



D. Y. Patil University

SYLLABUS OF MD PATHOLOGY

GOAL:

The goal of postgraduate medical education shall be to produce competent specialist.

- i. Who shall recognize the health needs of the community and carry out professional obligation ethically and in keeping with the objectives of the national health policy
- ii. Who shall have mastered most of the competencies, retaining to the speciality, that are required to be practiced at the secondary and tertiary levels of the healthcare delivery system.
- iii. Who shall be aware of contemporary advances and developments in the discipline concerned.
- iv. Who shall have acquired a spirit of scientific inquiry and 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.

OBJECTIVES:

At the end of the course a candidate must be able to

- i. Understand and explain about the factors in causation of disease.
- ii. Understand processes involved in the gross and microscopic changes of organs and tissues and explain these changes.
- iii. Understand and explain the basis of evolution of clinical signs and symptoms.
- iv. Should be able to supervise and perform procedures designated for laboratory detection of diseases. Should be able to process and accurately interpret the representative materials obtained from the patients in order to arrive at a correct diagnosis.
- v. Should be able to recognize and report morphological changes in cells, tissues and organs.
- vi. Should be able to perform clinical autopsy and present CPC (Clinico Pathological Correlation)
- vii. Should be able to plan, perform and report specific research projects.

METHODS OF TRAINING

Duration of the course – 3 years

1. Training

- Histopathology including techniques and reporting
- Cytology including FNAC, fluid cytology, exfoliative cytology- techniques and reporting
- Haematology including blood banking and transfusion medicine- techniques and reporting
- Clinical pathology- techniques and reporting
- Museum techniques
- Autopsy techniques and interpretation
- Handling of hazardous material
- Handling, maintenance and calibration of instruments used in laboratory
- Undergraduate teaching



D. Y. Patil University

2. P.G. Teaching sessions

- Journal review
- Subject seminar
- Grossing discussions for autopsies and surgical material
- Slide seminar including histopathology, haematology and cytopathology
- Clinical case- group discussion
- Interdepartmental seminars

Postgraduate students should be encouraged to attend CME, Workshops, Conferences & present papers and publish.

TEACHING /LEARNING CONTENT

A. THEORY

I BASIC SCIENCES

Anatomy/histology of all structures in human body/organs

1. Physiology and biochemistry-Basic aspects of various metabolism and functioning of endocrines
2. Genetics-Fundamental / applied aspects
3. Biostatistics
4. Biomedical ethics-ethical issues related to Medical practice and research

II PATHOLOGY

1. Historical aspects
2. General pathology
3. Systemic pathology
4. Haematology
5. Blood banking and Transfusion Medicine
6. Cytopathology
7. Clinical Pathology
8. Medical autopsy: Techniques and interpretation
9. Recent advances in all fields ,related to Pathology
10. Organization of laboratory including quality control

III CLINICAL BIOCHEMISTRY

Routine biochemical investigations and various organ function tests.

B. PRACTICAL

Proficiency of technological methods should include the following:

1. Fields in which high degree of professional competence and theoretical knowledge is expected:-



6. Leopold G Koss, Diagnostic cytology and its histopathologic basis published by J.B. Lippincott Company.
7. Marluce Bibbo, Comprehensive cytopathology, published by W.B Saunders Company
8. Winnifred Grey, Diagnostic cytopathology, published by Churchill Livingstone (Reference Book)
9. Orell, Sterrett- Walters and Whittaker, Fine Needle Aspiration Cytology (Manual & Atlas), published by Churchill Livingstone
10. Greer J.P, Foerster J,Jukens J et. al Wintrobe's Clinical Haematology, published by Lippincott Williams and Wilkins
11. Firkin F, Chesterman C, Penington D, de Gruchy's Clinical Haematology in Medical Practice, published by Blackwell Sciences
12. Henry J.B Clinical Diagnostics and Management by Laboratory Methods. published by W.B. Saunders & Company.
13. Lewis S.M, Bain D.J, Bates I, Dacie & Lewis Practical Haematology published by Churchill Livingstone.
14. R.Anantnarayan , C.K.Paniker, Textbook of Microbiology , published by Orient Longman.
15. Parasitology (Protozoology & Helminthology.) in relation to clinical medicine – K.D.Chatterjee – published by Chatterjee Medical Publication.
16. Sudha R.Kini, Colour Atlas of differential diagnosis in exfoliative and aspiration cytopathology, published by Lippincott, Williams & Wilkins. (Reference Book)
17. Praful B. Godkar, Clinical Biochemistry – Principles & practice, published by Bhalani Publishing House, Bombay.
18. Theory & practice of Histological Techniques edited by John. D. Bancroft-published by Chruchill Livingstone.
19. Enzinger & Weiss, Soft Tissue Tumours, Published by B.I. Publications (India.) C.V.Mosby company. (Reference Book)
20. Elder D.E, Lever's Histopathology of the skin – Published by J.B.Lippincott Company. (Reference Book)
21. Novak & Woodruff Edited, Novak's Gynaecologic and Obsteric Pathology, published by – Kiaku Shoin/Saunders.
22. Christopher D.M. Fletcher, Diagnostic Histopathology of Tumours Vol.1 & 2- published by Chruchill Livingstone. (Reference Book)
23. Recent advances in Histopathology, Haematology, Blood coagulation etc. (Reference Book)
24. AFIP, Atlas of tumour pathology.
25. Day D.W, Jass J.R, Price A.B, Morson and Dawson's Gastrointestinal Pathology, published by Blackwell publishing. (Reference Book)
26. Ellison D, Love S, Chimelli L et. al, Neuropathology , published by Mosby (Reference Book)
27. Epstein Prostate Biopsy Interpretation, published by Lippincott- Raven (Reference Book)
28. Fogo A.B,Kashgarian M, Diagnostic Atlas of Renal Pathology, published by Elseiver Saunders (Reference Book)



29. Fox H, Wells M, Haines & Taylor - Obstetric and Gynaecological Pathology, published by Churchill Livingstone
30. MacSween, Butt, Portman et al, Pathology of the liver- published by Churchill Livingstone (Reference Book)
31. Sherlocks surgical pathology, published by Lippincott Williams and Wilkins
32. Montgomery E.A, Biopsy interpretation of the Gastrointestinal Tract Mucosa, published by Lippincott Williams and Wilkins (Reference Book)
33. Rosen P, Pathology of Breast, published by Lippincott Williams and Wilkins (Reference Book)
34. Silverberg S.G, Atlas of Breast pathology, published by Saunders (Reference Book)
35. Atkinson B, Atlas of diagnostic pathology, published by Saunders (Reference Book)
36. Chandler F.W, Pathologic diagnosis of fungal infection, published by ASCP Press (Reference Book)
37. Collins R.D, Paediatric Haematopathology, published by Churchill Livingstone (Reference Book)
38. Hoffman, Benz, Shattil, Haematology :Basic principles and practice, published by Churchill Livingstone (Reference Book)
39. Mollison P.L, Blood transfusion in clinical medicine, published by Oxford, ELBS & Blackwell Scientific Publication (Reference Book)

JOURNALS:

1. British Journal of Haematology, published by Blackwell Sciences.
2. CANCER, International journal of American Cancer Society, published by John Wile & Sons Inc.
3. Journal of Clinical Pathology, published by B.M.J.
4. Haematology/Oncology Clinics of North America, published by W.B. Saunders & Company.
5. American Journal of Surgical Pathology, published by Lippincott & Raven
6. Indian Journal of Pathology & Microbiology, published by IAPM.
7. Indian Journal of Cancer, published by Indian Cancer Society.
8. IJPM & IJC.
9. LANCET published by Elsevier
10. I.C.M.R. Bulletin, published by ICMR
11. Histopathology, journal of the British Division of the International Academy of Pathology- Published by Blackwell Science
12. Acta Cytologica, The Journal of Clinical Cytology and Cytopathology
13. Archives of Pathology and Laboratory Medicine- Published by American Medical Association
14. Human Pathology- Published by W.B. Saunders & Company.
15. American Journal of Clinical Pathology published by ASCP
16. Indian Journal of Cytology
17. WHO Bulletin published by WHO
18. Indian Journal of Urology



D. Y. Patil University

19. Modern Pathology
20. Indian journal of Leprosy published by Indian Leprosy Association
21. New England Journal of Medicine published by Massachusetts Medical Society

ADDITIONAL READINGS:

1. Compendium of recommendations of various committees on health and development (1943 to 1975) DGHS, 1985 Central Bureau of Health Intelligence, DGHS, Ministry of Health & Family Welfare, Govt. of India, Nirman Bhavan, New Delhi-335.
2. National Health Policy, Ministry of Health & Family Welfare, Govt. of India, Nirman Bhavan, New Delhi-335. 1983.
3. ICMR, Policy, Statement of ethical considerations involved in research on Human subjects, 1982 ICMR, New Delhi.
4. Code of Medical Ethics framed under Section- 33 of Indian Medical Council Act , 1956 MCI, Kotla road, New Delhi.
5. Santosh Kumar, The elements of Research ,writing and editing 1994, Dept. of Urology, JIPMER, Pondicherry
6. Srinivas D.K et al ,Medical Education Principles and Practices,1995.National Teacher Training Centres, JIPMER, Pondicherry (Reference Book)
7. Francis C.M Medical Ethics, J.P.Publication, Bangalore 1993
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 manuscripts submitted to biomedical journal. N. Engl J Med 1991;424-8
10. Kirkwood B.R. Essentials of Medical Statistics, 1st ed. Oxford Blackwell Scientific Publications 1988 (Reference Book)
11. Mahajan B.K.Methods in Biostatistics for medical students,5th ed New Delhi, Jaypee Brothers Medical Publishers,1989
12. Raveendran B. Gitanjali, A Practical Approach to PG dissertation, New Delhi.J.P Publications 1998. (Reference Book)



D. Y. Patil University

D. Y. Patil University, Kolhapur

Paste recent
passport size
photograph

Student's Record Book
M.D. (Pathology)
DEPARTMENT OF PATHOLOGY

Name of the Student: Dr. _____

Name of the Institute & Address: _____

ABOUT THE LOG BOOK

The log book has been prepared to maintain a record of academic and service activities of postgraduates and to provide an account of progress made by him/her.

Maintenance of such log books will also allow a review of training programme and incorporation of improvements in the programme.

Postgraduates are required to carry the logbook and get the entries made regularly. Faculty is requested to countersign. Logbooks have to be submitted to the head of the department before submitting the final examination form.

PERSONAL BIO-DATA

Name of the Student: _____

Address of the Student: _____

Phone No. & Mobile No: _____

Date of joining: _____

Probable date of appearing
for Examination : _____

Date of Birth: _____

M.B.B.S from: _____

Year of passing MBBS: _____



D. Y. Patil University

Name of the State

Medical Council: _____

Registration No. with date : _____

Permanent Address: _____

PIN- _____

Phone No.: (_____) _____

Local Guardian's Address: _____

PIN- _____

Phone No.: (_____) _____

POSTING SCHEDULE:

SECTION	MONTH & YEAR			Duration		SIGNATURE OF SECTION
	Year I	Year II	Year III	From	To	
Clinical Pathology						
Cytopathology						
Haematology						
Blood Banking						
Histopathology						
Autopsy						
Biochemistry						
Serology						
Museum						
Revision in all						



ATTENDANCE AT P.G. TEACHING SESSIONS:

Month & Year	No. of Teaching Programmes held	No. of Teaching Programmes attended	Remarks	Signature of P.G. Teaching I/C

PARTICIPATION IN P.G. TEACHING ACTIVITY

Subject Seminars presented:

Date	Topic	Remarks	Signature of faculty

Journal Articles presented:

Date	Topic	Remarks	Signature of faculty

Group discussion of clinical cases:

Date	Topic	Remarks	Signature of faculty

Slide Seminars presented/participated:

Date	Topic	Remarks	Signature of faculty

SCIENTIFIC CONTRIBUTIONS

CME/ Workshops attended:

Sr. No.	Name of CME/ Workshop	Held at	Dates



D. Y. Patil University

Conferences attended:

Sr. No.	Name of Conference	Paper presented Yes/No	If yes, title of paper

Publications:

1. _____

2. _____

3. _____

Awards: _____

CERTIFICATE

**This is to certify that Dr.....
has completed the tenure for M.D. satisfactorily .**

P. G. Guide

**Professor & Head.
Department of pathology**

LOG BOOK (Work diary)

The postgraduate students should include all their activities in the log book. The annual assessment based on the work diary shall be done by the guide, teacher in charge of postgraduate teaching programme and HOD.



D. Y. Patil University

UNIVERSITY EXAMINATIONS

- After successful completion of 3 Years' of residency

Theory Examination: Each paper 100 marks – of 3 hrs duration

	Sections with marks
Paper I	General Pathology including General Neoplasia, Immunopathology and Recent Advances 2 X 20 = 40 LAQ 6 X 10 = 60 SAQ Total = 100 marks
Paper II	Systemic Pathology and Recent Advances CVS, RS, GIT, LN & Bone + F.G.S. + M.G.S. 2 X 20 = 40 LAQ 6 X 10 = 60 SAQ Total = 100 marks
Paper III	Haematology, Transfusion Medicine, Immunohaematology Clinical Pathology, Biochemistry 2 X 20 = 40 LAQ 6 X 10 = 60 SAQ Total = 100 marks
Paper IV	Pathology of Infectious Diseases, Cytopathology including recent Advances + Liver and gall bladder, Endocrine, C.N.S., Kidney + Soft tissue tumors. 2 X 20 = 40 LAQ 6 X 10 = 60 SAQ Total = 100 marks
	TOTAL THEORY = 400

Minimum passing marks in each paper 40% and aggregate: 50% in all papers

b) Practical Examination

Duration – 2 days (if candidates are more than 6 , then the days of practical examination should be increased proportionately)



DAY 1:	<p>i) Clinical case will include urine examination by uris sticks method and manual method 15 biochemical test- 5 marks for test, 10 marks for Viva on Electrophoresis, Investigation charts, Histogram, PCR, ELISA - 15 haemogram (Hb by colorimetric method) - 15 special haematology test-1 - 15 case discussion - 15</p>	Total 75 marks
	<p>Autopsy/ reconstructed autopsy + Dissection of heart - 20 marks ii) Gross/ Morbid Anatomy - 35 marks iv) Haematology and Cytology slides - 75 marks (6 & 9 slides respectively, five minutes duration for each slide.)</p>	
DAY 2:	<p>i) Histopathology slides- 25 slides- (the candidate should be assessed so as to evaluate performance in identifying common as well as rare lesions).Five minutes duration for each slide.</p>	125 marks
	<p>Blood Bank technique – Coomb’s test, Rh. Confirmation, Blood Grouping and Cross matching (Gel technique/Routine)</p>	10 marks
	<p>iii) Histopathological Techniques - 1) Block cutting and staining- H & E 2) Special stain- 1</p>	20 marks
	<p>iv) Viva Voce:- Student will be examined by all the examiners together, about students’ subject knowledge, comprehension, analytical approach, expression and interpretation of data, and will include discussion related to dissertation.</p>	40 marks (20 marks Micro teaching) (20 marks Viva Voce)

Marking scheme for practical examination

Sr. No.	Exercises	Maximum marks
	Histopathology slides	125
	Clinical case	75
	Haematology & Cytology slides	75
	Grossing	35
	Autopsy	20
	Histotechniques	15

Blood Banking 10 and Viva Voce 40

Total marks 400

Minimum passing marks: 50% separate in Practical and viva voce