

THEORY TEACHING PROGRAMME FOR FIRST YEAR BPMT COURSE
IN THE SUBJECT OF BIOCHEMISTRY FOR 2020 BATCH
(LABORATORY SCIENCES)

DAYS

Monday & Thursday

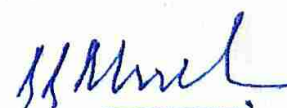
TIME

2 to 3 pm

VENUE

Physiology Demo Room (147)

No.	Topics	Hours	Teacher
1.	Introduction & Scope of Biochemistry Must know: Importance of Biochemistry in laboratory medicine and prospects of course for job and commercial use.	2	Dr. Ramteke
2.	Carbohydrates, proteins, lipids and nucleic acids. (only introduction, definition and classification) DNA and RNA: Structure and properties.	2	Dr. Nadia
3.	Elementary knowledge of enzymes. (only introduction and their role) and isoenzymes	1	Dr. Mundra
4.	Introduction to carbohydrate, protein and fat metabolism: (only start and end products) Glycolysis, TCA cycle, urea cycle, beta oxidation of FA, Regulation of blood glucose concentration, Glycosuria	4	Dr. Jambhulkar
5.	Importance of some minerals- sodium, potassium, calcium, phosphorous, iron, copper, chloride, fluoride.	2	Dr. Munghate
6.	Introduction to medical lab technology: general instructions, role of medical lab technologist, and responsibility, safety measures and first aid.	1	Dr. Deshpande
7.	Cleaning and care of general laboratory glassware and equipment. Elementary knowledge of analytical biochemistry. Principles, functions and uses of balances, centrifuge machines, colorimeters.	2	Dr. Gadpal
8.	Collection and recording of specimens, separation of serum/plasma, preservation and disposal of biological samples/materials	2	Dr. Chawan
9.	Standard solution: various standard solutions used, their preparation; storage of chemicals	2	Dr. Mundra
10.	Units of measurements: S.I. units: Definitions, conversions, measurement of volume: Strength, Molarity, Molality. Definitions: Mole, molar and normal solutions (preparation, standardization), pH (Definition, example), Buffer solutions (Definition, preparation of important solutions), pH indicators (pH papers, universal & other indicators), pH measurement: different methods (pH paper, pH meter, structure, working and maintenance) Hormones-definition, classification	2	Dr. Chawan
11.	Quality Control: its importance. Accuracy, Reliability, Precision, internal and external quality control measures, standardization of methods, safety measures and precautions	1	Dr. Gadpal
12.	Automation in clinical biochemistry: Principle, types and uses of Autoanalysers, Blood gas analysers, Role of computers in the laboratory	2	Dr. Ninghot
13.	Universal Precautions	1	Dr. Deshpande
14.	Handling of semi auto and automatic batch and random access analyzers	1	Dr. Nadia



Professor and Head

Department of Biochemistry

GMC, Nagpur.

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Department of Biochemistry
Govt. Medical College, Nagpur

Copy to: Notice Board, Biochemistry Dept.

PRACTICAL TEACHING PROGRAMME FOR FIRST YEAR BPMT COURSE
IN THE SUBJECT OF BIOCHEMISTRY FOR 2020 BATCH
(LABORATORY SCIENCES)

DAYS

Saturday

TIME


2 to 3 pm

VENUE

Biochemistry Laboratory

No.	Practical and Demonstration Topics	Hours	Teacher
1.	Introduction to biochemistry lab, various types of specimens received.	1	Dr. Alam
2.	The reception and recording of specimen, cataloguing and indexing, maintenance of laboratory reports.	1	Dr. Pandey
3.	Maintenance of laboratory quality control and first aid	1	Dr. Nadia
4.	Cleaning of glassware	1	Dr. Chawan
5.	Introduction, identification, demonstration and handling of laboratory instruments.	1	Dr. Deshpande
6.	Principle and uses of following: Centrifuge machine, insulator, flame photometer, single pan balance, pH meter, colorimeter, distillation of water, semi-automated/fully automated blood analyzers, Blood gas analyzer, ELISA reader, spectrometers.	2	Dr. Mulani Dr. Swapna
7.	Preparation of various solutions, standards and buffers.	1	Dr. Mundra
8.	Demonstration of disposal of laboratory waste product and infected material.	1	Dr. Gadpal
9.	Urine Examination – Normal & Abnormal constituents of urine	2	Dr. Jambhulkar Dr. Ninghot

Copy to: 1) Notice Board, Biochemistry Dept.
 2) All Concerned staff


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