Performed independently(PI)
• Ryles tube insertion			
• Stomach wash			
• Oral airway			
• Nasopharyngeal airway			
• Fundoscopy			
• Foreign body removal Foreign body removal from nose Foreign body removal from ear			
• Endotracheal intubation			
• peripheral line insertion			
• External jugular line insertio			
• Central line insersertion			
• POCUS FAST assessment EFAST assessment Screening 2D Echo			
• Lumbar puncture			
• Ascitic tapping			
• Pleural Tapping			
• Non invasive ventilation ○ BiPAP ○ CPAP			
• Procedural sedation			
• Casting			
• Splinting			
• Supra pubic catheterization			
• ABG			
• Helmet removal technique			
• c-collar application			
• pelvic binder application			
• Defibrillation and shock delivery			
• AED			
• Interpretation of ABG			
• Interpretation of ECG			

• Incision and drainage of abscess			
• Minor suturing			
• Suture removal			
• Staple for CLW			
• Staple removal			
• Foley's catheterization			
• Correction of electrolyte abnormality			
• Basic modes of ventilation			
• Nasal packing			
• Reduction of joint dislocation			

Procedure to be done in second year of PG course			
Procedure	Observed (O)	Performed with assistance(PA)	Performed independently(P I)
1. Supraglottic airway			
2. Niddle cricothyrodotomy			
3. Emergency cricothyroidotom			
4. Changing tracheostomy tube			
5. Icd insertion and removal			
6. Weaning and extubation			
7. Managing difficult airway			
8. Insertion of dialysis catheter			
9. Pericardiocentasis			
10. Venous cutdown			
11. Intra osseous neddle			
12. Body warming technique			
13. Fasciotomy			
14. Arterial line and BP monitoring			
15. Ventilation in specific disease-			
16. Nerve block			
17. Temporary pace maker insertion			
Procedure to be done in third year of PG course			
Procedure	Observed (O)	Performed with assistance(PA)	Performed independen tly(PI)
18. Emergency Burr hole			
19. Emergency bronchoscopy			

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.
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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.