M.V.R. DEGREE COLLEGE (UG And PG Courses)

(Affiliated to Andhra University)
An Institution of Priyadarshini Educational Academy
NAAC ACCREDITED COLLEGE

Dr.V.Rama Rao, M.A.,Ph.D., Secretary & Correspondent Dr.A.Balakrishna, M.Sc., Ph.D., Principal

Department of Biochemistry Bachelor of science

APSCHE, Revised Syllabus of Biochemistry under CBCS Framework w.e.f 2015-2016

Course outcomes (COs) for Biochemistry

Course Code	Title of the paper	Outcomes analyzed (193)
I in food radust get knowledge to get knowledge to get all amportance be mechanism dentify dentify e spirification id application	Biomolecules The capacity of the second sec	CO1: Student gains knowledge in the chemistry of biomolecules such as water, carbohydrates lipids, proteins which make up all the living organisms and effects of their alterations in diseases occurring in plants, animals and humans. CO 2: It determines the amino acids structures CO 3: It determines protein classification CO 4:It determines the classification of lipids and its structure and micelle formation CO 5: It determines the biological role of water in daily life
Course 1 (Pr)	Qualitative Analysis	CO1: The practicals will give the expertise to the student for analysis of any biological or non biological sample for identification of its chemical composition.
deagazyanda f	Nucleic acids and Biochemical Techniques	CO1:It enables the students to understand the structure and properties of nucleic acids CO2:The student will learn the various analytical techniques and their applications in separation and isolation of cells and tissues for studying their functional abnormalities CO3:The knowledge in the analytical



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Pramework	ot Biochemistry r of science schemistry under CHC (015-2016	techniques will enable the student for isolation ,purification and chemical characterization of compounds. CO4:It determines the plants and microbes which will have medical or commercial importance. CO5: It determines the isotopes and its inhibitors	
los such as- pids, proteins	Nucleic acids and Biochemical Techniques	co1: The practicals will provide the expertise to the student for quantification of electrolytes and other metal ions, hormones and identification of bacteria. co2: The expertise gained by the student in this course can be useful in food industries pharma industries, clinical and microbiological labs	
classi ncation of adamicalle	Enzymology and Bioenergetics	CO1: The student will get knowledge in enzymes, their physiological importance and other applications. CO2: The ability in classifying Enzymes. Understand the mechanism of catalysis employed by the most well characterized enzymes. Identify the methods of enzyme purification CO3: Apply the knowledge of immobilized systems and application of enzymes to Industrial and clinical	
I give the experise to of any biological or by identification of its	COI: The practicals with another stample in other control composition observed composition.	processes. CO4: Describe the chemical nature of enzymes and their functions in biochemical reactions. CO5: Explain how the enzyme activity	
of nucleic acid earn the various refficier applications for of cells and issues ronal absorbatice	COI: It enables the start of th	is regulated and affected by temperature, PH and concentration. Explain enzyme function with reference to the lock and key ,induced fit models. CO6: Explain the roles of enzymes inhibitors activators and coenzymes. CO7: Recognize enzyme specificity,	

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um Lu	so provide given has cons- acto alterations sorse the studen sortance of	brood. CO27 This course will a knowledge in homione de discases occurring a let els of hormones. CORES sudsine this chieve the course with a hormone discase occurring a let els of hormones.	allosteric enzymes, km.Express the important coenzymes and the groups they transfer. CO8: Describe what happens in citric acid cycle, ETC, oxidative phosphorylation and explain the role of each process in energy production.	
	Course 3 (Pr)	Enzymology Carlos (2)	CO1:The practicals will provide the expertise for quantification of enzymes activities, glucose, proteins and lipid levels in blood which will have clinical applications.	
enside de la companya	Course 4 and is (TH) superior base sorge deal or superior superior superior sorge deal or superior su	Intermediary Metabolism Intermediary Metabolism Intermediary Metabolise Cross fluorate disease Cross fluorate disease Intermediary and polesion As manuae system inc Intermediary and principle As the manuae system inc Intermediary and principle As orders and principle As the disease Interpretation and principle As the disease As the perencals will one disgnosine tests for inc disgnosine tests for inc	CO1:The student will know how the nutrients such as carbohydrates, lipids and proteins get metabolized for the purpose of energy and other physiological functions in the body. CO2:This will enable the student to understand the pathophysiology of metabolic diseasesuch as diabetes, atherosclerosis etc. which occur due to alterations in metabolisms. CO3:Explain and give examples of the strategies of metabolism, emphasizing role of ATP coupled reaction. CO4: Define catabolism, anabolism and which type of reactions involved. CO5:It determines the structure of heme	
	Course 4 (Pr)	Quantitative Analysis	CO1: Hands on experience in estimating the quantitative analysis of biomolecules like protein, carbohydrates and nucleic acids.	
	Such as (AT)	Physiology, Clinical Biochemistry and Immunology	CO1: The student will get knowledge in the different physiological systems and their functions in the human body. By studying blood, its composition and its functions the student will understand the importance of	



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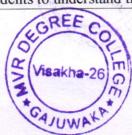
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Anilosiene enzy mos kom kanteria	blood.	
the important enseavement and the groups	CO2: This course will also provide	
they transfer	knowledge in hormones, their functions and	
CON: Describe what happens in	the diseases occurring due to alterations in the	
entric acid cycle. ETC, distance	levels of hormones.	
phospherylation and explain the	CO3:By studying this course the student will	
cole of each process in	know the nutritional importance of	
notophore verous	proteins, carbohydrates, lipids, vitamins and	
	minerals.	
(*()]. The principle will provide the experies	CO4:Display knowledge of antigen,	
or quantification of crevings activities.	formation of antibodies, antigen antibody	
olucies proteins and imid levels in blood	reaction.	
which will have climical applications.	Differentiate between innate and adaptive	
	immunity and explain the main and Defense	
ad with word the instance of (10)	lines as well as biological barriers to	
mercons and as carbotydrates, upids is	infection.	
and proteins get metabolized for the	CO5: llustrate the cell types and organs	
purpose of caers) and	involved in the process of immune response.	
office physiological functions in the body.	CO6: Emphasize and describe antigens	
COX: This will enable the surface	immunogens antibodies as well as interaction between them. Illustrate the adverse effects of	
to enderstand the pathochlystology of		
metabolic diseasesson his diabetes	the immune system including allergy and hypersensitivity.	
atherosele rosses etc. which occur due to	CO7:Interpret the important immunological	
alterations in motaboli ots	disorders and principles of autoimmunity of	
CO3 Explain and gave examples of the	disorders and principles of autoimmunity & Explain vaccination and its role in protection	
strategies of membolish, emphasizing rule of	against disease.	
Course 5 Nutritional and Clinical	agamst disease.	
Biochemistry Biochemistry	CO1 Clinical biochemistry unit along with practicals will enable the student to do diagnostic tests for liver diseases, Gastro intestinal diseases, renal diseases and	
23 limited and love evidence ovi internation out	nutititional deficiencies.	
nke protein, authoriversities and cordere	CO2: Conduct experiments designed for	
and the state of t	study of nutritional biochemistry	
Course 6 Molecular Basis of	Isolant a management	
(TH) Infectious Diseases	CO1: This course will enable the student to know various microbes such as	
functions in the human-bridge 3) study by blond, its composition and its functions the system of the students of the system of t	bacteria, fungi and viruses, their structures and other properties and diseases caused by them. CO2: The student will also get knowledge in	

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resemble the economic to the control of the control of the control of the coll.	name of branch cure, respondent. CO3: Rembles the surticular truckers and function of minacecurs, carbony design cover, years and their in a CO4: Helps to show about the coules in the	immune system, vaccines andalso understand the pathogenesis of auto immune diseases and immune deficiency diseases. CO3:This course will provide knowledge and expertise in molecular biology such as genes their structureand importance. CO4:This will also enable the student to know the applications of PCR in cloning and diagnosis of genetic and viral diseases. CO5:	
	Molecular Basis of Infectious Diseases	CO1: The practicals will provide the expertise to the student to work in microbiology laboratory, food and pharma industries, and biotech companies for production of vaccines and other life saving drugs.	
ica meena (A) IIVI. in infectious discussion contection in mental to term and in discussion analysis of responsion	Microbiology and Molecular Biology Manual and equal (200)	CO1:The student will also get knowledge in their commercial applications by making use of their beneficial effects such as fermentation in alcohol production, nitrogen fixation in agriculture etc. CO2:This course will provide knowledge and expertise in molecular biology such as genes, their structure and importance. CO3:It deals with the study of restriction enzymes CO4:It deals with nitrogen fixation and microorganisms involved in it CO5:Molecular biology and disease diagnosis studies	
Course 6 (Pr) Elective Paper- VII(A)	Microbiology and Molecular Biology	CO1: These practicals enables the student acknowledge with media preparation, cultur techniques and colony isolation of microbes. CO2: Helps the student understand the microbial growth in the nutrient media.	
Course 6 (TH)Elective	Biochemistry of Cell	CO1: It helps students to understand the	



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discases ovide Enewledge and ology studies ames, ones the tree student fil PCR in eloning and		nature of biomolecules present in the cellular environment. CO2: It enables the student to know the structure and function of aminoacids, carbohydrates, lipids. CO3:Helps to know about the vitamins, coenzymes and their function in the cell. CO4:Helps to study about the signalling molecules in the cell. CO5:It enables the student to know the structure and function of carbohydrates, lipids.
Course 6 (Pr)Elective Paper- VII(B)	Biochemistry of Cell	CO1: This practical expertises the hands in analysis of biomolecules like aminoacids, carbohydrates and lipids.
Course 6 (TH)Elective Paper- VII(C)	Biochemical Correlations in Diseases Maga laterature and to mental and	CO1:It helps the student learn about the inborn errors of metabolism. CO2:Helps the student learn about the diseases caused due to hormonal imbalance, autoimmune diseases an infectious diseases. CO3:Gives awareness about distinguishing various types of diseases. CO4:It studies various hormonal imbalances CO5:Studies misfold proteins
Course 6 (Pr)Elective Paper-VII(C)	Biochemical Correlations in Diseases	CO1:Expertises the hands in diagnosis of diseases, based on the analysis of respective biomolecule or the substance in the given sample. CO2It has significant role in clinical labs.



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