

MEDICAL DIAGNOSTICS

4 Year Undergraduate Programme

Applied Course, III Semester

*Introduction to Medical Diagnostics and its importance	1Period
To make a blood smear and identify various types of cells using Leishman's stain.	2Periods
*Diagnostics methods used for analysis of blood	1+1Period
Blood Composition, Counting of R.B.C., W.B.C. and platelets using haemocytometer, Differential Leukocyte Count (D.L.C), Erythrocyte Sedimentary Rate (E.S.R), Packed Cell Volume (P.C.V.), Haemoglobin estimation using haemoglobinometer .	
Enumeration of W.B.C.	2Periods
Estimation of haemoglobin using Sahli's haemoglobinometer.	2Periods
*Diagnostic methods used for urine analysis	1+1Period
Urine Analysis	2+2Periods
(a) Physical characteristic	
(b) Abnormal constituents	
*Stool Test	1Period
(a) Physical characteristic	
(b) Parasites/Eggs/Cysts	
Slides/Photographs of common parasites (Nematode worms) /Eggs (Helminthes) /Cysts (<i>Giardia, Entamoeba</i>) found in stool	2Periods
*Causes, types, symptoms, complications, diagnosis and prevention of	1+1Period
Diabetes (Type I and Type II),	
Hypertension (Primary and Secondary)	

Testing of blood glucose using

2Periods

(a) Glucometer

(b) By Kit

To measure blood pressure (normal and under stress) using sphygmomanometer. 2Periods

*Causes, types, symptoms, diagnosis and prevention of

1+1Period

(a) Tuberculosis (Bacterial infection)

(b) Hepatitis (Viral infection)

Preparation of acid fast stained sputum smear for bacilli of *Mycobacterium tuberculosis*

2Periods

*Tumours

1Period

Types (Benign/Malignant), Detection and Metastasis

Medical Imaging: X-Ray of Lungs for tuberculosis and Bone fracture, PET, MRI and CT Scan (using photographs).

2+2Periods

References:

Park, K. (2007), Preventive and Social Medicine, B.B. publishers

Dr. Gayatri Prakash (2012), Lab Manual on Blood Analysis and Medical Diagnostics, S.Chand & Co. Ltd.

Godkar P.B. and Godkar D.P. Textbook of Medical Laboratory Technology, 2nd edition, Bhalani Publishing House

Laboratory Manual for Rural and tropical hospitals, Cheesebrugh

Guyton A.C. and Hall J.E. Textbook of Medical Physiology, Saunders

G. Prakash
6/4/13

Deelika Yadav
6th April '13

R. Saxena
6th April '13

Thanks,

Gayatri

Date: Fri, 12 Apr 2013 07:05:15 -0700
From: dy_277@yahoo.com
Subject: Medical Diagnostics Syllabus 4year Programme
To: singhak.du@gmail.com

Respected Sir,
Please find attached the proposed syllabus for Medical Diagnostics 4year programme(as directed by Dr.Gayatri Prakash Madam).
Regards
Dr. Deepika Yadav
Shivaji College



Medical Diag....rtf
59.3kB



MEDICAL DIAGNOSTICS
4 Year Undergraduate Programme
Applied Course,III Semester

*Introduction to Medical Diagnostics and its Importance 1Period To make a blood smear and identify various types of cells using Leishman's stain. 2Periods
(Ch. 5, P 30-33 of Lab Manual on Blood Analysis and Medical Diagnostics by Gayatri Prakash)

*Diagnostics methods used for analysis of blood 1+1Period
Blood Composition, Counting of R.B.C.,W.B.C. and platelets using haemocytometer, Differential Leukocyte Count(D.L.C.),Erythrocyte Sedimentary Rate(E.S.R),Packed Cell Volume(PC.V),Haemoglobin estimation using haemoglobinometer .
(P 11; Ch. 9, P 49-69; Ch. 10, P 70-75; Ch. 12, P 81-88; and Ch. 13, P 89-95 of Lab Manual on Blood Analysis and Medical Diagnostics by Gayatri Prakash)

Enumeration of W.B.C. 2Periods
Estimation of haemoglobin using Sahli's haemoglobinometer. 2Periods

*Diagnostic methods used for urine analysis 1+1Period
Urine Analysis 2+2Periods
(a) Physical characteristic
(b)Abnormal constituents
(Ch. 19, P 147-150 of Lab Manual on Blood Analysis and Medical Diagnostics by Gayatri Prakash)

*Stool Test 1Period
(a) Physical characteristic
(b)Parasites/Eggs/Cysts

● RE: Medical Diagnostics Syllabus 4year Programme

Yahoo/Inbox ★



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🖨️ 🔗 Sat, Apr 13, 2013 at 9:59 AM ★

My Dears,


Please add the references details in the chapters. I have done it for my book as I had at present only that. If it is ok then fine otherwise change them too. I shall wait for your reply telephonically or through email. After completion, it has to be mailed to Prof. Singh.

Thanks,

Gayatri

Date: Fri, 12 Apr 2013 07:05:15 -0700
From: dy_277@yahoo.com
Subject: Medical Diagnostics Syllabus 4year Programme
To: singhak.du@gmail.com

Respected Sir,
Please find attached the proposed syllabus for Medical Diagnostics 4year programme(as directed by Dr.Gayatri Prakash Madam).
Regards

 **Gayatri Prakash** <gayatriprakash@...> Thu, Aug 16, 2012 at 5:39 PM ★
To: shashick52@gmail.com
Cc: parmindernr@gmail.com, gaurishukla1@gmail.com, dy_277@yahoo.com, ingochoub7@gmail.com, sanjukta_dal_kmc@yahoo.com

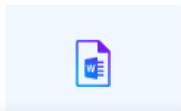
Dear All,

Hello! As per our today's meeting, I am attaching the revised syllabus-theory and practical for Introduction to Medical Diagnostics revised with the help of all of you. Please go through it once again carefully and send your suggestions at the earliest.

I think, for unit 4, we should write 15 periods and not 20 and bring the total to 45 periods. Further, the existing syllabus list experiment 7 like that, can we change it to "Identify and comment upon the photographs of ECG" or we can leave it like that with an understanding that the photograph has to be explained for this.

With Best Wishes,

Gayatri



Paper 12-LSPT 306
INTRODUCTION TO MEDICAL DIAGNOSTICS

THEORY **Marks: 100**

Unit 1.
Biomedical basis of Disease: (Ch 3, 10, 20 Davidson, Ch 7, 14 Robbins, Ch 2, 3, 7, 14, 16 Weinberg)
(16 Periods)

Causes, types, symptoms, diagnosis, prevention and treatment of the following diseases –

- Infectious (Bacterial-Tuberculosis; Viral- Hepatitis; Protozoan- Malaria)
- Inherited/genetic diseases (Diabetes, Down Syndrome)
- Immunological diseases (Autoimmune hemolytic anemia (AHA))
- Cancer- Nature/ types, Metastasis;
- Ageing- Clinical implications- Osteoporosis, Alzheimer's and Parkinson's disease; Social and economic factors of disease including role of health services and other organizations-National Health Programmes.

Unit 2.
Statistical Analysis (Ch-14 Daniel W.W.) **(7 Periods)**

Descriptive and analytical statistical methods/tools (Mean, Mode, Median, Standard Deviation, Standard error, 't' test, Chi square test and ANOVA) for evaluation of health of various human groups of interest.

Unit 3.
Analytical Technology (Ch-1, 17, 21, 22 Hage and Carr) **(7 Periods)**

Brief and relevant description (Principle and applications):

- Spectroscopic techniques – UV
- Chromatography Methods – TLC, Paper and column (gel, ion and affinity chromatography; LC, HPLC and GC.
- Nuclear Magnetic Resonance Spectroscopy (NMR)

Unit 4.
Diagnostic Methods (Ch-11 Guyton, Ch-1 Brant, Ch-4 Stryer) **(20 Periods)**

Methods used in histopathology (Details of Microtomy Technique), Biochemistry (analysis of Blood, Urine and Semen; For ~~Blood~~ Sugar, LFT, KFT, T₃, T₄ and TSH; For ~~Urine~~ Physical characteristics and abnormal constituents; For ~~Semen~~ Volume and sperm count), Haematology (Blood composition, RBC, WBC, Platelets, DLC, ESR, PCV, Hb estimation, blood groups and Rh factor, bleeding and clotting time) and Microbiology (Basic culture techniques).
Theoretical Knowledge- ECG, Echo, X-ray, CT, MRI, Ultrasound

 **Gayatri Prakash** <gayatriprakash@hotmail.com>
To: dy_277@yahoo.com

🖨️ Thu, Apr 18, 2013 at 6:55 PM ★

Dear Deepika,

If possible, please give chapter name or page numbers as suggested by Prof. Singh and confirm to me.

Thanks,
Gayatri

Date: Sun, 14 Apr 2013 05:21:13 -0700
From: dy_277@yahoo.com
Subject: M.D. Syllabus
To: gayatriprakash@hotmail.com

As per discussion with Dr. Shashi Ma'am I am including Davidson's book in reference and also Robbins & Corton for tumors. Since there are no fix chapters for the course content in these reference books, it would be better if we go ahead just with the auther and book names in suggested readings.

I have included the latest available editions of all the reference books by checking them on internet.

Rest as guided by you.

Regards

Dr.Deepika Yadav