

# **Course Description**

### Recommended Books (Latest Editions)

1. Principles of Biochemistry by Lehninger.
2. Harper's Biochemistry by Robert K. Murry, Daryl K. Granner and Victor W. Rodwell.
3. Biochemistry by Stryer.
4. Biochemistry by D. Satyanarayan and U.Chakrapani
5. Textbook of Biochemistry by Rama Rao.
6. Textbook of Biochemistry by Deb.
7. Outlines of Biochemistry by Conn and Stumpf
8. Practical Biochemistry by R.C. Gupta and S. Bhargavan.
9. Introduction of Practical Biochemistry by David T. Plummer. (3rd Edition)
10. Practical Biochemistry for Medical students by Rajagopal and Ramakrishna.
11. Practical Biochemistry by Harold Varley.

### BP 204T.PATHOPHYSIOLOGY (THEORY)

45Hours

**Scope:** Pathophysiology is the study of causes of diseases and reactions of the body to such disease producing causes. This course is designed to impart a thorough knowledge of the relevant aspects of pathology of various conditions with reference to its pharmacological applications, and understanding of basic pathophysiological mechanisms. Hence it will not only help to study the syllabus of pathology, but also to get baseline knowledge required to practice medicine safely, confidently, rationally and effectively.

**Objectives:** Upon completion of the subject student shall be able to –

1. Describe the etiology and pathogenesis of the selected disease states;
2. Name the signs and symptoms of the diseases; and
3. Mention the complications of the diseases.

#### Course content:

#### Unit I

10Hours

- **Basic principles of Cell injury and Adaptation:**

Introduction, definitions, Homeostasis, Components and Types of Feedback systems, Causes of cellular injury, Pathogenesis (Cell membrane damage, Mitochondrial damage, Ribosome damage, Nuclear damage), Morphology of cell injury – Adaptive changes (Atrophy, Hypertrophy, hyperplasia, Metaplasia, Dysplasia), Cell swelling, Intra cellular accumulation, Calcification, Enzyme leakage and Cell Death Acidosis & Alkalosis, Electrolyte imbalance



- **Basic mechanism involved in the process of inflammation and repair:**  
Introduction, Clinical signs of inflammation, Different types of Inflammation, Mechanism of Inflammation – Alteration in vascular permeability and blood flow, migration of WBC's, Mediators of inflammation, Basic principles of wound healing in the skin, Pathophysiology of Atherosclerosis

**Unit II**

**10Hours**

- **Cardiovascular System:**  
Hypertension, congestive heart failure, ischemic heart disease (angina, myocardial infarction, atherosclerosis and arteriosclerosis)
- **Respiratory system:** Asthma, Chronic obstructive airways diseases.
- **Renal system:** Acute and chronic renal failure

**Unit II**

**10Hours**

- **Haematological Diseases:**  
Iron deficiency, megaloblastic anemia (Vit B12 and folic acid), sickle cell anemia, thalasemia, hereditary acquired anemia, hemophilia
- **Endocrine system:** Diabetes, thyroid diseases, disorders of sex hormones
- **Nervous system:** Epilepsy, Parkinson's disease, stroke, psychiatric disorders: depression, schizophrenia and Alzheimer's disease.
- **Gastrointestinal system:** Peptic Ulcer

**Unit IV**

**8 Hours**

- Inflammatory bowel diseases, jaundice, hepatitis (A,B,C,D,E,F) alcoholic liver disease.
- **Disease of bones and joints:** Rheumatoid arthritis, osteoporosis and gout
- **Principles of cancer:** classification, etiology and pathogenesis of cancer
- **Diseases of bones and joints:** Rheumatoid Arthritis, Osteoporosis, Gout
- **Principles of Cancer:** Classification, etiology and pathogenesis of Cancer

**Unit V**

**7 Hours**

- **Infectious diseases:** Meningitis, Typhoid, Leprosy, Tuberculosis

Urinary tract infections

- **Sexually transmitted diseases:** AIDS, Syphilis, Gonorrhoea

**Recommended Books (Latest Editions)**



## BP203 T. BIOCHEMISTRY (Theory)

45 Hours

**Scope:** Biochemistry deals with complete understanding of the molecular levels of the chemical process associated with living cells. The scope of the subject is providing biochemical facts and the principles to understand metabolism of nutrient molecules in physiological and pathological conditions. It is also emphasizing on genetic organization of mammalian genome and hetero & autocatalytic functions of DNA.

**Objectives:** Upon completion of course student shall able to

1. Understand the catalytic role of enzymes, importance of enzyme inhibitors in design of new drugs, therapeutic and diagnostic applications of enzymes.
2. Understand the metabolism of nutrient molecules in physiological and pathological conditions.
3. Understand the genetic organization of mammalian genome and functions of DNA in the synthesis of RNAs and proteins.

### Course Content:

#### UNIT I

08 Hours

- **Biomolecules**

Introduction, classification, chemical nature and biological role of carbohydrate, lipids, nucleic acids, amino acids and proteins.

- **Bioenergetics**

Concept of free energy, endergonic and exergonic reaction, Relationship between free energy, enthalpy and entropy; Redox potential.

Energy rich compounds; classification; biological significances of ATP and cyclic AMP

#### UNIT II

10 Hours

- **Carbohydrate metabolism**

Glycolysis – Pathway, energetics and significance

Citric acid cycle- Pathway, energetics and significance

HMP shunt and its significance; Glucose-6-Phosphate dehydrogenase (G6PD) deficiency

Glycogen metabolism Pathways and glycogen storage diseases (GSD)

Gluconeogenesis- Pathway and its significance

Hormonal regulation of blood glucose level and Diabetes mellitus

- **Biological oxidation**

Electron transport chain (ETC) and its mechanism.



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Oxidative phosphorylation & its mechanism and substrate level phosphorylation

Inhibitors ETC and oxidative phosphorylation/Uncouplers

### UNIT III

10 Hours

- **Lipid metabolism**

$\beta$ -Oxidation of saturated fatty acid (Palmitic acid)



  
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Formation and utilization of ketone bodies; ketoacidosis

- De novo synthesis of fatty acids (Palmitic acid)

Biological significance of cholesterol and conversion of cholesterol into bile acids, steroid hormone and vitamin D

Disorders of lipid metabolism: Hypercholesterolemia, atherosclerosis, fatty liver and obesity.

- **Amino acid metabolism**

General reactions of amino acid metabolism: Transamination, deamination & decarboxylation, urea cycle and its disorders

Catabolism of phenylalanine and tyrosine and their metabolic disorders (Phenylketonuria, Albinism, alpeptonuria, tyrosinemia)

Synthesis and significance of biological substances; 5-HT, melatonin, dopamine, noradrenaline, adrenaline

Catabolism of heme; hyperbilirubinemia and jaundice

#### UNIT IV

10 Hours

- **Nucleic acid metabolism and genetic information transfer**

Biosynthesis of purine and pyrimidine nucleotides

Catabolism of purine nucleotides and Hyperuricemia and Gout disease

Organization of mammalian genome

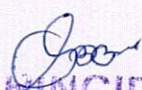
Structure of DNA and RNA and their functions

DNA replication (semi conservative model)

Transcription or RNA synthesis

Genetic code, Translation or Protein synthesis and inhibitors



  
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## UNIT V

07 Hours

- **Enzymes**

Introduction, properties, nomenclature and IUB classification of enzymes

Enzyme kinetics (Michaelis plot, Line Weaver Burke plot)

Enzyme inhibitors with examples

Regulation of enzymes: enzyme induction and repression, allosteric enzymes regulation

Therapeutic and diagnostic applications of enzymes and isoenzymes

Coenzymes –Structure and biochemical functions

### BP 209 P. BIOCHEMISTRY (Practical)

4 Hours / Week

1. Qualitative analysis of carbohydrates (Glucose, Fructose, Lactose, Maltose, Sucrose and starch)
2. Identification tests for Proteins (albumin and Casein)
3. Quantitative analysis of reducing sugars (DNSA method) and Proteins (Biuret method)
4. Qualitative analysis of urine for abnormal constituents
5. Determination of blood creatinine
6. Determination of blood sugar
7. Determination of serum total cholesterol
8. Preparation of buffer solution and measurement of pH
9. Study of enzymatic hydrolysis of starch
10. Determination of Salivary amylase activity
11. Study the effect of Temperature on Salivary amylase activity.
12. Study the effect of substrate concentration on salivary amylase activity.



**T111 - Dispensing Pharmacy (Theory)**

(3 hrs/ week)

**Section - I**

TOPICS	Hrs.
1) <b>Pharmacist:</b> A Health Care Provider, Concept of pharmaceutical health care, Growth of Pharmacy Practice	03
2) <b>Compounding &amp; Dispensing of medication:</b> Definition of dispensing & compounding. Good dispensing & compounding practices, fundamental operations in compounding. Containers & closures for dispensed products, labeling & storage of compounded products. Dispensing of prefabricated dosage forms, patient counseling, and documentation of compounding & dispensing records.	07
3) <b>Prescription:</b> Its parts, types of prescription, prescription pricing & documentation.	05
4) <b>Incompatibilities:</b> Definition types of prescription, prescription pricing & documentation	10
5) <b>Pharmaceutical Calculations:</b> - % Calculations, Allegation method, isotonicity, proof spirit. Posology: factors affecting & Calculations of doses. Weight & measures.	04

**Section - II**


TOPICS	Hrs.
6) <b>Compounding &amp; Dispensing Aspects of -</b>	
i) Formulation & procedure for compounding & dispensing of oral & external use liquids, gargles, nasal drops, sprays, enemas.	04
ii) <b>Suspensions:</b> - Thickening agents, Diffusible & in diffusible type, oral suspensions & lotions.	04
iii) <b>Emulsions:</b> - Emulgents, choice of emulgents, HLB values, two phase emulsion, methods of preparation (Dry & wet gum & soap emulsions.), determination of type, physical stability & causes for instability..	04
iv) <b>Semisolids:</b> - Ointments, Creams, Pastes, jellies, Poultices & Plasters.	07
v) <b>Suppositories:</b> - Formulation, displacement value, compounding & evaluation.	02
vi) <b>Solid Dosage Forms:</b> - Divided & bulk (oral & external) powders, effervescent granules. Filling of Hard gelatin Capsules, dispensing of prefabricated Tablets, Capsules, Pastilles, Lozenges, Pills & tablet triturates.	07
7) <b>Surgical Aids including Ligatures &amp; Sutures:</b> Surgical dressing, medicated bandages, Ligatures & Sutures processing and manufacturing, packing & Q.C. test of catgut	03

**TOTAL Hrs: - 45**

**Books Recommended:**

1. AH. Gennaro **Remington's Pharmaceutical Science-(Mack Publishing)**
2. Collett & Aulton **Pharmaceutical Practice**
3. Hoover **Dispensing of Medications (Mack Publishing)**
4. Sprowls **Prescription Pharmacy Lippincott)**
5. Stocklos **Pharmaceutical Calculations**
6. **IP, BP, USP-NF, NFI and the Pharmaceutical Codex, Martindale Extra Pharmacopoeia**
8. Winfield and Richard **Pharmaceutical Practice**



  
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## P111- Dispensing Pharmacy (Practicals)

(3 hrs/ week)

### Notes:

- (i) All the prescriptions shall be in metric system except a few for practice which shall be in the imperial system.
- (ii) Latest editions of books wherever applicable shall be used.
- (iii) Special attention to be paid to the cleanliness and precise working (including documentation) of the candidate in the laboratory.
- (iv) Minimum thirty exercises should be conducted
  1. Dispensing Vs Compounding
  2. Weighing technique for the dispensing-balance sensitivity - Weight box calibration and - accuracy. Precision of weighing and error evaluation.  
Measuring techniques - Precision and accuracy of measuring and error evaluation  
Devices for accurate dosage measurement  
Handling of prescription - Reading, checking, labeling and dispensing with detailing.  
General Dispensing procedure - Different containers for dispensing, labeling of dispensed medicines - Documentation.
  3. Posology and calculations  
Weights and measures  
Reducing and enlarging formulae  
Percentage calculations  
Dilutions and concentration (Stock solutions)  
H.L.B. System  
Isotonic solutions
  4. Compounding and dispensing with precision of the following preparations:
    - (i) Powders and Granules
      - Compound Magnesium Trisilicate oral powder\*
      - Sedlitz powder\*
      - Isapgol granules\*\*
      - Effervescent granules of sodium sulphate\*\*
      - Zinc, starch and Talc Dusting powder\*
      - Eutectic powder containing Menthol with camphor\*
    - (ii) Solutions
      - Salicylic acid colloid\*
      - Paediatric ferrous sulphate oral solution\*
      - Zinc Sulphate and Zinc chloride mouth wash\*
      - Mouth wash containing Thymol, Menthol, Peppermint oil and a suitable antiseptic.\*\*
    - (iii) Suspensions
      - Paediatric kaolin mixture\*\*
      - Magnesium Trisilicate mixture\*\*
      - Paediatric chalk mixture\*\*
      - Inhalation containing menthol and eucalyptus\*
    - (iv) Emulsions
      - Emulsion for internal use containing acacia
      - White liniment\*
      - Oily calamine lotion\*\*
      - Benzyl Benzoate application\*




  
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T235 Pathphysiology

45 Hours (3hrs/Week)

Sr. No	Chapter	No of Hrs
<b>Section-I</b>		
1.	Basic Principles of cell injury and adaptation, causes, pathogenesis and morphology. Repairs of wounds, factors influencing healing of wounds.	03
2.	Inflammation. A) Acute inflammation. Chemical mediators in inflammation. B) Chronic inflammation.	04
3	Immunity – Transplantation and immunological tolerance, allograft reactions, transplantation antigens, mechanism of rejection of allograft. Autoimmunity I) Criteria for autoimmunity II) Classifications of autoimmune diseases in man , mechanism of autoimmunity.	04
4	Hypersensitivity I) Hypersensitivity type I,II,III,IV II) Biological significance of hypersensitivity. III) Allergy due to food, chemicals and Drugs.	04
5	Pain Pain syndromes- Headache; assessment ,structures involved in headache and head pain. Types of headaches- migraine, cluster headache, muscle contraction, (tension headaches) , headaches affecting elderly Joint pain:- Degenerative joint diseases- osteoarthritis, - types, causes and abnormalities assessment. Rheumatoid arthritis- causes abnormalities, course and prognosis, assessment, subjective, objective management. Gout-cause abnormalities, chronic changes, tophaceous gout- asymptomatic hyperuricemia, chronic gout, maintenance,.	05
6	Types of Acid-Base derangements- Deficiency of water and solute balance, Deficiency of water relative to solute, Anion gap, Dehydration, Hypermnatremia, Hyperosmolar state, Excess fluid and electrolyte (Na), Hypervolemia, Hyperkalemia, Hypokalemia, Respiratory acidosis, Respiratory alkalosis, Metabolic acidosis, Metabolic alkalosis. Arterial oxygen tension and Hemoglobin oxygen saturation curve- blood gas transport.	05
7.	Central Nervous System: Seizure and epilepsy, neural basis of epilepsy, types of epilepsy, Ischemia infarction (stroke) and intracranial hemorrhage, anoxia, brain death. Alzheimer's disease, Dementias, Parkinsonism, Schizophrenia, Depression and Mania	05
<b>Section-II</b>		
8.	Disorder of respiration: Chronic disorders- chronic obstructive pulmonary diseases- Ateletaxis, Emphysema, Asthma, diffuse interstitial lung disease. Acute disorder of respiratory system, Acute respiratory failure, Pneumonia, pulmonary embolism.	03
9.	Pathophysiology of Cancer	06
10	Biological effects of radiation	01
11	Disorders of gastrointestinal tract(GIT): Disorders of oesophagus- Achalasia, gastro-oesophageal reflux and reflux oesophagitis, causes consequences and management. Disorder of stomach, small intestine and large intestine - Peptic ulcer disease-acute ulcer, chronic peptic ulcer., tuberculosis of intestine, Acute intestinal obstruction. Constipation, diarrhea, Hirschsprung's disease(General disorders of GIT e. g. vomiting Nausea, Flatus etc should also be covered) Ulcerative colitis, Crohn's disease	05
12	Endocrine disorders- Pituitary gland- growth hormone- Dwarfism, Gigantism, Adrenal gland-Addison's disease Thyroid gland-Hypo and Hyperthyroidism Sex hormones- Hirsutism, Gynecomastia, virility, impotence etc Pancreas-Diabetes,	08
13	Disorders caused by biological and environment agents: Etiological agent of diseases, diagnosis of infectious diseases-test selection, specimen collection, preservation, transportation, testing and data interpretation infectious diseases Sexually transmitted diseases STD (HIV) pneumonias, leprosy, malaria, food poisoning, Diarrhea/Dysentery (Bacterial and amoebic), typhoid, tuberculosis. Effect of air pollution and smoking-impact of gases like SO <sub>2</sub> , NO, NO <sub>2</sub> and CO	06



  
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**T244 Pathophysiology and Clinical Bio-chemistry**  
**45 Hours (3hrs/Week)**

Sr. No.	Chapter	No of Hrs
	<b>Section-I</b>	
01	Disorders of gastrointestinal tract (GIT): I) Disorders of liver- Infectious hepatitis, types of hepatitis, liver changes in viral hepatitis, assessment-course and complications. Alcoholic liver diseases –fatty liver, Alcoholic hepatitis cirrhosis. Lacnec's cirrhosis, Portal hypertension, hepatic encephalopathy. II) Disorders of the gall bladder and bile ducts- Gall stone formation-types of gall stones assessments and management. Acute cholecystitis –causes and pathological changes. III) Disorders of exocrine pancreas- pancreatitis acute and chronic– types, causes, abnormalities, assessment and management. IV) Nutrition- adequate diet. Malabsorption syndrome, intestinal and pancreatic malabsorption, abnormal bacterial flora, steatorrhea. Protein calorie malnutrition ,vitamins, obesity, pathogenesis of starvation	10
02.	Disorders of Urinary System- Renal failure- Chronic renal failure, Acute renal failure- Obstructive renal failure, pre-renal acute failure, acute tubular necrosis, Urinary tract infections and pyelonephritis – lower urinary tract infection, acute pyelonephritis, chronic pyelonephritis. Glomerular Disease:- types of glomerulonephritis and nerphrotic syndromes	05
03.	Disorders of CVS- Hypertension, Ischemic Heart Diseases- Angina: types and causes diagnosis of ischemic heart disease, management of ischemia and angina pectoris. Atherosclerosis. Myocardial Infarction. CCF-Types of heart failure, causes of heart failure heart cell changes in the heart failure, consequences of decreased myocardial contractility. Clinical manifestation of congestive heart Failure and their pathophysiological basis, management of chronic heart failure. Types of shock, mechanisms and principles	08
	<b>Section-II</b>	
1	<b>Clinical Biochemistry</b> Introduction to clinical biochemistry	01
2	Clinical enzymology: Analytical diagnostic and therapeutics uses of –enzymes I. Enzymes in diagnosis- SGPT, SGOT, Creatine kinase, lactate dehydrogenase and its isoenzymes, β glucuronidase in cancer diagnosis, serum acid phosphate II. Enzymes of pharmaceutical and therapeutic importance-Streptokinase, Urokinase, Hyalauronidase, Collagenase, Papain, Bromelin, Trypsin, Pepsin, Asparaginase, Seratopeptidase and Oncolytic enzymes	03
3.	Diseases related to carbohydrate metabolism – diabetes mellitus and OGTT, Carbohydrate metabolism(inborn errors), Glycogen storage disease, Galactosemia, lactose intolerance, glycosuria or mellituria	03
4	Diseases of protein energy malnutrition- Kwashiorkor and Marasmus Diseases Aromatic amino acid metabolism , Hartnup's disease, Phenylketonuria (PKU), Albinism, Alkaptonuria, Different Tyrosinemias, Sulphur containing amino acid metabolism; Cystinosis, Cystinuria, homocysteinuria, Disease of Branched chain amino acid metabolism; maple syrup urine disease Disorders related to urea cycle metabolism Histidinemia, Hyperprolinemia type I , Hyperprolinemia type II	05  02
5.	Disease related to lipid metabolism – Obesity, atherosclerosis Hyperlipidemia, Hyperlipoproteinemias, Hypercholesterolemias, Hypocholesterolemias, Lipotropic factors II) Abnormalities in Lipoproteinaemia , Glycogen Storage Diseases.	03
6	Organ function tests a. Liver function tests b. Renal function tests-blood urea nitrogen, creatinine, uric acid, creatinine clearance c. Gastric function tests- rennin, pepsin fractional test meal, stimulation of gastric secretion, hyper secretion and its treatment d. Thyroid function tests- determination of hormones- T3,T4,TSH uptake studies. e. Pancreatic function tests- Diabetes – Type – I Type- II-OGTT, glycated Hemoglobin and microalbuminurea	07

**Books Recommended:**

- 1) Robbins Pathologic. Basis of Disease Harcourt Asia Pte.ltd. New Delhi 2000 6<sup>th</sup> edition
- 2) Harsh Mohan. Textbook of Pathology Jaypee New Delhi 2002, 4<sup>th</sup> edition
- 3) Davidson's Principles and Practicé of Medicine. Churchill Livingstone, London1999, 18<sup>th</sup> edition
- 4) Harrison's. Principle of Internal Medicine. Mc-Graw Hill, New Delhi, 2005.16<sup>th</sup> edition (Vol. I,II)
- 5) Styer L. - Biochemistry



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**T244 Pathophysiology and Clinical Bio-chemistry**  
45 Hours (3hrs/Week)

Sr. No.	Chapter	No of Hrs
	<b>Section-I</b>	
01	Disorders of gastrointestinal tract (GIT): I) Disorders of liver- Infectious hepatitis, types of hepatitis, liver changes in viral hepatitis, assessment-course and complications. Alcoholic liver diseases –fatty liver, Alcoholic hepatitis cirrhosis. Lacnec's cirrhosis, Portal hypertension, hepatic encephalopathy. II) Disorders of the gall bladder and bile ducts- Gall stone formation-types of gall stones assessments and management. Acute cholecystitis –causes and pathological changes. III) Disorders of exocrine pancreas- pancreatitis acute and chronic– types, causes, abnormalities, assessment and management. IV) Nutrition- adequate diet. Malabsorption syndrome, intestinal and pancreatic malabsorption, abnormal bacterial flora, steatorrhea. Protein calorie malnutrition ,vitamins, obesity, pathogenesis of starvation	10
02.	Disorders of Urinary System- Renal failure- Chronic renal failure, Acute renal failure- Obstructive renal failure, pre-renal acute failure, acute tubular necrosis, Urinary tract infections and pyelonephritis – lower urinary tract infection, acute pyelonephritis, chronic pyelonephritis. Glomerular Disease:- types of glomerulonephritis and nephrotic syndromes	05
03.	Disorders of CVS- Hypertension, Ischemic Heart Diseases- Angina: types and causes diagnosis of ischemic heart disease, management of ischemia and angina pectoris. Atherosclerosis. Myocardial Infarction. CCF-Types of heart failure, causes of heart failure heart cell changes in the heart failure, consequences of decreased myocardial contractility. Clinical manifestation of congestive heart Failure and their pathophysiological basis, management of chronic heart failure. Types of shock, mechanisms and principles	08
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1	<b>Clinical Biochemistry</b> Introduction to clinical biochemistry	01
2	Clinical enzymology: Analytical diagnostic and therapeutics uses of –enzymes I. Enzymes in diagnosis- SGPT, SGOT, Creatine kinase, lactate dehydrogenase and its isoenzymes, $\beta$ glucuronidase in cancer diagnosis, serum acid phosphate II. Enzymes of pharmaceutical and therapeutic importance-Streptokinase, Urokinase, Hyaluronidase, Collagenase, Papain, Bromelin, Trypsin, Pepsin, Asparaginase, Seratopeptidase and Oncolytic enzymes	03
3.	Diseases related to carbohydrate metabolism – diabetes mellitus and OGTT, Carbohydrate metabolism (inborn errors), Glycogen storage disease, Galactosemia, lactose intolerance, glycosuria or mellituria	03
4	Diseases of protein energy malnutrition- Kwashiorkor and Marasmus Diseases Aromatic amino acid metabolism , Hartnup's disease, Phenylketonuria (PKU), Albinism, Alkaptonuria, Different Tyrosinemas, Sulphur containing amino acid metabolism; Cystinosis, Cystinuria, homocysteinuria, Disease of Branched chain amino acid metabolism; maple syrup urine disease Disorders related to urea cycle metabolism Histidinemia, Hyperprolinemia type I , Hyperprolinemia type II	05
5.	Disease related to lipid metabolism – Obesity, atherosclerosis Hyperlipidemia, Hyperlipoproteinemias, Hypercholesterolemias, Hypocholesterolemias, Lipotropic factors II) Abnormalities in Lipoproteinaemia , Glycogen Storage Diseases.	03
6	Organ function tests a. Liver function tests b. Renal function tests-blood urea nitrogen, creatinine, uric acid, creatinine clearance c. Gastric function tests- rennin, pepsin fractional test meal, stimulation of gastric secretion, hyper secretion and its treatment d. Thyroid function tests- determination of hormones- T3,T4,TSH uptake studies. e. Pancreatic function tests- Diabetes – Type – I Type- II-OGTT, glycated Hemoglobin and microalbuminurea	07

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- 2) Harsh Mohan. Textbook of Pathology Jaypee New Delhi 2002, 4<sup>th</sup> edition
- 3) Davidson's Principles and Practice of Medicine. Churchill Livingstone, London 1999, 18<sup>th</sup> edition
- 4) Harrison's. Principle of Internal Medicine. Mc- Graw Hill, New Delhi, 2005. 16<sup>th</sup> edition (Vol. I,II)
- 5) Styer L. - Biochemistry



  
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**P244 Pathophysiology and Clinical Bio-chemistry**

1) Use and interpretation of biochemical data viz: (Significance of screening the parameter) Diagnostic prognostic screening tests like (rationale behind performing following tests) \*\*

- a) Blood sugar : by O-toluidene, glucose oxidase, (02)
  - b) Blood protein by Biuret, Lowery's method.(01)
  - c) Blood urea (01)
  - d) Serum uric acid (01)
  - e) Urine calcium (01)
  - f) Serum cholesterol(01)
  - g) Serum bilirubin (01)
  - h) Blood creatinine(01)
  - i) Blood chlorides(01)
  - j) SGPT (01)
  - k) SGOT(01)
  - l) Urine amylase (01)
  - m) LDH(01)
  - n) Separation of amino acids by two dimensional Paper Chromatography. (Demonstration) (01)
  - o) Study of enzyme kinetics and factors affecting its activity. (construction of Michaelis – Menton curve, optimum temperature, optimum PH, Lineweaver Burke plot for following 1) enzymatic hydrolysis of glycogen by amylase and 2) conversion of sucrose to glucose by invertase. (02)
2. Pregnancy test\*
  3. Measurement of Glucose by glucometer\*
  4. Qualitative tests for identification of given protein sample\*
  5. Preparation of plasma (using diff.anti-coagulants),serum\*
  6. Widal test\*
  7. RA factor test\*

\* Indicate minor experiments

\*\* Indicate Major experiments

**Books Recommendeds:**

1. Mukherjee K.L. Medical Laboratory Technology. Tata McGraw Hill. New Delhi,1999 4<sup>th</sup> edition (Vol.I,II,III)
2. Harold Varley. Practical Clinical Biochemistry. CBS, New Delhi1988, 4<sup>th</sup> edition
3. Deb A.C. Viva &Practicals in biochemistry. Central book agency. Calcutta 2002
4. Plummer D.T. An Introduction to Practical Biochemistry. Tata Mc-Graw Hill, New Delhi,1994, 3<sup>rd</sup> edition
5. Godkar P.B. Clinical Biochemistry- Principles and Practice. Bhalani Publishing House, Bombay, 5<sup>th</sup> edition.

**Scheme for practical**

SR.NO	Head	Sessional	Annual
1	Synopsis	04	10
2	Major experiment	07	30
3	Minor experiment	03	15
4	Viva	02	10
5	Duration	03 Hrs	4 Hrs
6	Journal & Attendance	10	-
	Total	30	70



  
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6	<b>Drugs Acting on Cardio Vascular System:</b> <b>Anti-Hypertensives, Anti-Arrhythmic Agents, Anti-anginal agents,</b> <b>Anti-hyperlipidemic agents</b> Captopril, Enalapril, Diltiazem hydrochloride, Nifedipine, Verapamil	11
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Total Hrs-45

**Books Recommended:**

1. Principles of Medicinal Chemistry, Foye, Lemke and Williams, Indian Ed. B. I. Waverly, Pvt. Ltd. New Delhi 1995
2. Wilson and Gisvold, Textbook of Organic Medicinal and Pharmaceutical Chemistry, J. N. Delgado, W.A. Remers, Lipincott-Raven 10th Ed., 1998
3. Essentials of Medicinal Chemistry by Koralkovas, 2nd edition, Wiley- Inter Sci. Pub. 1988
4. The Organic Chemistry of Drug Synthesis: Daniel Lednicer, John Wiley and Sons. Inc. Vol.-6
5. Profiles in Drug Synthesis: V.N. Gogte
6. Burger's Medicinal Chemistry and Drug Discovery (Vol. 1-6) Wiley Inter Sci. Pub
7. Textbook of Pharmaceutical Chemistry by Harkishansing & Kapoor
8. Principle of Medicinal Chemistry (Volume I & II) by Kadam, Mahadik and Bothara
9. Unit Processes in Organic Chemistry, V ed., Groggins, P. H., Tata McGraw Hill

**P352 Pharmaceutical Medicinal Chemistry –I (Practicals)**  
**(3Hrs/week)**

Sr. no.	Topic
1	<b>Synthesis of the following compounds</b> <i>p</i> -bromothiophenol* <i>o</i> -Iodo benzoic acid and <i>o</i> -chlorobenzoic acid (Sandmeyer Reaction)** Benzilic acid from benzoin* Toluene- <i>p</i> -Sulphonate* Acetanilide from Acetophenone (Beckmann Rearrangement)** Benzanilide from Benzophenone** Benzoic acid* Benzylidene acetophenone **
2	<b>A) Microwave oven synthesis of the following compounds [Ref. 4, 5, 6]</b> Benzil* Benzpinacol* Benzillic acid* Succinic anhydride* Ethyl benzoate* 3-methyl -1- phenyl -5-pyrazolone** 4-nitrobenzyl benzoate* Phenytoin** Benzocaine** Butamben** 2,3 Diphenylquinoxaline**



  
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**T352 Pharmaceutical Medicinal Chemistry–I (Theory)**  
(3Hrs /week)

Sr.no.	Topic	Hours
<b>Section I</b>		
1.	<b>Introduction:</b> Medicinal Chemistry: Definition And Objectives—using the internet for medicinal chemistry; Sources of Drugs-Serendipity, Random Screening, Extraction from Natural Sources, Molecular Modifications.	03
2	<b>Theoretical Aspects of Drug Action:</b> The Ferguson Principle; Drug targets: Molecular mechanisms of drug action; Measurement and Expression of Drug Effects. Physicochemical parameters affecting drug action: Solubility, Partition Coefficient, Surface Activity, <i>pKa</i> , Ionisation. Stereochemistry and drug action: Optical isomerism, Geometrical isomerism, Bio-isosterism.	06
3	<b>Metabolism</b> Routes of Elimination: Factors Affecting Metabolism – Genetic Factors, Physiological Factors, Pharmaceutical Factors, Drug Interactions. Metabolic Process- Phase I (Oxidation, Reduction & Hydrolysis) and Phase II (Glucuronide Conjugation, Acetylation, Methylation, Sulphate Conjugation, Conjugation with amino acids and Mercapturic acid formation)	06
4	<b>Introduction to Receptor Concept</b> History, Affinity, Receptor & biological response, Drug Receptor interaction, Forces involved in drug receptor interaction. Receptor Theories, Conformational flexibility and multiple modes of Action	06

**SECTION II**

The following topics should be covered with the points listed below

1. Introduction
2. Classification
3. Mechanism of action
4. Structure-activity relationship
5. Pharmacokinetics (Metabolism) and
6. Therapeutic uses
7. Synthesis of drugs official in IP (listed in respective classes)

5	<b>Drugs Acting on ANS</b>	
	<b>a. Drugs Acting on Cholinergic Nervous System:</b> Atropine sulphate, Pilocarpine nitrate	06
	<b>b. Drugs Acting on Adrenergic Nervous System:</b> Adrenaline, Noradrenaline, Prazosin hydrochloride, Propranolol, Clonidine hydrochloride	04
	<b>c. Local Anaesthetics:</b> Benzocaine, Lignocaine, Procaine hydrochloride	03



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**T363 Pharmacology-II (Theory)**  
(3hrs/Week)

Sr. No.	Topic	No of Hrs
<b>Section-I</b>		
1.	<b>Pharmacology of drugs acting on Central Nervous System</b>	
	a) General considerations (Introduction), Neurotransmission and transmitters in CNS	05
	b) Alcohol	02
	c) General anesthetics	02
	d) Drugs used in parkinsonism	01
	e) Sedatives and hypnotics	03
	f) CNS stimulants	02
	g) Anti-Convulsants	02
	h) Psychiatric disorders and their treatment (Antipsychotics, anxiolytics and antidepressants)	05
<b>Section-II</b>		
2.	<b>Opioid Analgesics</b>	03
3.	<b>Drug dependence and drug abuse</b>	02
4.	<b>Pharmacology of local-anesthetics</b>	02
5	<b>New Drug Development</b>	01
	a) Pre-clinical evaluation (acute ,subacute & chronic toxicity, ADME, therapeutic index)	02
	b) Clinical evaluation	02
6.	<b>Bio-assays-</b> Concept, Principles, Merits & Demerits, Methods, Types, Bioassay of insulin, Digitalis as per official books. Brief to Biostatistics with reference to Bio-assay.	05
7.	<b>Pharmacology of drugs acting on Respiratory system</b>	06
	a) Mucolytics	
	b) Expectorants	
	c) Antitussives	
	d) Asthma	
Total Hrs.		45

**Books Recommended:**

- 1) Satoskar R.S, Bhandarkar S.D, Rage N.N. Pharmacology and Pharmcotherapeutics. Popular Prakashan Mumbai 19<sup>th</sup> edition.
- 2) Barar F.S.K. Essentials of Pharmacotherapeutics, S.Chand & Company Ltd. New Delhi
- 3) Tripathi K.D. Essentials of medical Pharmacology ,Jaypee New Delhi 2004 5<sup>th</sup> edition
- 4) Rang H.P., Dale M.M. *et.al*. Pharmacology. Churchill Livingstone, New Delhi 2005 5<sup>th</sup> edition
- 5) Katzung B.G .Basic & Clinical Pharmacology Mc-graw Hill, New Delhi 2001. 8<sup>th</sup> edition.
- 6) Lewis's Pharmacology. Churchill Livingstone London, 1980 5<sup>th</sup> edition
- 7) Goodman Gilman, The Pharmacological basis of therapeutics. Mc-graw Hill New Delhi 2001 10<sup>th</sup> edition
- 8) Seth S.D. Textbook of Pharmacology Elsevier, New Delhi 2004 2<sup>nd</sup> Edition
- 9) Harvey R.A., Champe P.C. Lippincott's Illustrated Reviews-Pharmacology. Lippincott Williams & Wilkins, Pennsylvania. 2000 2<sup>nd</sup> edition.



  
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Examination Pattern is as follows

Sr. No.	Types of Question	Sessional	University
	Duration	3 Hrs	4 Hrs
1	Synopsis	5	10
2	Viva Voce	5	10
3	Exp. Major	-	30
	Minor	10	20
4	Journal Marks	10	-
	Total Marks	30	70



  
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**T366 Pharmaceutical Biotechnology (Theory)**  
(3hrs/Week)

<b>Section I</b>		
Sr.No.	Topic	Hours
1	<b>Biotechnology</b> -Definition, scope and potential	<b>02</b>
2	<b>Fermentation technology and industrial microbiology</b>  Fermentation as a biochemical process  Construction, working and types of fermenter, fermentation monitoring, in-situ recovery and downstream processing.  Industrial production of Penicillin, dextran and Vit B <sub>12</sub>  Waste discharge & effluent treatment	 2  4  2  2
3	<b>Plant cell and tissue culture</b>  Cellular totipotency  Laboratory and media requirements for establishing in vitro culture  Cell culture techniques –organ, callus, single cell, cell suspension and protoplast culture  Somatic hybridization and cybridisation-isolation and fusion of protoplast, selection of hybrids and cybrids and their applications  Production of secondary metabolites using hairy root culture, immobilized cell culture and elicitor-induced accumulation.  Introduction to germplasm conservation	 1  2  3  3  3  1
<b>Section II</b>		
04	<b>Animal cell culture</b> Introduction to animal cell culture, media, culture techniques and types of animal cell culture	<b>05</b>
5	<b>Genetic recombination of animal cells</b> Steps in genetic recombination, endonucleases, vectors, strain construction and gene transfer methods.	<b>05</b>
6	Biotechnological production of human insulin, human growth hormone and interferons. Impurities in bioproducts.	<b>05</b>
7	Principle and applications of polymerase chain reaction (PCR), gel electrophoresis, peptide mapping, protein sequencing, HPLC and immunoassay	<b>05</b>

Total Hrs- 45




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### Books Recommended

1. Bainse William, Biotechnology from A to Z, 2nd Edition, 2002, Oxford University Press.
2. Casida L. E., Industrial Microbiology, 2000, New Age International, Delhi.
3. De Kalyan Kumar, Plant Tissue Culture, 1st Edition, 1997, New Central Book Agency (P) Ltd.
4. Disouza J. I., Killedar S. G., Biotechnology and Fermentation Process, Nirali Prakashan
5. Freifelder David, Molecular Biology, 2nd Edition, 1998, Narosa Publishing House.
6. Gupta P. K., Elements of Biotechnology, 1st Edition, 2001, Rastogi Pub., Meerut.
7. Higgins, Best D.J. and Jones J., Biotechnology: Principles and Applications, Blackwell Scientific Publications, Boston, MA 1985.
8. Hugo W. B., Russell A. D., Pharmaceutical Microbiology, 6th Edition, 1998
9. Razdan M.K., An introduction to plant tissue culture, Oxford & IBH Pub., Co. Pvt. Ltd, New Delhi.



  
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**T483 Clinical Pharmacology and Pharmacy (Theory)**

Sr. No.	Topics	No of Hrs
<b>Section-I</b>		
1.	<b>Toxicology</b> a) Acute, Sub acute and Chronic toxicity b) Poison, Types and Classification and General treatment of Poisoning, c) Signs, Symptoms and treatment of acute and chronic poisoning due to i) Barbiturates   ii) Alcohol   iii)Morphine iv) Insecticides   vi) Snake bites   vii) Heavy metals ( Lead, Arsenic, Mercury) d) Drug and Poison information center	02 02 08  01
2.	Drug interactions, Role of Pharmacist in minimizing Drug interactions	07
3.	Drug induced diseases	04
<b>Section-II</b>		
4.	Therapeutic Drug Monitoring	03
5.	Adverse Drug Reaction Monitoring	03
6.	Ambulatory Patient Care, Institutional Patient Care, Role of pharmacist in long term care	01
7.	Medication Errors & Role of Pharmacist in safe use of medicines, Use of medicines in	02

(3hrs/Week)



  
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	pregnancy.	
8	Drug Utilization Evaluation -Introduction, Utilization, Evaluation	04
9.	Essential Drug Use & Rational Drug Use	04
10.	Pharmacoeconomics	02
11.	Pharmacoepidemiology	02

**Total Hrs-45**

**Books Recommended:**

1. Bennett P.N, Brown M.J. Clinical Pharmacology Churchill living stone New Delhi 2003 9<sup>th</sup> edition
2. Melmon & Morrell's Clinical Pharmacology. Mc-Graw Hill. New Delhi 2000 4<sup>th</sup> edition
3. Craig C.R, Stitzel R.E. Modern Pharmacology with Clinical application, Lippincott Williams & Wilkins, New York 2004 6<sup>th</sup> edition
4. Raymond J.M. Niesink, John de vries. Hollinger M.A. Toxicology- Principle and applications, CRC, Florida
5. Klaassen C.D, Casarett & Doull's. Toxicology. The basic science of poison Mc-Graw Hill, New Delhi 6<sup>th</sup> ed
6. Remington's Pharmaceutical Science and practice pharmacy .Lippincott Williams and Wilkins, New Delhi 2004, 20<sup>th</sup> edition
7. Katzung B.G. Basic & Clinical Pharmacology. Mc-Graw Hill, New Delhi 2001 8<sup>th</sup> edition
8. Clinical pharmacy practice - C. W. Blissit
9. Therapeutic drug monitoring - B. Widdop
10. TDM & Clinical biochemistry – Mike Hallworth
11. Textbook of therapeutics, Drug & disease management - 7th edition - Eric T. Herfindel, Dick. R. Gourley
12. Recent developments in TDM & Clinical toxicology – I. Sunshine - Marcel – Dekker 1992
13. Handbook of TDM: – Simkin
14. Parrthsarathi G, Hansen Kavin Nytorrt & Nahata Milap C. A Textbook of Clinical Practice: Essential Concepts & skills, Orient Longman.
15. Roger walker, Clive Edwards, Clinical Pharmacy & therapeutics, 3<sup>rd</sup> International Edition, Churchill Livingstone.
16. Dr. Tipnis H. P, Dr. Bajaj Amrita, Clinical Pharmacy, Career Publication.



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**P483 Clinical Pharmacology and Pharmacy (Practical)**  
(3hrs/Week)

- 1) Paracetamol/ Carbon tetra Chloride induced hepatotoxicity in rats-Changes in markers like SGOT, SGPT, and Bilirubin, LDH etc. \*\*.
- 2) Determination and interpretation of biochemical Data by Urine analysis. \*\*.
  - a) Urine microscopy.
  - b) Determination of normal constituent.
  - c) Determination of Abnormal constituent like albumin, blood, ketone bodies, uric acid, casts, microorganisms.
- 3) Comment on the given prescriptions with reference to case report mentioning possible therapeutic uses, and contraindications, with dose, route of administration, justification of inclusion of each ingredient, and possible Drug interactions. (At least one case of important diseases should be discussed on basis of available evidences from literature and if possible from Hospitals.) \*.
- 4) Patient Counseling-Interview techniques and advice on some theoretical conditions. \*..
- 5) ADR reporting according to the Blue letter of AADRAC, Australia, Yellow form of CSM, UK.  
ADR reporting form developed by KEM, Mumbai. \*.
- 6) Calculating Cost of prescription. \*.
- 7) Histological studies in biopsies.(Human permanent slide) \*.
- 9) Preparation of information material for educating patients about drug usage. \*.

Sr. No.	Types of Question	University	
		Sessional	3 Hrs
	Duration		4 Hrs
1	Synopsis	5	10
2	Viva Voce	5	10
3	Exp. Major	-	30
	Minor	10	10+10
4	Journal Marks	10	-
	Total Marks	30	70

**Books Recommended:**

- 1) Bennett P.N, Brown M.J. Clinical Pharmacology Churchill living stone New Delhi 2003 9<sup>th</sup> edition
- 2) Melmon & Morrelli's Clinical Pharmacology. Mc-Graw Hill. New Delhi 2000 4<sup>th</sup> edition



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- 3) Craig C.R, Stitzel R.E. Modern Pharmacology with Clinical application, Lippincott Williams & Wilkins, New York 2004 6<sup>th</sup> edition
- 4) Raymond J.M. Niesink, John de vries. Hollinger M.A. Toxicology- Principle and applications, CRC, Florida 96
- 5) Klaassen C.D, Casarett & Doull's. Toxicology. The basic science of poison Mc-Graw Hill, New Delhi 6<sup>th</sup> ed.
- 6) Remington's Pharmaceutical Science and practice pharmacy .Lippincott Williams and Wilkins, New Delhi 2004, 20<sup>th</sup> edition
- 7) Katzung B.G. Basic & Clinical Pharmacology. Mc-Graw Hill, New Delhi 2001 8<sup>th</sup> edition
- 8) Clinical pharmacy practice - C. W. Blissit
- 9) Therapeutic drug monitoring - B. Widdop
- 10) TDM & Clinical biochemistry – Mike Hallworth
- 11) Textbook of therapeutics, Drug & disease management - 7th edition - Eric T. Herfindel, Dick. R. Gourley
- 12) Recent developments in TDM & Clinical toxicology – I. Sunshine - Marcel – Dekker 1992
- 13) Handbook of TDM. – Simkin

Minimum Twelve numbers of Experiments should be performed. Experiments requiring three steps should be classified as Minor-first two steps, and Major- last step

#### Books Recommended

- 1) Text Book of Practical Organic Chemistry – A.I. Vogel
- 2) Practical Organic Chemistry – Mann and Sanders
- 3) Systematic identification of Organic Composition, Shriner and Fuson
- 4) Introduction to Spectroscopy, Donald L. Pavia, Third Edition, Harcourt College Publishers
- 5) Introduction to Spectroscopy, Silverstein, B.

Examination Pattern is as follows


Sr. No.	Types of Question	Sessional	University
	Duration	3 Hrs	4 Hrs
1	Synopsis	5	10
2	Viva Voce	5	10
3	Exp. Major	-	30
	Minor	10	20
4	Journal Marks	10	-
	Total Marks	30	70

#### T473 Pharmacology III (Theory)

(3hrs/Week)

Sr.No.	Topics	No of Hrs
	Section-I	



  
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1.	<b>Endocrine system</b> a) Thyroid and Anti Thyroid drugs b) Insulin, Insulin analogues and Oral Hypoglycemic agents c) Male and Female Sex hormones and oral contraceptives d) Oxytocin and other uterine stimulants and relaxants	01 02 03 03 01
2.	<b>Cardiovascular system</b> a) Anti-hypertensives b) Anti anginal drugs c) Anti arrhythmic drugs d) Drugs used for therapy of Congestive Cardiac Failure e) Drugs used in Hyperlipidemias	03 02 03 03 02
<b>Section-II</b>		
3.	<b>Gastro-intestinal system</b> a) Anti-Ulcer drugs and Antacids b) Laxative and purgatives c) Emetic and Anti emetic d) Appetizers and Digestants and carminatives	02 01 02 01
4.	<b>Diuretics</b> Pharmacology of drugs acting n Renal system ( Diuretic) and Anti-diuretics	02
5.	<b>Pharmacology of autacoids and their Antagonist</b> a) Histamine and Antihistaminic b) 5- Hydroxytryptamine and its antagonists c) Lipid derived autacoids and platelet activating factor d) Non Steroidal Anti-inflammatory Drugs	02 02 02 02
6.	<b>Drug Acting on Blood and Blood Forming agent</b> a) Coagulants and anti-coagulants b) Haemopoietics c) Thrombolytics and antiplatelet	02 02 02
Total Hrs.		45

#### Books Recommended

- 1) Satoskar R.S, Bhandarkar S.D, Rage N.N. Pharmacology and Pharmcotherapeutics. Popular Prakashan Mumbai 19<sup>th</sup> edition.
- 2) Barar F.S.K. Essentials of Pharmacotherapeutics, S.Chand & Company Ltd. New Delhi
- 3) Tripathi K.D. Essentials of medical Pharmacology ,Jaypee New Delhi 2004 5<sup>th</sup> edition
- 4) Rang H.P., Dale M.M. *et.al.* Pharmacology. Churchill Livingstone, New Delhi 2005 5<sup>th</sup> edition
- 5) Katzung B.G .Basic & Clinical Pharmacology Mc-graw Hill, New Delhi 2001. 8<sup>th</sup> edition.
- 6) Lewis's Pharmacology. Churchill Livingstone London,1980 5<sup>th</sup> edition
- 7) Goodman Gilman, The pharmacological basis of therapeutics. Mc-graw Hill New Delhi 2001 10<sup>th</sup> edition
- 8) Seth S.D. Textbook of Pharmacology Elsevier, New Delhi 2004 2<sup>nd</sup> Edition



  
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# **Activity Report**



**President :**  
Shri Amrishbhai R. Patel  
M.L.A.

**Principal :**  
Dr. S. B. Bari  
M.Pharm. Ph.D., D.I.M.F.J.C.

**Activity report**  
Submitted to  
**The Principal,**  
**H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur**

<b>Name of Activity</b>	<b>Online Quiz on the Occasion of " World Health Day"</b>
<b>Organizer</b>	H. R. Patel Institute of pharmaceutical Education and Research Shirpur.
<b>Venue</b>	HRPIPER
<b>Name of Speaker With contact details</b>	-
<b>Date of activity</b>	<b>07 April 2023</b>
<b>Objectives</b>	World Health Day aims to raise awareness about global health issues, promote health equity by addressing disparities, encourage collaboration among stakeholders, and highlight progress in improving health outcomes worldwide
<b>In charge</b>	Ms.H.T.Jadhav ,Mr.M.S.Shaikh
<b>Number of Participant</b>	
<b>Brief Report on activity</b>	<b>World Health Day (WHD)</b> is celebrated on 7 April every year to mark the anniversary of the founding of WHO in 1948. Each year, a theme is selected to highlight a priority area of public health concern in the world. World Health Day aims to raise awareness about global health issues, promote health equity by addressing disparities, encourage collaboration among stakeholders, and highlight progress in improving health outcomes worldwide. Fruitful For Students their General knowledge and examinations like GPAT ,Competitive exam similar like that .



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**'Serving Nation's Health'**

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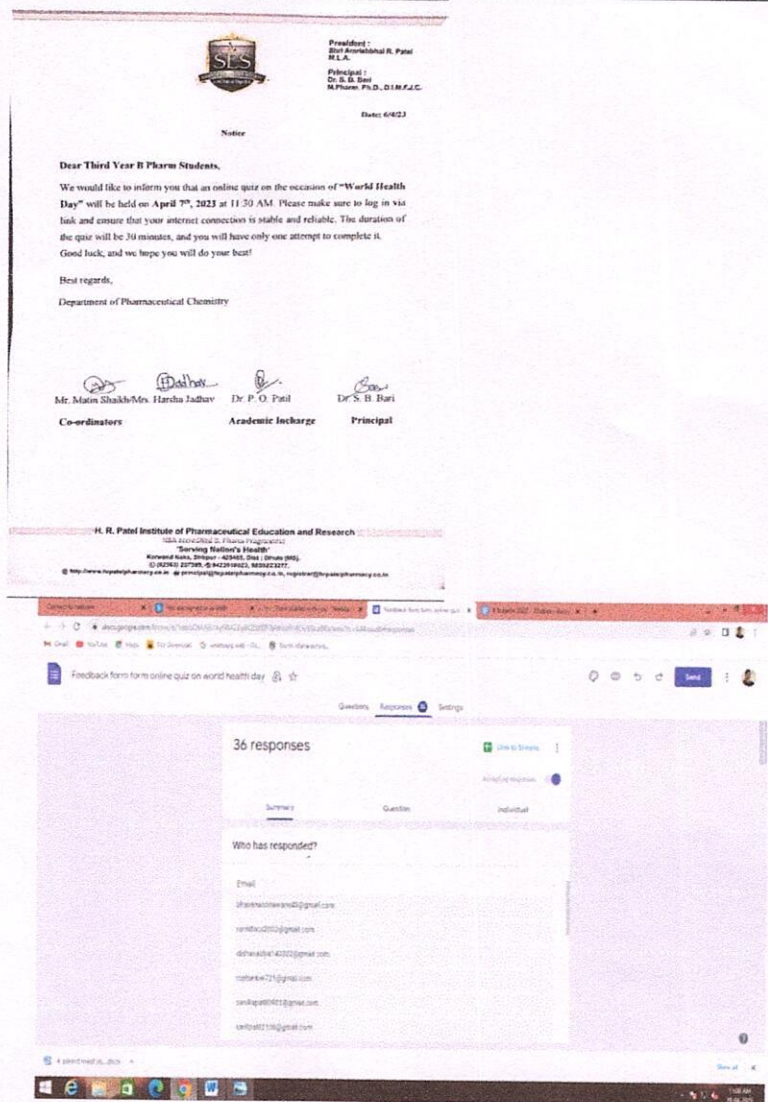
@ <http://www.hrpatelpharmacy.co.in> ✉ [principal@hrpatelpharmacy.co.in](mailto:principal@hrpatelpharmacy.co.in), [registrar@hrpatelpharmacy.co.in](mailto:registrar@hrpatelpharmacy.co.in)



**President :**  
**Shri Amrishbhai R. Patel**  
**M.L.A.**

**Principal :**  
**Dr. S. B. Bari**  
**M.Pharm. Ph.D., D.I.M.F.J.C.**

**Photograph  
 Of activity**



**Outcome**

The online quiz on the occasion of "World Health Day" Was successfully promoted health awareness, education, and engagement among participants. The quiz allowed individuals from different backgrounds to test their knowledge, gain valuable insights, and connect with a community focused on health-related topics. We are confident that the quiz had a positive impact on participants' understanding of health and contributed to the promotion of a healthier society.



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**President :**  
Shri Amrishbhai R. Patel  
M.L.A.

**Principal :**  
Dr. S. B. Bari  
M.Pharm. Ph.D., D.I.M.F.J.C.

**Activity report**  
Submitted to  
**The Principal,**  
**H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur**

<b>Name of Activity</b>	<b>Blood Donation Camp</b>
<b>Organizer</b>	H. R. Patel Institute of pharmaceutical Education and Research Shirpur.
<b>Venue</b>	HRPIPER
<b>Name of Speaker With contact details</b>	-
<b>Date of activity</b>	<b>14 September 2022</b>
<b>Objectives</b>	A blood donation camp's goals are to increase the availability of blood for patients in need, raise awareness of the value of voluntary blood donation, involve the community in a worthwhile cause, offer health screenings to potential donors, find new donors for future donations, and show gratitude and recognition to donors for their significant contributions. While encouraging neighbourhood involvement and a sense of social duty, these camps seek to assure a sufficient and secure blood supply.
<b>In charge</b>	Dr. R. E. Mutha, Dr. S. P. Deshmukh
<b>Number of Participant</b>	77
<b>Brief Report on activity</b>	Blood Donation camp was organized on the occasion of the birthday of Hon. Amrishbhai Patel on 14/09/2022. In this blood donation camp 77 blood donors donated their blood including students and staff. This social activity was organized to inculcate social; responsibility among the students. NSS unit students helped for the smooth conduction of the event.



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**President :**  
**Shri Amrishbhai R. Patel**  
**M.L.A.**

**Principal :**  
**Dr. S. B. Bari**  
**M.Pharm. Ph.D., D.I.M.F.J.C.**

<p><b>Photograph Of activity</b></p>	
<p><b>Outcome</b></p>	<p>In this blood donation camp 77 blood donors donated their blood including students and staff.</p>



*Principal*  
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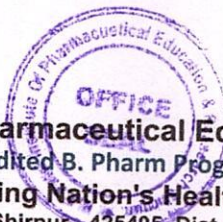


**President :**  
Shri Amrishbhai R. Patel  
M.L.A.

**Principal :**  
Dr. S. B. Bari  
M.Pharm. Ph.D., D.I.M.F.J.C.

**Activity report**  
Submitted to  
**The Principal,**  
H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur

<b>Name of Activity</b>	<b>Health Camp for Elderly Persons under NSS</b>
<b>Organizer</b>	H. R. Patel Institute of pharmaceutical Education and Research Shirpur.
<b>Venue</b>	Kharde, Shirpur
<b>Name of Speaker With contact details</b>	Mohandas Bhamre and Dr. Anil Patil Gaurav
<b>Date of activity</b>	31 January 2022
<b>Objectives</b>	Camp is to provide initial care to people in life-threatening conditions which reflect the unique strengths and goals of medical ethics.
<b>In charge</b>	Dr. Swati Deshmukh and Mr. Sopan Nangare
<b>Number of Participant</b>	35
<b>Brief Report on activity</b>	NSS unit of HRPIPER organized Health camp for elderly patients on 31.01.2022. In this Camp Chief guest Mr. Mohandas Bhamre and Dr. Anil Patil Gaurav Foundation was present with their 20 friends. In this program all guest were felicitated with bouquet. Chief guest Mr. Mohandas Bhamre and Dr. Anil Patil Gaurav Foundation felicitate Dr. S. B. Bari sir for his achievement as Advisor of APTI Nashik division. All guests were given information about Alzheimer disease and diagnostic measures in Nano lab by Mr. Sopan Nangare sir. Blood pressure monitoring, Blood group testing and Body weight of 13 guests were performed by NSS volunteers. Information on diet importance for good health is discussed by Mrs. Swati Deshmukh.



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**President :**  
**Shri Amrishbhai R. Patel**  
**M.L.A.**

**Principal :**  
**Dr. S. B. Bari**  
**M.Pharm. Ph.D., D.I.M.F.J.C.**

Photograph  
 Of activity



**Outcome**

Health check camp was done successfully.



*(Signature)*  
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**Activity report**  
Submitted to  
**The Principal,**  
H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur

<b>Name of Activity</b>	<b>Blood Group Detection Camp</b>
<b>Organizer</b>	H. R. Patel Institute of pharmaceutical Education and Research Shirpur.
<b>Venue</b>	H. R. Patel Women's Secondary and Higher Secondary School, Shirpur
<b>Name of Speaker With contact details</b>	-
<b>Date of activity</b>	18 December 2021
<b>Objectives</b>	The objective of camp was that everyone should know his/her blood group so that no time is wasted at the time of emergency prior to blood transfusion.
<b>In charge</b>	Dr. Piyush S. Bafna
<b>Number of Participant</b>	244
<b>Brief Report on activity</b>	The Department of Pharmacology at HRPIPER had organized a blood group detection camp at H. R. Patel Women's Secondary and Higher Secondary School, Shirpur on 18.12.2021 on the occasion of "Late Hemantben Patel (Mummiji) Jayanti. The social camp was conducted through guidance by the Principal Dr. S. B. Bari sir and the whole activity was coordinated jointly by Dr. P. S. Bafna (Head of Department) and Mr. R. R. Raghuvanshi (NSS officer) and other supportive staff i.e. Miss N. D. More, Mr. J. H. Patil, Miss. S. G. Chaudhari, Mr. A. S. Jadhav, Mr. N. T. Thakre and Mr. Sunil Bhil with all D. Pharm Volunteers. In the camp a total 244 participant's blood group were detected who are studying in class 9th and 10th and majority of them belong to rural places. The event is honoured by the presence of President R. B. Patil (Principal, H. R. Patel Women's Secondary and Higher Secondary School, Shirpur) and chief guest Dr. P. B. Ninave (Principal, H. R. Institute of Pharmacy).

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<p style="text-align: center;"><b>Photograph Of activity</b></p>	<div style="display: flex; justify-content: space-around;">   </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;"><b>पटेल कन्या विद्यालयात रक्तगट तपासणी</b></p> <p style="text-align: center;"><b>लिपू</b></p> <p>शहरातील एच. आर. पटेल कन्या माध्यमिक व उच्च माध्यमिक विद्यालयात रमेशोबाबांच्या संतर्गात १२२ विद्यार्थिनींची रक्तगट व बी.एम. आय. तपासणी करण्यात आली.</p> <p>स्व. हेमनंजन पटेल यांच्या संस्थापक मंडळींच्या संस्काराने रक्तगट तपासणी शिबिराचे आयोजन करण्यात आले. या कार्यक्रमाच्या अध्यक्षस्थानी प्राचार्य आर. बी. पाटील होते. प्रमुख पाहुणे म्हणून डॉ. पी. बी. भिन्ने (प्राचार्य, एच. आर. पटेल धर्मसमी महाशिक्षालय शिरपुर), डॉ. पी. एन. बापना, एम. डी. मोरे मंडळ, जे. एच. पाटील, पर्यवेक्षक जे. पी. पाटील उपस्थित होते.</p> <p>कार्यक्रमाचे सुरुवात डॉ. एम. ए. शिरपुरकर यांच्या प्रेरणा व मार्गदर्शनाखाली करण्यात आली. कार्यक्रमाचे प्रास्ताविक राष्ट्रीय सेवा योजनेचे कार्यक्रमाध्यक्ष डॉ. आर. आर. रघुवंशी यांनी केले. कार्यक्रमाचे प्रास्ताविक डॉ. आर. आर. पाटील यांनी आरंभ्यासाठी केले. डॉ. पी. एन. बापना, एम. डी. मोरे मंडळ, जे. एच. पाटील, पर्यवेक्षक जे. पी. पाटील उपस्थित होते.</p> <p>कार्यक्रमाचे सुरुवात डॉ. एम. ए. शिरपुरकर यांच्या प्रेरणा व मार्गदर्शनाखाली करण्यात आली. कार्यक्रमाचे प्रास्ताविक डॉ. आर. आर. पाटील यांनी आरंभ्यासाठी केले. डॉ. पी. एन. बापना, एम. डी. मोरे मंडळ, जे. एच. पाटील, पर्यवेक्षक जे. पी. पाटील उपस्थित होते.</p> </div>
<p style="text-align: center;"><b>Outcome</b></p>	<p>Students get well practice of blood group detection and become strong bond between teacher and student.</p>



*S.B.*  
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M.Pharm. Ph.D., D.I.M.F.J.C.

**Activity report**  
Submitted to  
**The Principal,**  
**H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur**

<b>Name of Activity</b>	<b>Blood Group Detection Camp (Kharde)</b>
<b>Organizer</b>	H. R. Patel Institute of pharmaceutical Education and Research Shirpur.
<b>Venue</b>	Kharde, Shirpur
<b>Name of Speaker With contact details</b>	-
<b>Date of activity</b>	30 September 2021
<b>Objectives</b>	The objective of camp was that everyone should know his/her blood group so that no time is wasted at the time of emergency prior to blood transfusion.
<b>In charge</b>	Dr. Piyush S. Bafna
<b>Number of Participant</b>	197
<b>Brief Report on activity</b>	Department of Pharmacology at HRPIPER had organized a blood group detection camp at RCP School, Kharde on 30th Sept 2021 from 10.00 am to 5.00 pm on the occasion of memories of late Tapanbhajji Patel. The social camp was conducted through guidance by the Principal Dr. S. B. Bari sir and the whole activity was coordinated jointly by Dr. P. S. Bafna (Head of Department) and Mr. Salunkhe sir. In the camp total 197 participants from class 8th, 9th and 10th were participated and actual checking was performed by expert volunteers of B. Pharm from HRPIPER. The event is graced by the presence of G. B. Gujar (project director of RCP medical foundation), Principal Dr. S. B. Bari (HRPIPER) and Dr. Pradip Salunkhe (RCP, School) and Dr. Manoj Patil. The event is further coordinated by the helping hands of Miss. S. P. Deshmukh, Mr. S. K. Patil, Mr. P. S. Patil, Mr. N. T. Thakare and Mr. S. G. Bhil.



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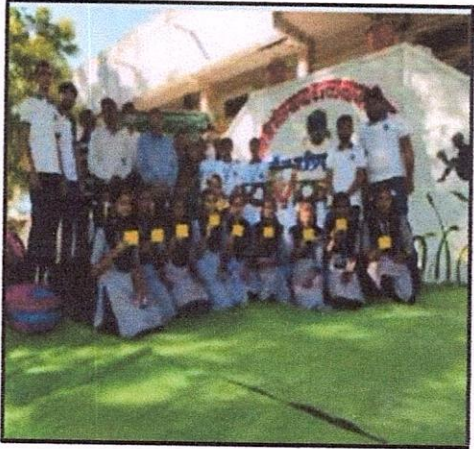
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<p>Photograph Of activity</p>	 
<p>Outcome</p>	<p>Students get well practice of blood group detection and become strong bond between teacher and student.</p>



  
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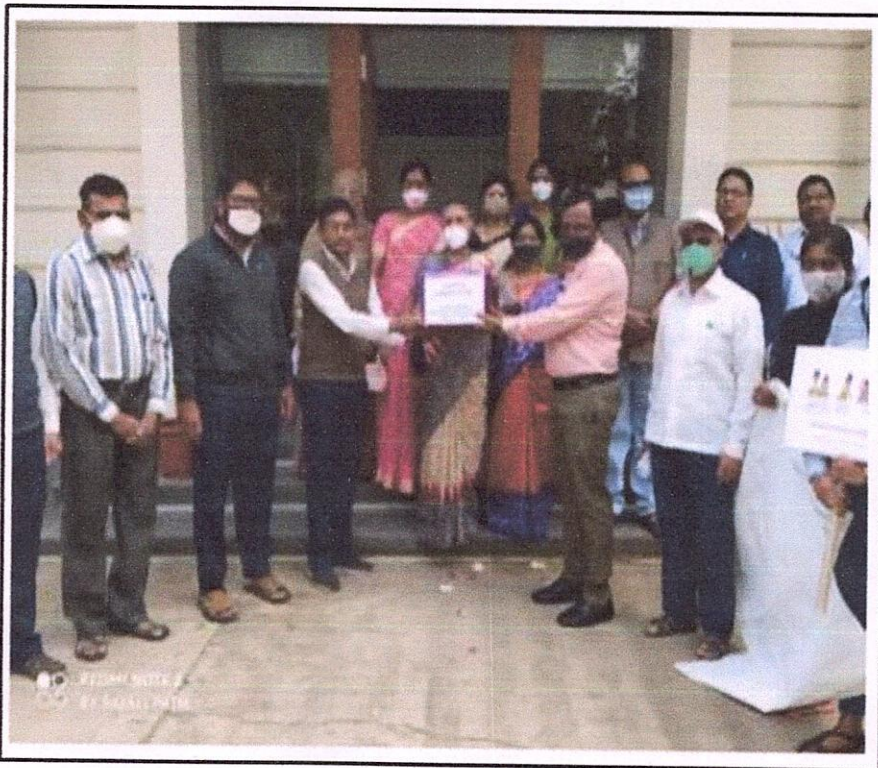
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Activity report  
Submitted to  
The Principal,  
H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur

Name of Activity	<b>Social Activity: Face Mask Gift to workers of Municipal Corporation, Shirpur on account of New Year 2021</b>
Organizer	H. R. Patel Institute of pharmaceutical Education and Research Shirpur.
Venue	Municipal Corporation, Shirpur
Name of Speaker With contact details	-
Date of activity	01st January 2021
Objectives	Participation in Swachhata Rally, Participation in Swachhata Street Play
In charge	Mr. Zamir G. Khan, Mr P. B. Patil
Number of Participant	Faculty-20
Brief Report on activity	Social Activity: Face Mask Gift to for workers of Municipal Corporation, Shirpur on account of New Year 2021. Free mask gifts were handed over to President of Municipal Corporation, Shirpur. At the same time, students performed street play regarding awareness of COVID -19.
Photograph Of activity	

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## स्वच्छता कर्मचाऱ्यांना मास्क वाटप

प्रतिनिधी | शिरपूर

येथील एच. आर. पटेल फार्मसी महाविद्यालयातर्फे नवीन वर्षाच्या स्वागतानिमित्त शिरपूर-वरवाडे नगरपालिकेतील स्वच्छता कर्मचाऱ्यांना फेस मास्क व कृतज्ञता पत्र देण्यात आले.

नगराध्यक्षा जयश्री पटेल, मुख्याधिकारी अमोल वागुल यांच्याकडे महाविद्यालयाचे प्राचार्य डॉ. एस. बी. बारी यांनी मास्क व पत्र सुपुर्द केले. या वेळी नगरसेविका संगीता देवरे, महाविद्यालयाचे शैक्षणिक समन्वयक डॉ. प्रवीण पाटील, नगरपरिषदेचे प्रशासकीय अधिकारी



कर्मचाऱ्यांसाठी नगराध्यक्षा जयश्री पटेल यांच्याकडे मास्क देताना मान्यवर.

संजय हसवाणी, प्रा. प्रशांत पाटील, प्रा. झमीर खान आदी उपस्थित होते. या वेळी महाविद्यालयातील विद्यार्थ्यांनी पथनाट्य सादर करून कोरोनाविषयी जनजागृती केली. कोरोनाचा प्रादुर्भाव रोखण्यासाठी काय करावे याची माहिती देण्यात

आली. नगराध्यक्षा जयश्री पटेल म्हणाल्या की, प्रत्येकाने नियमांचे पालन केले तर कोरोनाचा प्रादुर्भाव रोखता येणे शक्य होणार आहे. त्यामुळे नागरिकांनी घराबाहेर पडताना मास्कचा वापर करावा, असेही त्या म्हणाल्या.

Outcome

Student and faculty members are make awareness about the importance of cleanness, hygienic condition in surrounding to avoid the spread of various kinds of Disease in community,.



  
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**Activity report**  
Submitted to  
**The Principal,**  
**H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur**

<b>Name of Activity</b>	<b>National Level E-Quiz Competition on Pharmacology</b>
<b>Organizer</b>	H. R. Patel Institute of pharmaceutical Education and Research Shirpur.
<b>Venue</b>	HRPIPER
<b>Name of Speaker With contact details</b>	-
<b>Date of activity</b>	21st June 2020
<b>Objectives</b>	Encourage fun learning methods while also enhancing general knowledge. Students can "think outside the box" or from diverse perspectives by participating in quiz tournaments.
<b>In charge</b>	Dr. P. S. Bafna
<b>Number of Participant</b>	60
<b>Brief Report on activity</b>	The National Level E-Quiz competition on Pharmacology subject has been organized by the Pharmacology Department at H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur, Dist. Dhule Maharashtra on 21st June 2020 from 11.00 am to 11.20 am. The quiz had a total of 20 questions. More than 900 participants participated in the quiz from thirteen states of India. Nearly 600 participants qualified the quiz. In the quiz, Mr. Abhishek Awadh Sharma (Government college of pharmacy, Aurngabad) has secured First Rank with a cash prize of 1051 Rs/-. Mr. Rahul Sandip Hire (H.R.Patel Institute of Pharmaceutical Education, Shirpur) has secured Second rank with cash prize of 751 Rs/-.Third rank with cash prize of 551 Rs/- has secured by Mr. Mahendra Ramchandra chougule (Government college of pharmacy, Karad)



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**M.Pharm. Ph.D., D.I.M.F.J.C.**

<p>Photograph Of activity</p>		
<p>Outcome</p>	<div style="display: flex; justify-content: space-between;"> <div data-bbox="486 696 917 1139"> <h3>एचआर पटेल फार्मसीत राष्ट्रीय ई क्विझ स्पर्धा</h3> <p><b>विचारमंथनाचा उद्देश : औरंगाबाद प्रथम</b></p> <p>लोकमत न्यूज नेटवर्क</p> <p><b>शिर्पुर :</b> येथील एच. आर. पटेल फार्मसी महाविद्यालयाने नुकतीच लोकदाउन कॉलेजवरील विद्यार्थ्यांचे विचारमंथन होणाऱ्या उद्देशाने फार्मसीत विषयावर राष्ट्रीय स्तरिय ई - क्विझ स्पर्धा झाली. या स्पर्धेत औरंगाबाद येथील शासकीय औषधनिर्माणशास्त्र महाविद्यालयाचा तुनीय चर्च येथी फार्मसीत अभियंता याने १०० पैकी ९५ गुण मिळवत १००/१२० गुणांच्या प्रथम पारितोषिकाचा मानकरी झाला. ७५१ रुपयांचे द्वितीय १०० पैकी ९० गुण मिळवत एच. आर. पटेल फार्मसी महाविद्यालयाचा चतुर्थ वर्ष येथी फार्मसीचा राहुल हिरे याने बरोबरीला, कागड येथील शासकीय औषधनिर्माणशास्त्र महाविद्यालयाचा चतुर्थ वर्ष येथी फार्मसीचा महेंद्र खोलेने १०० पैकी ८५ गुण मिळवत ५५१ रुपयांच्या तृतीय पारितोषिकाचा</p> <p>मानकरी झाला. औषधनिर्माण शास्त्राच्या फार्मसीत विषयावर २० प्रश्न विचारले होते. त्यात महाराष्ट्रासह उत्तर प्रदेश, गुजरात, छत्तीसगढ, मध्य प्रदेश, आंध्र प्रदेश, तामिळनाडू, हरियाणा, पंजाब, हिमाचल प्रदेश, उत्तराखंड, कर्नाटक, राजस्थान या राज्यातील डी. फार्मसी, बी. फार्मसी व एम. फार्मसीच्या १३१ विद्यार्थ्यांनी सहभाग नोंदवला व त्यात ६२० विद्यार्थी हि क्विझ स्पर्धेत उत्तीर्ण झाले. ई - क्विझ स्पर्धेत सहभाग्यक भणुनू प्रा. पीपुष यांच्या यांनी कस पाहिले. आयोगाबाबतल संस्थाध्यक्ष राजगोपाल भंडारी, नगराध्यक्ष जयश्री पटेल, कार्याध्यक्ष तथा उपनगराध्यक्ष भूपेश पटेल, उपाध्यक्ष राजगोपाल भंडारी, नगरसेवक उत्तमराई पटेल, माजी कुलसूक्त डॉ. के. वी. पाटील, सर्व संस्थाध्यक्ष, प्राचार्य डॉ. एस. वी. वारी यांनी समाधान व्यक्त केले.</p> </div> <div data-bbox="940 696 1395 1139"> <h3>पटेल फार्मसीत राष्ट्रीयस्तरीय ई-क्विझ स्पर्धा</h3> <p>शिर्पुर : येथील एच. आर. पटेल फार्मसी महाविद्यालयाने नुकतीच लोकदाउन कॉलेजवरील विद्यार्थ्यांचे विचारमंथन होणाऱ्या उद्देशाने 'फार्मसीत'चा विषयावर राष्ट्रीय स्तरिय ई - क्विझ स्पर्धा झाली. या स्पर्धेत औरंगाबाद येथील शासकीय औषधनिर्माणशास्त्र महाविद्यालयाचा तुनीय चर्च येथी फार्मसीचा राहुल हिरे याने बरोबरीला, कागड येथील शासकीय औषधनिर्माणशास्त्र महाविद्यालयाचा चतुर्थ वर्ष येथी फार्मसीचा महेंद्र खोलेने १०० पैकी ९५ गुण मिळवत १ हजार ५१ रुपयांचे द्वितीय पारितोषिक फक्तकरी. तसेच ७५१ रुपयांचे द्वितीय पारितोषिक १०० पैकी ९० गुण मिळवत एच. आर. पटेल फार्मसी महाविद्यालयाचा चतुर्थ वर्ष येथी फार्मसीचा राहुल हिरे याने बरोबरीला, कागड येथील शासकीय औषधनिर्माणशास्त्र महाविद्यालयाचा चतुर्थ वर्ष येथी फार्मसीचा महेंद्र खोलेने १०० पैकी ९५ गुण मिळवत १ हजार ५१ रुपयांचे तृतीय पारितोषिक फक्तकरी. यात औषधनिर्माणशास्त्रातील फार्मसीत विषयाचे विचारले २० प्रश्न विचारले होते. त्यात महाराष्ट्रासह उत्तर प्रदेश, गुजरात, छत्तीसगढ, मध्य प्रदेश, आंध्र प्रदेश, तामिळनाडू, हरियाणा, पंजाब, हिमाचल प्रदेश, उत्तराखंड, कर्नाटक, राजस्थान या राज्यातील डी. फार्मसी, बी. फार्मसी व एम. फार्मसीच्या १३४ विद्यार्थ्यांनी सहभाग नोंदवला. पैकी ६१० विद्यार्थी हि क्विझ स्पर्धा उत्तीर्ण झाले. ई - क्विझ स्पर्धेचे ममनसूक्त भणुनू प्रा. पीपुष यांच्या यांनी काम पाहिले. आयोगासाठी महाविद्यालयाचा सर्व कर्मचाऱ्यांचे सहकार्य लाभले. या स्पर्धेच्या अखेरेननावतल संस्थाध्यक्ष उत्तमरा अमरिशभाई पटेल, नगराध्यक्ष जयश्रीवेन पटेल, कार्याध्यक्ष तथा उपनगराध्यक्ष भूपेशभाई पटेल, उपाध्यक्ष राजगोपाल भंडारी, नगरसेवक उत्तमराई पटेल, माजी कुलसूक्त डॉ. के. वी. पाटील, सर्व संस्थाध्यक्ष, प्राचार्य डॉ. एस. वी. वारी यांनी समाधान व्यक्त केले.</p> </div> </div>	



*Seal*  
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**H. R. Patel Institute of Pharmaceutical Education and Research**  
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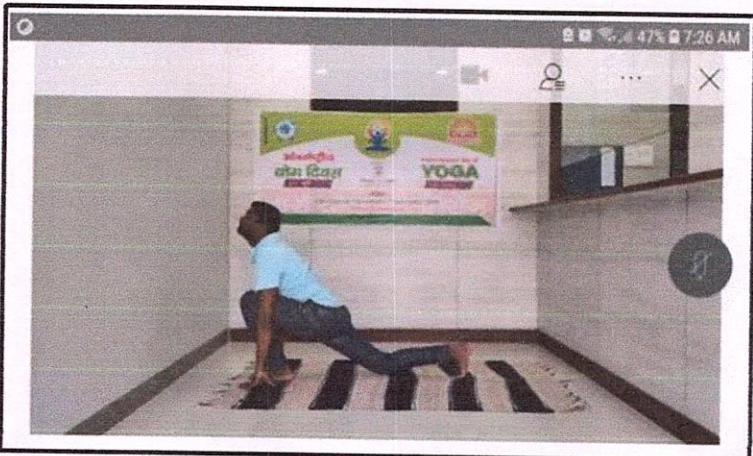


President :  
Shri Amrishbhai R. Patel  
M.L.A.

Principal :  
Dr. S. B. Bari  
M.Pharm. Ph.D., D.I.M.F.J.C.

Activity report  
Submitted to  
The Principal,

H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur

Name of Activity	<b>International Yoga Day: Online Zoom</b>
Organizer	H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur
Venue	HRPIPER
Name of Speaker With contact details	-
Date of activity	21st June 2020
Objectives	integrating the body, mind, and thoughts so as to work for good ends. Modern life style leads to diseases, which are mostly due to poor food habits, heavy daily routines and to air and water pollution in turn easily affect the human body.
In charge	Mr. Y. B. Thakur, Mr. Z. G. Khan
Number of Participant	Faculty & Students: 150
Brief Report on activity	Teaching, non-teaching staff and students were participated online via Zoom App enthusiastically for this programme in huge number. Initially Sports Director Mr. Y. B. Thakur introduced yoga to all participants. Student Development Officer Prof. Z. G. Khan delivered vote of thanks.
Photograph Of activity	
Outcome	Through this programme, teachers and students build strong and healthy life.

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M.Pharm. Ph.D., D.I.M.F.J.C.

Activity report  
Submitted to  
The Principal,  
H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur

Name of Activity	<b>AIDS Day Rally</b>
Organizer	H. R. Patel Institute of pharmaceutical Education and Research Shirpur.
Venue	HRPIPER, Shirpur
Name of Speaker With contact details	-
Date of activity	01st December 2019
Objectives	Improve treatment, care and support for people living with AIDS in hospitals, clinics and by doctors. Increase access to affordable medicines and treatment.
In charge	Mr. Z. G. Khan
Number of Participant	Students and faculty -200
Brief Report on activity	Organized rally on account of World AIDS Day, designated on 1st December every year. AIDS Day is an international day dedicated to raising awareness of the AIDS pandemic caused by the spread of HIV infection. Rally is organized in collaboration with sub district hospital, Cottage hospital Shirpur.
Photograph Of activity	
Outcome	Awareness about AIDS will be increased.



  
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**President :**  
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**Principal :**  
Dr. S. B. Bari  
M.Pharm. Ph.D., D.I.M.F.J.C.

**Activity report**  
Submitted to  
**The Principal,**

**H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur**

<b>Name of Activity</b>	<b>International Yoga Day</b>
<b>Organizer</b>	H. R. Patel Institute of Pharmaceutical Education and Research, Shirpur
<b>Venue</b>	HRPIPER, Shirpur
<b>Name of Speaker With contact details</b>	-
<b>Date of activity</b>	21st June 2019
<b>Objectives</b>	integrating the body, mind, and thoughts so as to work for good ends. Modern life style leads to diseases, which are mostly due to poor food habits, heavy daily routines and to air and water pollution in turn easily affect the human body.
<b>In charge</b>	Dr. Z. G. Khan
<b>Number of Participant</b>	Faculty & Students: 600
<b>Brief Report on activity</b>	HRPIPER, Shirpur celebrated the International Yoga Day on 21st June 2019 on the college ground. During the same, yoga teachers demonstrated different yoga steps and delivered the talk so as to understand the importance of yoga in daily life. Teaching, non-teaching staff and students (total 85) were participated enthusiastically for this programme in huge number. Initially Sports Director Mr. Y. B. Thakur introduced yoga to all participants. Student Development Officer Prof. Z. G. Khan delivered vote of thanks. This programme was conducted under the guidance of our Principal Dr. S. B. Bari.



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M.L.A.

**Principal :**  
Dr. S. B. Bari  
M.Pharm. Ph.D., D.I.M.F.J.C.

Photograph  
Of activity



Outcome

Through this programme, teachers and students build strong and healthy life.



  
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