

PG CURRICULUM 2012-13 MD Anatomy

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BLDE UNIVERSITY

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

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

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B.L.D.E. UNIVERSITY

(Declared vide notification No. E.9-37/2007-U 3 (A) Dated. 29-2-2008 of the MHRD, Government of India under Section 3 of the UGC Act, 1956) The Constituent College

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

BLDEU/REG/PG/2012-13/845

September 20, 2012

REGISTRAR REGISTRAR.

BLDE University, Bijapur.

NOTIFICATION

Subject: Revised Curriculum for the Post Graduate Degree and Diploma Courses – 2012

Reference:

- 1. Medical Council of India Regulation on Graduate Medical Education, 1997 and subsequent amendments of the same from time-to-time.
- 2. Minutes of the meeting of the Academic Council of the University held on April 11, 2012
- 3. Minutes of the meeting of the BOM of the University held on May 23, 2012.

The Board of Management of University is pleased to approve the Curriculum for Post Graduate Degree and Diploma Courses at its meeting held on May 23, 2012.

The revised curriculum shall be effective, from the Academic Session 2012-13 onwards, for Post Graduate Degree and Diploma Course in the Constituent College of the University viz Shri B. M. Patil Medical College, Hospital and Research Centre.

To,

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

Copy to:

- 1. The Secretary, UGC, New Delhi
- 2. The Controller of Examinations
- 3. Prof. & HODs of Pre, Para and Clinical Departments.
- 4. PS to Hon'ble President
- 5. PS to Hon'ble Vice Chancellor
- 6. Office Copy

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V

Vision and Mission

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

Section - I

Goals and General Objectives of Postgraduate

Medical Education Program

Goal

The goal of postgraduate medical education shall be to produce a competent specialist and / or a medical teacher:

- (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, retraining 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 analize 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

Source: Medical Council of India, Regulations on Postgraduate Medical Education, 2000. [amended upto January 2010]

Eligibility for Admission:

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

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

2. Eligibility requirements for Post graduate degree in superspeciality courses, M.Ch./D.M are: The candidate seeking admission to these courses should have passed MS/MD from the college recognized by Medical Council of India.

As per the requisitions of statutory bodies, as laid out in post graduate regulations 2000 of Medical Council of India and its amendments thereof, the minimum percentage of marks in the entrance test conducted by the University for eligibility for admission to Post Graduate courses in broad specialties and super specialties shall be 50 percent for candidates belonging to General category and 40 percent for the candidates belonging to Scheduled Caste, Scheduled Tribes and Other Backward Classes. Eligibility for persons with locomotor disability of lower limbs category will be 45 percent.

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

The MCI norms to qualify for Admissions

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

If the candidate fails to fulfill the relevant eligibility requirements as mentioned above

he/she will not be considered eligible for admission for Medical Postgraduate Degree and Diploma Courses even if he/she is placed in the merit list of BLDEU-PGET/BLDEU-SUPERSPECIALTY ET.

Obtaining Eligibility Certificate by the University before making Admission

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

- 1. MBBS pass/degree certificate issued by the University.
- 2. Marks cards of all the university examinations passed MBBS course.
- 3. Attempt Certificate issued by the Principal
- 4. Certificate regarding the recognition of the Medical College by the Medical Council of India.
- 5. Completion of internship certificate.
- 6. In case internship was done in a non-teaching hospital, a certificate from the Medical Council of India that the hospital has been recognized for internship.
- 7. Registration by any State Medical council and
- 8. Proof of SC/ST or OBC or physically handicapped status, as the case may be.

In addition to the above mentioned documents, candidate applying for admission to superspeciality courses has to produce degree/pass certificate of MD/MS degree with prescribed fee.

Intake of Students

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

Course Duration

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

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

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

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

c.Diploma Courses:

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

Training Method

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

Attendance, Progress and Conduct

A candidate pursuing degree/diploma course should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course

Each year shall be taken as a unit for the purpose of calculating attendance. Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons. Every Candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course. This shall include assignments, assessed full time responsibilities and participation in all facets of educational process. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year. Leave benefits shall be as per university rules.

A post graduate student pursuing degree course in broad specialities, MD,MS and superspeciality courses DM,M.Ch would be required to present one poster presentation,read one paper in national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him/her to be eligible to appear at the university degree examinations.(MCI,PG 2000,13.9)

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

Monitoring Progress of Studies

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

The learning out comes to be assessed include:

- Personal Attitudes,
- Acquisition of Knowledge,
- Clinical and operative skills,
- Teaching skills.

Personal Attitudes:

The essential items are :

- Caring attitudes
- Initiative
- Organizational ability
- Potential to cope with stressful situations and undertake responsibility
- Trust worthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge

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

Acquisition of Knowledge:

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

supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

Lectures: Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.

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

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

These topics may preferably taken up in the first few weeks of the 1st year commonly for all new postgraduates

b)Integrated teaching : These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes mellitus, thyroid diseases etc.

Journal Review Meeting (Journal club):

The ability to do literature search, in depth study, presentation skills, and use of audio – visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist.

Seminars / symposia:

The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio – visual aids are to be assessed using a checklist.

Clinico-Pathological conferences:

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

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

Clinical Skills: Day to Day Work: Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills.

Clinical Meetings:

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

Clinical and Procedural Skills:

The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book.

Teaching Skills:

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

Work diary / Log Book:

Every candidate shall maintain a work diary 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. The work diary shall be scrutinized by concerned teachers periodically and

certified, by the Head of Department and Head of the Institution, and presented during university practical / Clinical examination.

Periodic tests:

In case of degree courses of three years duration (MD/MS, DM, M.Ch), the concerned departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be held three months before the final examination. The tests may include written papers, practical / clinical and viva voce.

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

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

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

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

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

Procedure for defaulter:

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

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

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

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

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

The dissertation shall be written under the following headings:

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

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

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

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

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. Teachers in a medical college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Lecturer or Assistant Professor gained after obtaining post graduate degree shall be recognized as post graduate teachers.

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

Change of guide:

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

Schedule of Examination:

The examination for M.D. /M.S and DM/M.Ch courses shall be held at the end of three academic years (six academic terms). The examination for the diploma courses shall be held at the end of two academic years (four academic terms).

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

Scheme of Examination

M.D. /M.S. Degree

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

Dissertation:

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

Written Examination (Theory):

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

Practical / Clinical Examination:

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

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

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

Viva Voce:

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

The total marks shall be 100:

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

Examiners:

There shall be at least four examiners in each subject. Out of them two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

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

A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

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

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

D.M/M.Ch Degree

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

Written Examination (Theory):

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

Practical / Clinical Examination:

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

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

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

Viva Voce:

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

The total marks shall be 100:

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

Examiners:

There shall be at least four examiners in each subject. Out of them two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

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

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

A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

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

Diploma Examination:

Diploma examination in any subject shall consist of Theory (written papers),

Practical / Clinical and Viva-Voce.

Theory:

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

Practical / Clinical Examination:

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

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

The maximum marks for Practical/Clinical shall be 150.

Viva-Voce Examination: Viva Voce examination should aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 50.

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

A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Controller of Examinations.

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

Examiners:

There shall be at least four examiners in each subject. Out of them, two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

Number of Candidates per day:

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

MD / MS Courses: Maximum of 6 per day

Diploma Courses: Maximum of 6 per day

DM/M.Ch course: Maximum of 3 per day

Section II

MD ANATOMY

Goal:

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

Objectives:

At the end of the course, a Postgraduate in Anatomy shall be able to:

- 1. Become aware of contemporary advances and developments in anatomy and related biomedical field.
- 2. Select and use appropriate learning resources and teaching techniques as applicable for teaching and evaluation of medical and allied health science students.
- 3. Carryout professional obligations ethically and in keeping with objectives of National Health Policy.
- 4. Function as an effective member in health care, research and training.
- 5. Exhibit interpersonal behavior in accordance with social norms and expectations.
- 6. Describe and interpret Anatomy Act as in existence.

Specific Learning Objectives:

- 1. Demonstrate comprehensive knowledge and understanding of gross and microscopic structure of human body and skills to demonstrate special dissection and histological and histo-chemical techniques.
- 2. Comprehend normal disposition, interrelationships, functional and applied anatomy of the various structures of the body.
- 3. Describe development of human body to provide an anatomical basis for understanding the structure and correlate with functions both in health and in disease presentations.
- 4. Demonstrate knowledge of basic and systemic embryology including genetic inheritance and sequential developments of organs and systems.
- 5. Recognize critical stages of development and the effects of common teratogens, genetic mutations and environmental hazards.
- 6. Explain development basis of major variations and abnormalities.
- 7. Demonstrate competence in basic concepts of research and acquire a spirit of enquiry in research.
- 8. Critically evaluate published research literature.
- 9. Recognize continuing educational needs and develop skills as a self-directed learner.
- 10. Acquire knowledge relating to latest non-invasive techniques like X-rays, CT Scan, MRI, Ultrasound and their interpretation in health and disease conditions.
- 11. Describe the methodology, techniques of embalming, preservation of cadavers and museum techniques, and perform the procedures.

Course Contents

Theory

- 1. History of Anatomy.
- 2. General Anatomy
- 3. Elements of Anatomy.
- 4. Gross Human Anatomy including Cross Sectional Anatomy and Applied Anatomy.
- 5. Principles of Microscopy and Histological techniques.
- 6. General and Systemic Histology
- 7. General, and Systemic Embryology including Growth, Development and Teratology.
- 8. Neuro Anatomy
- 9. Surface Anatomy
- 10. Radiological Anatomy including Principles of newer techniques and Interpretation of CT Scan, Sonography and MRI.
- 11. Human genetics
- 12. Comparative Anatomy
- 13. Principles of Physical Anthropology
- 14. Museum techniques, embalming techniques including Medico legal aspects, and knowledge of Anatomy Act.
- 15. Medical Ethics
- 16. Recent Advances in Anatomy.

Practical schedule

A practical record of work done in histology and gross anatomy with an emphasis on cross sectional Anatomy has to be maintained by the candidate and duly scrutinized and certified by the Head of the department and to be submitted to the external examiner during the final examination.

Interaction with other Pre, Para and Clinical specialities so as to stimulate the mind of the Post graduate students in Anatomy to the growing needs of application of anatomical knowledge to other branches of medicine. This will be achieved through horizontal and vertical integration.

During the course the Post graduate students should dissect the entire human cadaver.

- 1. They should embalm and maintain the record of embalming work done.
- 2. They should prepare and mount at least 10 museum specimens.
- 3. In Histology section, they should practise
 - i. Collection of tissues, fixing, block making, section cutting; use of different types of microtomes and preparation of general and systemic slides.
 - ii. Haematoxyline & Eosin
 - Preparation of stains.
 - Staining techniques.
 - iii. Knowledge of special staining techniques like Silver Nitrate, PAS staining, Osmium Tetroxide, Van Gieson etc.

- iv. Embryo (Chick embryo) mounting and serial sections of embryo should be taken, stained with Haematoxylin & Eosin.
- v. Knowledge of light microscope and electron microscope.
- vi. Detailed microscopic study of all the tissues (General and Systemic slides).

Method of Training:

The candidates shall attend all the Undergraduate Theory and Practical Classes regularly. Rotation postings of PG students shall be made in the II and III years of the course as follows:

1. General surgery	-	ך 4 weeks	
2. Orthopaedics		-2 weeks	≻ II year
3. Radio diagnosis	-	ل 2 weeks	
			_
1. General Medicine		- 2 v	veeks
2. Paediatrics		- 2 w	veeks
3. Obstetrics and Gynaecology		- 2 v	veeks 🚺 III year
4. Genetics		- 2 w	veeks J

At the end of the posting, a certificate has to be obtained from the concerned heads of the departments for satisfactory learning.

During three years of the course, the Postgraduate students shall take part in teaching undergraduate students in gross anatomy, histology, tutorials, group discussions and seminars.

Seminars & Journal Review Meetings:

The postgraduate students should actively participate in departmental seminars and journal reviews. A record showing the involvement of the student shall be maintained. A diary should be maintained. Seminars journal review are suggested to be conducted alternately once in every 15 days.

Maintenance of Record of Work Done:

- 1. A diary showing each day/s work has to be maintained by the candidate, which shall be submitted to the head of the department for scrutiny on the first working day of the each month.
- 2. A practical record of work done in Histology and Gross Anatomy with an emphasis on Cross sectional Anatomy has to be maintained by the candidate and duly scrutinized and certified by

the head of the department and to be submitted to the external examiner during the final examination.

3. A list of the seminars and journal clubs that have been attended and participated by the student has to be maintained which should be scrutinized by the head of the department.

Periodical Assessment and Progress Report:

The postgraduate students have to be assessed periodically by conducting written, practical and viva voce examination at the end of every year. The assessment should be based also on participation in seminars, journal review, and performance in the teaching and use of teaching aids and progress in dissertation work. Checklists are given in chapter IV for the assessments.

The assessment will be done by all the recognized PG teachers of the department and the progress record should maintained by the head of the department.

Dissertation work:

During the course of study every candidate has to prepare a dissertation individually, on a selected topic under the direct guidance and supervision of a recognized postgraduate teacher as per MCI and university regulations.

The suggested time schedule for dissertation work is:

- 1. Selection of the topic for dissertation within 2 months of joining.
- 2. Preparation of work for dissertation synopsis including pilot study and submission of the synopsis to the University within 3 months from the commencement of course or as per the dates notified by the University from time to time.
- 3. Data collection for dissertation and writing the dissertation.
- 4. The candidates shall report the progress of the dissertation work to the concerned guide periodically and obtain clearance for the continuation of the dissertation work.
- 5. Submission of the dissertation six months prior to the final examination or as per the dates notified by the University from time to time.

Registration of dissertation topic:

Every candidate shall submit a synopsis in the prescribed proforma for registration of dissertation topic by the University after it is scrutinized by the PG training cum Research Committee of the institution. The synopsis shall be sent to within the first 6 months from the commencement of the course or as notified by the University in the calendar of events, to the Registrar (Academic).

Submission of dissertation:

The dissertation shall be submitted to the Controller of Examinations of the University six months prior to the final examination or as notified in the calendar of events. Approval of the dissertation by the panel of examiners is a prerequisite for a candidate to appear for the University examination.

Scheme of Evaluation

A. Theory – 400 marks

The written examination consists of four papers, with maximum marks of 100 for each paper. Each paper will be of three hours duration.

Each Theory paper consists of:

1.	Long Essay Questions	2 x 20	=40 marks
2.	Short Essay Questions	6 x 10	=60 marks
		Total	=100 marks

Paper –I:

- a. History of Anatomy
- b. General and Elements of Anatomy
- c. Gross Anatomy with applied aspects

Paper –II:

- a. General & Systemic Embryology including growth, development and Teratology
- b. Comparative Anatomy.
- c. Principles of Physical Anthropology.

Paper –III:

- a. General & Systemic Histology and Principles of Microscopy
- b. Histological, museum and embalming techniques including medico legal aspects
- c. Human Genetics.

Paper -IV:

- a. Neuroanatomy
- b. Applied Anatomy, Cross Sectional Anatomy, Radiological Anatomy & Newer Imaging Techniques
- c. Recent advances in Anatomy

Questions on recent advances may be asked in any or all papers*

*The topics assigned to the different papers are given as general guidelines. A strict division of subjects may not be possible. Some overlapping of topics is inevitable. Students should be prepared to answer the overlapping topics.

B. Practicals :

ii)

TOTAL:200 marks

Gross Anatomy - 100 marks,

Histology – 100 marks

i) Gross Anatomy

To dissect in 3 hours and display for discussion the allotted dissection exercise on a human cadaver.

Distribution of Marks		
Surface Anatomy	=10	
Dissection	=40	
Discussion	=50	
Total	=100 marks	
 Histology Identification and discussion of 10 which includes Neuro anatomy and Human Genetics 2 charts discussion 	d Embryology	10 x 4 = 40 marks, 2 x 5 = 10 marks
 3. Preparation of block & staining i) Prepare of a paraffin block ii) Taking serial sections from blo iii) Staining of the given section v iv) Discussion on Histological tee 	with H & E and discussion	-10 -10 -15 -15 marks

C. Viva-Voce – 100 marks

1. This includes all the components of the syllabus along with specimens, skiagrams, including newer imaging techniques, bones and embryology models including a problem solving exercise and discussion on the dissertation topic submitted for the examination = 80 marks

Total =100 marks

2. Pedagogy: Demonstration of teaching skill / techniques =20 marks

D.					
	M.D. (Anatomy) Examination	Theory	Practicals	Viva-Voce	Total
	Maximum marks	400	200	100	700
	Maximum marks	400	200	100	70

Recommended Books and Journals / Latest editions

Gross Anatomy

- 1. Susan Standring. Gray's, Anatomy 39thy Edition, Elsevier 2005.
- 2. McMinn R.M.H. Last's, Anatomy 8th Edition, ELBS, 1990.
- 3. Basmajain V. John and Slonecker E. Charles, Grants Method of Anatomy, 11th Edition, Williams and Wilkins 1989.
- 4. Hollinshead. W. Henry, Anatomy for Surgeon's 4th Edition, Harper and Raw Publishers, 1985.
- 5. DUPLESSIS and Gadecker Lee Mcgregor's, Synopsis of Surgical Anatomy 12th Edition, K.M. Varghese Company, 1986.
- Snell. S. Richard, Clinical Anatomy for Medical Students 5th Edition, Little Brown and Company, 1985.
- 7. Grant Boileau. J.C., An Atlas of Anatomy 5th Edition, Williams and Willkins 1984.
- Graggs Hall E.C.B, Anatomy as a basis for Clinical Medicine 2nd Edition. Williams and Williams, 1990.
- McMinn M.H.Robert, Mc Minn's Functional and Clinical Antomy 1st Edition, Mosby Publications, 1995.
- 10. A.K. Datta, Text Book of Anatomy Vol. I, II & III 4th Edition, 1997 Current Books International.
- 11. Le Gross Clark, Tissues of the Body 6th Edition, 1980 Oxford University Press.
- 12. Keith & Moore, Clinically Oriented Anatomy 3rd Edition, 1992 Williams & Wilkins.

Histology

- 1. Cormack.H.David, Ham's Text Book of Histology 9th Edition, J. B. Lippincott Company, 1987.
- Copenhaver M. Wilfred et al, Bailey's text book of Histology, 17th Edition, William and Wilkins, 1978.
- 3. Difiore. S. H. Mariano, Atlas of Human Histology -5th Edition, Lea Febiger Publishers, 1985.
- 4. Janqueira. C. Luis etal, Basic Histology 2nd Edition, Large Medical Publication, 1971.
- 5. Drury R.A.B., Willington E.A. Carlton's, Histological Technique 5th Edition, Oxford University, Preces, 1980.
- 6. Cullings, Histological Technique 3rd Edition, 1994 Butterworths.
- 7. John D Bancroft, Manual of Histological Technique 1st Edition, 1984 Churchill Livingstone.
- 8. Michael H Ross, Histology A Text & Atlas 3rd Edition, 1985 Williams & Wilkins.
- 9. Bloom and Fawcett, Text Book of Histology. W.B. Saunders company.

Embryology

- 1. Hamilton W. J. and Mossman H.W., Human Embryology 4th Edition, Williams and Wilkins Company, 1972.
- 2. Sadler T.W., Langman's Medical Embryology 7th Edition, Williams and Wilkins Company 1995.
- 3. A.K.Datta Essentials of Human Anatomy, Human Embryology- 2nd Edition, Current Books International, 1991.
- 4. Moore Persaud, The Developing Human 7th Edition, Elsevier 2003.
- 5. Larsen, Human Embryology 2nd Edition, 1997, Churchill Livingstone.
- 6. Langman, Medical embryology T W Sadur 9th Edition 2004, Lippincott, Williams & Wilkins.

Neuro Anatomy

- 1. Everett N.B., Functional Neuroanatomy, 6th Edition, Lee and Febigger, 1971.
- Chusid.G.Joseph, Correlative Neuroanatomy and Functional Neurology 16th Edition, Lange Medical Publication, 1976.
- 3. A.K.Datta, Neuroanatomy, 1st Edition, Current Books International, 1997.
- 4. Snell.S.Richard, Clinical Neuroanatomy for Medical Students, 4th Edition, Lippincott Raven, 1982.
- 5. Parent Andre, Carpenter's Neuroanatomy 9th Edition, Williams and Wilkins, 1996.
- 6. Inderbir Singh, Neuroanatomy 5th Edition, 1997 Jaypee Brothers Medical Publications.

Human Genetics / Medical Genetics

- 1. Robert F Mueller, Emery's Elements of Medical Genetics 9th Edition, 1995 Churchil Livingstone.
- 2. Nora & Frazer, Medical Genetics Principles 1974 Lee & Gebiger, Philadelphia.
- 3. Friedman, NMS Genetics 2nd Edition, 1996.
- 4. Alfred G Kudson Jr., Genetics & Disease Mc Graw Hill Book Company N. Y.,
- 5. Thomas D. Gelehrtar, Principles of Medical Genetics 2nd Edition, 1990 Williams & Wilkins.
- 6. J.M.Conner M A Ferguson Smith Essentials of Medical Genetics Blackwell Scientific publications.

Comparative Anatomy

- 1. Banks Histology and Comparative Organology A text & atlas Edition 1974.
- 2. Wolstenhome, Taste & Smell in Vertebrates Edition 1970.
- 3. Embryogenesis in Mammals CIBA foundation Edition 1976.
- 4. George C. Kent, Comparative Anatomy of the Vertebrates 3rd Edition, 1983 McGraw Hill Book Company.
- 5. Romer, Vertebrate Body 5th Edition, 1978. W. B. Saunders Company.

Physical Anthropology

- 1. Harrison, Human Biology an introduction to Human Evolution and Growth 2nd Edition, 1970.
- 2. Poirie, Fossil man, 1973.

Embalming Techniques

- 1. Jayavelu T., Embalming Techniques, Churchill Livingston.
- 2. Ansari M.C., Embalming.
- 3. Embalming Ajmani 1st edition 1998. JayPee Publishers.

Museum Techniques

1. Tompsett RH, Anatomical Techniques.

2. Edwards JJ, Medical Museum Techniques, Oxford University Press.

Journals

- 1. Journal of Anatomical Society of India.
- 2. Journal of Anatomy.
- 3. Acta Anatomica.
- 4. American Journal of Anatomy
- 5. American Journal of Physical Anthropology
- 6. Journal of Morphology, Embryology
- 7. Anatomical Record
- 8. American Journal of Medical Genetics.
- 9. Annual Review of Genetics.

SECTION III

Additional reading

1.Compondium of Recommendations of Various committees on Health and Development (1943-1975) DGHS, 1985 Central Bureau of Health Intelligence,Directorate General of Health Services,Min.Of Health and Family Welfare,Govt.of India,Nariman Bhawan New-Delhi,P-335

2.National Health Policy: Min.of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983

3.Santosh Kumar: The elements of Research, writing and editing 1994, Dept.of

Urology, JIPMER, Pondicherry.

4.Srinivasa D K et al : Medical Education Principles and Practice,1995.National Teacher Training Centre, JIPMER, Pondicherry.

5. Ethical guidelines for biomedical research on human participants I.C.M.R. New Delhi 2006.

6.Code of Medical Ethics framed under Section 33 of the Indian Medical Council Act, 1956.Medical Council of India, Kotla Road, New Delhi.

7.Francis C.M: Medical Ethics, Jaypee Publications, Bangalore, 2nd Edn-2004.

8.Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi,1994.

9.International Committee of Medical Journal Editors, Uniform requirements for manuscript submitted to biomedical journals, N England Journal of Medicine. 1991,424-8

10.Kirkwood B.R. Essentials of Medical Statistics,1st Ed. Oxford, Blackwell Scientific Publications 1988. 11.Mahajan B.K.: Methods in Bio-statistics for Medical students,5th Edition new Delhi, Jaypee Brothers Medical Publishers,1989.

12.K.R.Sundaram, S.N.Dwivedi, V.Srinivas.Medical Statistics. Principles & Methods

.B.I.Publications,New Delhi,2010

13.R.K.Chaube: Consumer Protection Act and Medical Profession, 1st Edition, 1999, Jaypee Brothers.

ANNEXURES

MODEL CHECK-LIST FOR EVALUATION OF JOURNAL

REVIEW PRESENTATIONS

Name of the Student:

Name of the Faculty/Observer:

Date:

Sl.	Items for observation during	Poor	Average	Good	Excellent
No	presentation	1	2	3	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

Sl.	Items for observation during	Below	Average	Goo	Very
No	presentation	Average 1	2	d 3	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.	Any other observation				
	Total Score				

Check List – III

MODEL CHECK LIST FOR EVALUATION OF DAY TO DAY LEARNING, TEACHING AND RESEARCH ACTIVITIES

(To be completed once a month by Guide and to be counter signed by HOD)

Name of the Student:

Name of the Guide :

Month :

Sl.	Points to be considered	Below	Average	Good 3	Very
No.		Average	2		Good 4
		1			
1.	Regularity of attendance				
2.	Punctuality				
3.	Interaction with Teachers, colleagues and				
	supportive staff				
4.	Maintenance of Notes.				
5.	Ability to conduct Theory & Tutorial Classes				
6.	Ability to demonstrate Laboratory Procedure.				
7.	Completeness Preparation for Classes				
8.	Rapport with students.				
9.	Commitment to Research and Departmental				
	Activities.				
10.	Over all quality of day to day work.				
	Total Score				

Signature of Guide

Signature of HOD

Check List – IV

EVALUATION FORM FOR PRACTICAL PROCEDURE

Name of the Student:

Name of the Faculty : Date:

Sl.	Points to be considered	Below	Average 2	Good	Very
No		Average 1		3	Good 4
1.	Psychomotor skills				
2.	Logical order				
3.	Mentioned all positive and negative points of importance				
4.	Accuracy in performing the procedure.				
5.	Ability to interpret result				
6.	Clinical Correlation.				
7.	Ability to elicit the signs.				
	Total Score				

Check List – V

MODEL CHECK LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

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

Check List – VI

MODEL CHECK LIST FOR DISSERTATION SYNOPSIS PRESENTATION

Name of the Student:

Name of the Faculty: Date:

Sl.	Points to be considered divine	Poor	Below	Average	Goo	Very
No			Average 1	2	d 3	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

CONTINOUS EVALUATION OF DISSERTATION WORK BY GUIDE / CO-GUIDE

Name of the Student:

Name of the Faculty: Date:

S1.	Items for observation during	Below	Average	Goo	Very
No	presentation	Average 1	2	d 3	Good 4
1.	Periodic consultation with				
	guide/co-guide				
2.	Regular collection of case				
	material				
3.	Depth of analysis / discussion				
4.	Departmental presentation of				
	findings				
5.	Quality of final output				
6.	Others				
	Total Score				

LOG BOOK

Table 1: Academic activities attended

Name:

Admission year:

College:

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

LOG BOOK

Table 2: Academic presentations made by the student

Name:

Admission Year:

College:

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

LOG BOOK

Table 3: Diagnostic and Operative procedures performed

Name:

Academic Year:

College:

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

* **Key:** O – Washed up and observed

A – Assisted a more senior Surgeon

PA – Performed procedure under the direct supervision of a senior surgeon

PI – Performed independently

Model Overall Assessment Sheet

Name of the Department :

Academic Year :

Sl. No.	Points to be considered	Name of Student and Mean Score									
		Α	B	C	D	E	F	G	H	I	J
1.	Regularity & Punctuality								21		
2.	Interaction with colleagues,										
	Teachers & Students.										
3.	Teaching Skills.										
4.	Practical Skills										
5.	Orientation towards research										
Total Score											

Note: Use separate sheet for each year.

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