



**Government Degree College, Mulugu**  
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## CBCS PROGRAMME OUTCOMES/SPECIFIC PROGRAMME OUTCOMES / COURSE OUTCOMES

1. Bachelor of Arts (B.A.) 2. Bachelor of Science (B.Sc.) 3. Bachelor of Commerce (B.Com.)

### **Bachelor of Arts (B.A.):**

The Bachelor of Arts requires the Three Years of Full time study consisting of six semesters. The Bachelor of Arts provides students with a broad range of disciplinary and interdisciplinary studies from across the college, with a strong focus on aspects of human culture and achievements in social and behavioural sciences. Arts degrees are focused on increasing a student's knowledge and critical thinking skills in a variety of areas - History, Political Science, Sociology Economics etc. The course aims to provide students with a basis of sound knowledge in their chosen areas of study, the ability to apply the knowledge they have required, the ability to communicate effectively in arrange of ways, the ability to work both independently and collaboratively, the skills to connect across geographical, disciplinary, social and cultural boundaries, an understanding of the value of ethical behaviour, independent and lifelong learning skills.

0 The objective is to provide knowledge related to culture and civilization and development of social behaviour. 0 It teaches students their roles and responsibilities particularly towards social and civil affairs. 0 It develops critical thinking abilities; prepares them to participate competently and productively

### **Bachelor of Science (B.Sc.):**

The Bachelor of Science requires the Three Years of Full time study consisting of six semesters. It translates in making a significant investment in one's professional career. In addition to the enhanced career prospects that can be gained by opting it a students also develop valuable personal skills and fulfil a crucial prerequisite to Master studies. It concentrates on providing opportunities for students to show outstanding performance at subject knowledge and understanding, intellectual skills related to the subject, transferable skills and attitudes through introduction of a wide range of topics, reasoning through unfamiliar problems, critical and analytical thinking, It provides the tools to investigate topics in depth, in order to find a systematic approach in analyzing and building up knowledge to reach a solution. The developments of teamwork and leadership abilities are imbibed to give importance to Safe Laboratory Practice.

- Students will have a broad foundation in the three major subjects of their choice with scientific reasoning, problem solving and analytical skills. 0 The students are trained in a breadth and depth of experimental techniques using modern instrumentation which help them to take up higher education or jobs after the course.
- They develop the ability to effectively communicate scientific information in written and oral formats. They acquire the ability to work in teams and apply basic ethical principles.

## **Bachelor of Commerce (B.Com.):**

The Bachelor of Commerce requires the Three Years of Full time study consisting of six semesters. It aims to provide students with the knowledge, tools of analysis and skills with which to understand and participate in the modern business and economic world, to prepare them for subsequent graduate studies and to achieve success in their professional careers. Demonstration of knowledge in major theories and models is key areas of organizational behaviour.

Demonstrate knowledge of Economics. It acquires knowledge of basic mathematical and statistical skills. Graduates of this degree will be knowledgeable of domestic and international economic and organizational environments. It evaluates national and international debates and discussion on economic, commercial and business issues. It provides opportunities for an exciting career in accounting, a field that offers challenge, variety and job satisfaction, an opportunity to travel and work overseas and the opportunity to develop career into various sectors of the business community.

- After completing the three years for the Bachelors in Commerce (B.Com) Programme me, students would gain a thorough knowledge of the fundamentals of Commerce and a deep understanding of all core papers required for a B. Com Degree.
- The curriculum offers a number of specializations and opportunities for practical exposure which would equip the student to face current challenges in commerce and business.

### **ENGLISH**

#### ***The principal aims of objectives of learning English as part of the courses are:***

Two text books titled '**English for Advancement**' (new) for the first and second semesters and '**English for Accomplishment**' for the third and fourth semesters have been prescribed. These textbooks are in use now in all the affiliated colleges of Kakatiya University. Both these text books aim at:

- Improving LSRW (Listening, speaking, reading, and writing ) skills among the students.
- They are intended to make them realize the importance of the English language in the present day scenario.
- Creating awareness about the significance of soft skills in life as well as for gaining employment
- Helping the students acquire communication skills

#### **Semester I**

- creating passion for reading books and writing anything creative
- bridging the gaps in language abilities left due to formal education
- Improving their skills in the areas of grammar and vocabulary
- Improving reading and writing skills
- Acquainting the students with the culture of the region
- Providing value orientation through passages and anecdotes
- Enhancing knowledge of various aspects of language such as pronunciation, grammar, vocabulary, spelling, punctuation, conversation and writing
- Laying emphasis on the importance of extensive practice

#### **Semester II**

- Addressing the need of English language in the present technological era
- Improving the communication skills of the students.
- Enhancing the critical thinking capabilities
- Emphasizing on the use rather than usage of English; on how the language is used rather

**Bachelor of Commerce (B.Com.):**

than how it should be used

- Exposing the students to a range of real-life contexts where the
  - English language is used
  - Enabling the students to communicate information, opinions, ideas and feelings
  - Integration of knowledge and skills
  - Equipping the students to engage with the practical, emotional, intellectual and creative aspects of language

**Program :- B.A, B.Com,B.Sc. HPW :-5**

**Semester - I & II Course title :-English-I Credits – 5+5=10**

**CO1:**

To familiarise the students with the four genres-Short Fiction, Prose, Poetry & Drama-as a starting point of contextual language learning.

**CO2:**

Identifying the consonant & Vowel sounds & letters with varied pronunciations so as to enable the students to speak phonetically correct English.

**CO3:** To enable the students to learn roots of words Prefixes, Suffixes, Homophones, Homographs, Homonyms & Collocations.

**CO4:** To familiarise the students with various aspects of Telangana like Chindu Yellamma, Bathukamma, The Million March & Hussain Sagar.

**CO5:** To empower the learners in Conversation, Writing Skills, Soft Skills & Value Orientation.

**CO6:** To ensure that every student learns to speak and write fluent & accurate English in addition to scoring well in the Internal & University Examinations.

**Course Code :-                    Program :-B.A,B.Com,**

**B.Sc. Semester –III & IV MHPW :- 5 Course title :-English-II Credits – 5+5=10**

**CO1:** To familiarise the students with the select works of renowned English authors like Eudora Welty, Aldous Huxley, P.B. Shelly & William Shakespeare.

**CO2:** To provide training in various phonemes like Plosives, Fricatives, Affricates & Nasal sounds.

**CO3:** To train the student in various vocabulary topics like Simile, Metaphor, Oxymoron, Hyperbole, Portmanteau Words, Loan Words & Palindromes.

## PROGRAMME OUTCOMES

All the U.G programmes (B.A, B.Sc, B.Com ) under CBCS have English as compulsory language .The motto behind is to improve the language skills like L.S.R.W (listening, speaking, reading, writing) of all students in the class.

An English language lab was established in the college to give practice in vocabulary, accent, usage and communicative skills. This helps the students to develop better communication skills in English. for all the Semesters, English has been introduced to make the students to equip with adequate employability & soft skills.

Students get expertise in Letter writing, Note making, paragraph writing and in Resume /CV preparation.

## Course Outcomes & Specific Programme Outcomes of II Languages Hindi & Telugu at UG Level under CBCS

1. All the U.G programmes (B.A, B.Sc, B.Com ) have Telugu & Hindi as Second language Optional.The motto behind is to improve the language skills like L.S.R.W (listening, speaking, reading, writing) of all students in the class.

2. Expertise in the basic Knowledge in Telugu Language and Literature and to provide proficiency to the other subject students in Second language Telugu like B.A, B.Com & B.Sc.

3. opportunities to go for Higher Education In Telugu Language and Literature, Linguistics, Comparative Literature, Translation Studies, Lexicography, Folklore Studies, Cultural Studies, Mass Communication, Journalism.

4. Make Students Employable in Education, Print Media, Electronic Media, Script Writing, Advertising Sectors.

5. Enable Students to intellectual and Creative Writing

## HINDI FOR I & II YEAR under CBCS – objective and programme outcomes

Expertise in the basic knowledge in Hindi language and literature and to provide proficiency to the other subject students in Second language Hindi like B.A, B.Com & B.Sc. with opportunities to go for Higher Education and also employment opportunities in research.

To provide knowledge in National language Hindi in the field of arts and Literature. Mass communication, Journalism, literary research and criticism are also taught to make the students employable.

1. Students gain the master knowledge in communication skills, reading skills and writing skills effectively as professionals and continue learning within the field of Hindi language and literature.
2. Gain specific Knowledge on poetry, prose and grammar of the language and literature in the field of Hindi as a Second

## TELUGU

aims of objectives of learning Telugu language as part of the courses are: **Semester I and II**

The principal **Two textbooks titled SahithiMajeera** for first year and **Sahithi Kinnera** for Second year UG courses have been prescribed as textbooks by Kakatiya University, Warangal.

- To inculcate respect to mother tongue in general and Telugu in specific among the students.
- To educate the students about Telangana history, culture, language and literature
- To inculcate human values, women empowerment and to improve imagination power among the students.

- To give a perfect outlook about classical, neoclassical, modern, post-modern trends in Telugu literature.
- To motivate to write poetry, stories, literary essays etc.
- To expose the students to the structural aspects, of the language through grammar

### Semester III and IV

- To enlighten the students about the writers of the Telangana region and to highlight their contribution to Telugu literature who have been neglected in the past.
- To inculcate moral values and spiritual outlook through literature.
- To expose the students to literature created for the upheaval of the suppressed classes, especially Dalits.
- To explain the glory of the Telangana by texts related to the heroes of Telangana, history of the region and cultural uniqueness of Telangana
- To educate the students about the ill effects of modern culture
- To inculcate passion for reading
- To introduce the beauty of prosody in the language in order to make them write poetry metrically
- Exposing the students to a range of real-life contexts where the English language is used
- Enabling the students to communicate information, opinions, ideas and feelings
- Integration of knowledge and skills
- Equipping the students to engage with the practical, emotional, intellectual and creative aspects of language

## B. A. – ECONOMICS

The principal aims and objectives of **learning Economics as part of the courses** are:  
The principal aims and objectives of the BA Economics programme are:

- To provide students a well-founded education in Economics;
- To provide structured curricula which support the academic development of students;
- To provide and adapt curricula that prepare our graduates for employment and further study as economists
- To provide the students with the opportunity to pursue courses that emphasize quantitative and theoretical aspects of Economics.
- To provide students with the opportunity to focus on applied and policy issues in Economics.
- To provide programmes that allow the students to choose from a wide range of economic specialization;
- To provide a well-resourced learning environment for Economics.

### Course Outcomes

#### Semester I

#### Micro Economics - I

- The course intends to familiarize the students with the broad contours of Social Sciences, specifically Economics and its methodologies, tools and analysis procedures.
- The course also aims to create an enthusiasm among students about different schools of Economic thought and various aspects of social science research, methodology, concepts, tools and various issues.

- To acquaint the students, Science-Different branches of science;
- To acquaint the students Evolution of a scientific approach Social science;
- To disseminate the students Need for interdisciplinary approach;
- To bring awareness in the students Objectivity and subjectivity in social I Science;
- To acquaint the students Limits to objectivity in social science;

### **Semester II**

#### **Core 2: Micro Economics - II**

- To enable the students to understand the theories and strategies of growth and development.
- To impart knowledge about the issues relating to sustainable development, Environment protection and pollution control measures.

### **Semester III**

#### **Core 3: Macro Economics - III**

- This Course is designed to provide basic understanding of micro economic concepts, behavior of economic agent-consumer, producer, and factor owner -price fluctuations in the market.
- The module includes in this course deal with the concepts of consumer behavior, production, market, factor pricing and welfare Economics.

### **Semester IV**

#### **Core 4: Public Finance of International Trade**

- Banking has a long history in the world. It has undergone profound changes in recent years especially after the far-reaching banking sector reforms in India and elsewhere.
- The present course is designed to acquaint the students with the working of banks and to familiarize them with the basic principles and concepts which are often used in banking literature.

### **Semester V Core 5:**

#### **Indian Economics – Agricultural Economics – B**

- Theory of costs - traditional theory of costs - short run and long run -m real cost -money cost, explicit and implicit cost- sunk cost - total cost - average cost -marginal cost - reasons for the U shape of the average cost curve - short run and long run cost curves - envelope curve - modern theory of cost- short run and long run curves - 'L' shaped and 'saucer' shaped curves.

### **Core 6: Telangana Economy – A Economics of Development and Infrastructure**

- The Purpose of this course is to give an perceptive about the role of state
- Fostering the economic activities via budget and fiscal policies.
- This course enables the students to understand the various issues between central and State Government.
- The objective of this course is to equip the students with primary statistical and mathematical tools for analyzing economic problems
- This course is designed to make the students aware of the theoretical aspects of Macro Economics.
- The objectives of the course are to equip the students with the theoretical,
- Empirical and policy issues relating to the society, policy and economy of India.

- The course, in particular, has been prepared in the background of the globalization process and its diverse ramifications on the knowledge economics
- Financial institutions and markets play a significant role in all the modern economies of the world.
- The study of this area is significant especially after the financial sector reforms inmost of the countries.
- The present course is designed to acquaint the students with the changing role ofthe financial sector of the economy.
- The stake holders are to familiarize with the concepts, the financial institutions and markets.

### **Semester VI A - Telangana Economy B - Economics of Development and Infrastructure**

- This course equips the students to understand systems facts and the latest theoretical developments in MacroEconomics.

### **Core 13: Development Issues of the Indian economy**

- The objectives of the course are to equip the students with the theoretical, empirical and policy issues relating to the society, polity and economy ofIndia.
- The course in particular, has been prepared on the background of the globalization process and its diverse ramifications on the knowledge economy.

### **Core 15: International Economics**

- The objectives of this course are to arrive at an understanding of theories of international trade and to examine the impact of the trade policies on the dynamic gains.

## **B.A. POLITICAL SCIENCE**

*The principal aims and objectives of learning Political Science as part of the courses are:*

### **Semester I PAPER- I**

#### **Unit- I**

- To create awareness about the political theory, evolution, nature andsignificance and make them understand.
- To discuss contemporary debates in politicaltheory.
- To differentiate between the normative and empiricalapproaches.

#### **Unit- II**

- To discuss what isPolitical science?
- What is state? Meaning,definitions
- To discuss the Origin of state theories, divine origin, social contract and historical and evolution.
- To discuss the importance of power and authority inpolitics.
- To discuss the authoritative allocation ofvalues.
- To discuss sovereignty, features and various kinds ofsovereignty.
- To discuss contemporary challenges to the statesovereignty.

#### **Unit- III**

- To discuss political values and theoreticalperspectives.
- To discuss different views of liberty like liberal, Marxist andfeminist.
- To discuss different views of equality like liberal, Marxist andfeminist.



- To discuss different views of equality like liberal, Marxist and feminist.

#### Unit-IV

- To discuss Political Ideologies like Liberalism, Nationalism and Multiculturalism

#### Unit-V

- To discuss Political Institutions and Functions
- To the organs of government Legislature, Executive and Judiciary
- To discuss the role of Political Parties, Pressure Groups, Media in politics

### Semester II

#### Paper - I Western Political Thought

To demonstrate knowledge of key thinkers and concepts

- To understand the nature, methods and significance of political thought.
- To analyse the theory of ancient & medieval political thought of Greek and India.
- To appreciate the ideas of them in context of classification of government, law and revolutions and slavery.
- To understand the relationship between religion and politics in early modern western political thought.
- To acquire knowledge about modern political thinkers and their view on statecraft.
- To compare with the thoughts of Hobbes, Lock, and Rousseau and their view regarding state, government and general will.
- To appreciate the concept of liberty, representative government.,
- To analyse the Marxist philosophy in making a better society.
- To thoroughly compare the democratic revolution and creation of civil society.
- To appreciate the various social and political ideas of Indian political thinker
- To inculcate the spirit of *ahimsa*, *satyagraha*, through Gandhi ideology
- To criticize the causes for the theory of caste system in India and their impact

### Semester III

#### Paper - II Indian government and politics

- To understand the philosophy of Indian constitutions.
- To identify the causes, impact of British colonial rule.
- To appreciate the various phases of Indian national movement.
- To create value in young youth regarding the patriotism.
- To understand the various Government of India acts their provision and reforms.
- To know the salient features in making of Indian constitution
- To appreciate the socio-economic political factors which lead to the freedom struggle.
- To understand the constitutional orderings and institutional arrangement.
- To appreciate the fundamental rights and duties and the directive principle of state policy.
- To evaluate the evolution, functioning and consequences of political parties in India.
- To identify how electoral rules and procedure in India effect election outcomes.

## Semester IV

### Paper - II INDIAN GOVERNMENT AND POLITICS

- To discuss the procedures involved in the formation of Union Government
- To discuss role of the President: Election; Powers and Functions.
- To discuss the Parliament: Composition; Powers and Functions.
- To discuss the Prime Minister and Council of Ministers.
- To discuss the Supreme Court: Composition; Powers and Functions  
Judicial Review; Judicial Activism.
- Critically evaluating the Indian Party system - its development and looking at the ideology of dominant national parties
- Evaluating the role of various forces on Indian politics: religion; language; caste; tribe; regionalism; business; working class and peasants
- Evaluating the Electoral Process in India with focus on the Election Commission: Composition, Functions and Role
- Investigating the New Social Movements since the 1970s: environmental movements, women's movement and human rights movement

## Semester V

### Paper - III POLITICAL THOUGHT

#### To demonstrate knowledge of key thinkers and concepts

- To understand the nature, methods and significance of political thought.
- To analyse the theory of ancient & medieval political thought of Greek and India.
- To appreciate the ideas of them in context of classification of government, law and revolutions and slavery.
- To understand the relationship between religion and politics in early modern western political thought.
- To acquire knowledge about modern political thinkers and their view on statecraft.
- To compare with the social contract theorists thoughts of Hobbes, Locke, and Rousseau and their view regarding state, government and general will.
- To appreciate the concept of liberty, representative government.,
- To analyse the Marxist philosophy in making a better society.
- To thoroughly compare the democratic revolution and creation of civil society.
- To appreciate the various social and political ideas of Indian political thinker
- To inculcate the spirit of ahimsa, satyagraha, through Gandhi ideology
- To criticize the causes for the theory of caste system in India and their impact

## Semester VI

### Paper - III POLITICAL THOUGHT

- To discuss GWF Hegel- Dialectics and Theory of State & TH Green- Rights and Political Obligation.
- To discuss Marxist Philosophy
- To discuss Karl Marx: Dialectical and Historical Materialism.
- To discuss neo Marxist philosophy
- To discuss Mao Ze dong: On Contradictions, New Democratic Revolution.  
Antonio Gramsci: Hegemony and Civil Society.
- To discuss ancient Indian Political Thought of Buddha- Social and Political

Ideas; Dhamma and Sangha. Basava - Social Ideas. Jyotirao Phule- Critique of Brahmanism, Social Revolution.

- To discuss Indian Nationalist Political Thought
- Mohandas Karamchand Gandhi - Ahimsa, Satyagraha. Jawaharlal Nehru - Democratic Socialism, Secularism. Dr. B.R. Ambedkar- Theory of Caste, Annihilation of Caste and State Socialism.

## **Semester VI**

### **Paper -IV International Relations**

To understand the evolution, scope and significance of international relations and the rise of sovereign state system

- To analyze the history of international relations through the causes and phases of colonialism.
- To know the impact of first world war and second world war and its causes and consequences
- To criticize the various ideologies which lead to the destruction of world.
- To appreciate the post war developments through the emergence of third world.
- To understand the concept of power, national, regional, global and peace security
- To acquaint with the international organizations and their member nations.
- To understand the international political economy.
- To analyze the international security Arms Race. Arms control and Disarmament.
- To understand the emerging area in international relations.
- To appreciate the foreign policy their determinants features & its relevance.
- To critically analyse the Indian's bilateral relations with major power and neighboring countries.
- To identify various issues and challenges towards international relations
- To learn about issues of diversity and internationalism

## **Semester VI**

### **Paper -IV International Relations**

- Understanding the nature and developments in national and international politics
- Analyzing the Indian constitutional provisions, major legislations and reforms.
- Critical evaluation of social, economic and political variables for a proper understanding of the plurality of Indian society
- Building overall consciousness regarding national political history, international relations and present Indian and Western political thinkers.
- Encouraging a comprehensive, comparative understanding of specific world constitutions such as UK, USA, China, Russia, Switzerland and France.
- Developing knowledge of administrative studies with special reference to Indian administrative structures and practices.
- Examining India's foreign relations with her neighbours and great powers.
- Use of case study method for analysing the working of important international and regional organizations like UN, EU, ASEAN etc.

## B.A. - HISTORY

Semester - I History of India (from earliest to 700 CEN)

Semester - II History of India (700 - 1526 Cen)

Semester - III History of India (1526 to 1857 cen)

Semester - IV History of India (1858 to 1964)

Semester - V World History (1452 to 1815)

Semester - VI World History (1815 to 1950)

Semester - VI (A) elective - History of Telangana (1724 to 2014)

- The syllabus is framed in such a manner that it will make the students get awareness about the significance of History in general and Telangana History in particular.
- The knowledge of these items is ensured among the student will be able to identify and describe the countries and states of conversation among historians.
- Students develop critical thinking, students develop research skills and communication skill.

### PROGRAM SPECIFIC OUTCOMES:

*The principal aims of objectives of learning History as part of the courses are:*

PSO-1: to make them understand background of our religion, administration and soon.

PSO-2: to make them understand the present existing social, political, religious, economic conditions.

PSO-3: history installs the feeling of patriotism in the hearts of the people.

PSO-4: to make them study history of imports moral education.

PSO-5: analyze relationship between past and present.

PSO-6: to help them develop practical skills such as to draw maps, Chats.

PSO-7: to develop interest in activities such as collection of old coins, visiting an client historical movements etc.

## B.A. – PUBLIC ADMINISTRATION Public Administration

Semester I: Office Administration

Semester II: Development Dynamics and Emerging Trends

Semester III: Union Administration

Semester IV: State Administration and Emerging Issues

Semester V: Human Resources Management Elective:  
Rural Local Governance

Semester VI: Financial and Material Resources Management

**Elective: Public Administration** The principal aim and objectives of **learning Public Administration as part of the courses** are:

- To inform the students about the significance and scope of the discipline, i.e. Public Administration
- To enlighten the students about the broad spectrum of Organizational Theories.

- To educate the students about the role of human behavior in Public Services Delivery
- To create awareness on Social Justice

#### **Semester II**

- To familiarize the students with Comparative Public Administration
- To impart knowledge about the dynamics of Development Administration
- To disseminate knowledge of Citizen-centric Administration
- To understand the linkages between citizen empowerment and Development Administration

#### **Semester III**

- To familiarize with the Ancient Administration Systems
- To educate about the structure and processes of Union Administration
- To create awareness on the Federal Structure of Indian Administration
- To enable the students understand performance and problems of Public Enterprises
- To create awareness on the role of ICT in governance

#### **Semester IV**

- To understand the idea of Public Services available in the state
- To educate on the recent trends in governance
- To familiarize the students with the administrative structure of the state government
- To create awareness on Decentralized Governance
- To impart knowledge of Welfare Administration

#### **Semester V**

- To create awareness on the management of resources
- To understand the various aspects of Human Resource Management
- To enable the students understand the Evolution of Local Government in India
- To create awareness on people's participation in development programmes
- To help the student understand Rural Local Governance in India

#### **Semester VI**

- To familiarize the students with the Financial Administration in India
- To create awareness on Budget Preparation and Enactment in India
- To familiarize the students with the organization and functions of the Ministry of Finance in India
- To enable the students understand the Urban Governance in India
- To familiarize the concept of Community Participation in Urban Administration

### **B.Com. – Commerce Program objectives:**

*The principal aims and objectives of learning Commerce as part of the courses are:*

The B.Com program aims at producing qualified, skilled and trained personnel for the fields such as insurance, accounting, banking, marketing, stock markets, e-commerce and computer based accounting besides teaching jobs at different areas of commerce education. Indeed this program gets overwhelming response from various corners of the region. B. Com is one of the most sought after career oriented program offered at the under graduation and post graduation level. This program opens up huge career options

and opportunities at the aspiring people in the field of commerce and management. This program also prepares one to start his or her own business as an entrepreneur.

Based on the core purpose of the program, following will be listed as program objectives:

- Skill enhancement, knowledge acquisition and preparing students with all other needy abilities for employment are the vital elements in its primary objectives of the program.
- Preparing students to deal with the latest issues of commerce and management in one hand and nurture the competencies among them, so as to constantly challenge and push themselves towards continuous improvement.
- Developing accounting and managerial skills besides imparting knowledge in networking and system based recording of business transactions.
- Another pivotal objective of the program is ensuring the development of core competencies, such as written and oral communication, quantitative reasoning, financial literacy and critical thinking and evaluation of business results.

### **Specific objectives of the Program:**

B. Com program is one of the highly opted UG program by the students across the nation. Our state i.e., Telangana and even our College is not exemption to it. Perhaps this program caters the needs of the industry in general and its students, who pursue it as their discipline in particular.

Therefore following objectives may be mentioned as specific objectives of the commerce program.

- To develop economic understanding among the students.
- To develop students to understand economic problems and their effects on the society and its multi variety of stakeholders.
- To promote sense of values that serve as the basis of economic planning and policy design of any institution
- It also aims at people's appreciation, attitudes, interests, perceptions and levels of behaviour in different organisations they work for.
- It trains the students to locate commercial information from various sources like books, documents, reports, its courses, quantitative techniques.
- Certain courses like 'Research methodology and statistical analysis, Business and corporate laws, Auditing, Business correspondence and report writing will promise
- more career and employment opportunities in varied fields relating to commerce and business management.

### **Course objectives:**

#### **FUNDAMENTALS OF INFORMATION TECHNOLOGY:- { FIT } 1<sup>st</sup> Semester**

- To acquire knowledge in information technology and its applications in the area of business.
- Companies rely on IT for fast communication's, data processing and market intelligence.
- It plays an integral role in every industry, helping companies improve business processes, achieve and maintain a competitive advantage in the market place.

#### **Principle of Management 2<sup>nd</sup> Semester**

- To equip the students with finer nuances of MIS
- The main goals of an MIS are to help executives of an organization make decisions that advance the organization strategy and to implement the organizational structure and dynamics of the enterprise for the purpose of managing the organization in a better way for a competitive advantage.

### **E DB (Entrepreneur Development and Business Ethics :- 3<sup>rd</sup> Semester**

- To provide a basic understanding of the insurance mechanism.
- To identify the relationship between and their customers and the importance of insurance contract.
- To give an overview of major life insurance and general insurance products.

### **PRACTICE OF LIFE INSURANCE {POLI}:- 4<sup>th</sup> Semester**

- To make the students understand life insurance market in India.
- To discuss the issues related to risk management in view of life insurance.
- The objective of insurance is to financially guard against unpredictable life occurrences.
- In short when you buy an insurance policy you make monthly payments, called premium to things like accident, illness or even death.

### **PRACTICE OF GENERAL INSURANCE:- {POGI} 5<sup>th</sup> Semester**

- To carry on the general insurance business other than life, such as accident lifeect...
- To aid and achieve the subsidiaries to conduct the insurance business.
- To help the conduct of investment strategies of the subsidiaries in an efficient and production manner.

### **COMPUTERIZED ACCOUNTING:- 5<sup>th</sup> Semester**

- To make the students to acquire the knowledge of computer software.
- It ensures efficient performance in accounting records.
- Greater accuracy computerised Accounting make sure accuracy in accounting records and statements.
- It prevents clerical errors and omissions in records.
- Relieve monotony: Computerised accounting reduces the monotony of doing repetitive Accounting jobs.

### **FINANCIAL STATEMENT ANALYSIS:- {FSA} 4<sup>th</sup> Semester**

- To acquire knowledge and techniques of financial statements analysis.
- The primary objective of FSA is to understand and diagnose the information contained in financial statement with a view to judge the profitability and financial soundness of the firm, and to make forecast about future prospects of the firm.

### **COMMERCE LAB :- 6<sup>th</sup> Semester**

- To become familiar with various business documents and acquire practical knowledge , which improve over all skill & Talent.

### **ACCOUNTING STANDARDS {AS}:- 5<sup>th</sup> Semester**

- To make the students acquire the knowledge of previous and application of Indian Accounting standards.
- To provide a standard for the diverse accounting policies and principles.
- To put an end to the non- comparability of financial statements.
- To provide standards which are transparent for others.

### **REGULATIONS OF INSURANCE BUSINESS {ROIB}:- 6<sup>th</sup> Semester**

- To equip students with the knowledge regarding insurance business regulations.

### **FINANCIAL ACCOUNTING (1<sup>st</sup> Semester)**

- *To acquire conceptual knowledge of basics of accounting and preparation*

*offinal accounts of soletrader*

- the process by which an organization's revenue, receivables, and expenses are collected, measured, recorded and finally reported
- Across financial accounting, companies have two basic ways they can structure their business ' saccounting

### **BUSINESS ORGANISATION AND MANAGEMENT**

- *To acquaint the students with the basics of Commerce and Business concepts and functions, forms of Business Organization and functions of Management*
- The organisational objectives of management refer to the main objectives required to fulfill the economic goals of any business organisation
- Every organisation is a part of the society. Thus it has certain social obligations to fulfill.

### **FINANCIAL ACCOUNTING-II**

- *To acquire accounting knowledge of bills of exchange and other business accounting methods*
- The American Institute of Certified Public Accountants (AICPA) is an industry leading organization in the area of financial accounting.
- In the United States, financial reporting standards are set forth by the FASB and required under GAAP for publicly traded companies.

### **BUSINESS LAWS**

- *To understand basics of contract act, sales of goods act, IPRs and legal provisions applicable for establishment, management and winding up of companies in India.*
- Establishing standards identifies what types of behavior are and are not accepted in society. For example, damage to person or property is considered a crime because it is not tolerated by society
- Businesses large and small must comply with the same legal regulations. Often, this involves the expertise of a specialist who can help entrepreneurs succeed in an area such as law or finance.

### **PRINCIPLES OF INSURANCE**

- *To make students to learn the Principles of Insurance*
- insurance companies have an objective of using a process called underwriting to examine every insurance applicant
- Many types of insurance have qualifiers that affect eligibility and premiums.
- Some types of health insurance are provided to employees as a benefit of employment, and other forms of insurance are available at reduced rates for people in certain income or age ranges. Health insurance typically covers some, but not necessarily all

### **ADVANCED ACCOUNTING**

- *To acquire accounting knowledge of partnership firms and joint stock companies*
- Objectives of accounting in any business are; systematically record transactions, sort and analyzing them, prepare financial statements, assessing the financial position, and aid in decision making with financial data and information about the business
- The primary object of accounting is to identify the financial transactions and to record these systematically in the books of accounts
- Every business concern is interested to know its operating results at the end of a particular period.

### **BUSINESS STATISTICS -I**

- *to inculcate analytical and computational ability among the students.*
- Demonstrate knowledge of probability and the standard statistical distributions.
- Demonstrate knowledge of fixed-sample and large-sample statistical properties of point and interval estimators
- Demonstrate understanding of how to design experiments and surveys for efficiency.



## **REGULATION OF INSURANCE BUSINESS**

- *To equip the students with the knowledge regarding Insurance Business Regulations*
- In some previous papers [2] and [3] it has been pointed out that the objectives pursued by an insurance company can be formulated so that they consist of maximizing a mathematical function
- The function to be maximized is usually referred to as the utility function, a name which has an old standing in economic theory

## **INCOME TAX**

- *To acquire conceptual and legal knowledge about Income Tax provisions relating to computation of Income from different heads with reference to an Individual Assessee*
- The primary purpose of taxation is to raise revenue to meet huge public expenditure
- One of the important objectives of taxation is economic development. Economic development of any country is largely conditioned by the growth of capital formation
- Second objective is the full employment. Since the level of employment depends on effective demand, a country desirous of achieving the goal of full employment must cut down the rate of taxes

## **BUSINESS STATISTICS - II**

- *To inculcate analytical and computational ability among the students.*
- Enable students for using the computer program MS Excel, apply basic statistical techniques and methods for grouping, tabular and graphical display, analysis and interpretation of statistical data.
- explain basic statistical concepts such as statistical collection, species characteristics, statistical series, tabular and graphical representation of data, measures of central tendency, dispersion and asymmetry, correlation and regression analysis, time series analysis
- independently calculate basic statistical parameters (mean, measures of dispersion, correlation coefficient, indexes)

## **BUSINESS ECONOMICS**

- *To acquire knowledge for application of economic principles and tools in business practices.*
- The Objectives of Business are its driving force. These are the factors that keep the business running. Let's learn further what the Objectives of Business are and how they are classified.
- Objectives are needed in every area where performance and results directly affect the survival and prosperity of a business.
- Business is a set of activities undertaken with the prospect of sale for the purpose of earning a profit. Profit is the extra income over the expenses.

## **COST ACCOUNTING**

- *To make the students acquire the knowledge of cost accounting methods*
- Cost Accounting refers to the classifying, recording and appropriate allocation of expenditure for the purpose of determining the costs of products or services
- The objective of the cost accounting is to determine the methods by which expenditure on materials, wages and overhead are recorded, classified and allocated.

## **BANKING THEORY AND PRACTICE**

- *to acquire knowledge of working of Indian Banking system*
- Students will get exposure for banking operations Students will be exposed to various dimensions of day to day operations. Students will have practical applications of banking aspects in real life situations
- Banking Sector Reforms: Liberalization of banking sector, Narsimham Committee-1st and 2nd generation reforms, Capital adequacy: introduction, Basel II norms (new capital adequacy framework)

## THEORY AND PRACTICE OF GST

- To equip the students with the knowledge regarding Theory and Practice of GST
- The Goods and Services Tax which is being implemented from 1st July, 2017 is proposed to be a unified tax for the entire nation
- Ensuring that the cascading effect of tax on tax will be eliminated
- Improving the competitiveness of the original goods and services, thereby improving the GDP rate too
- Making a unified law involving all the tax bases, laws and administration procedures across the country

## COMPANY LAW

- *to understand legal provisions applicable for establishment, management and winding up of companies in India as per Companies Act 2013.*
- In view of the important developments that have taken place in the corporate sector, the course is designed to understand the formation, management and other activities of the companies.
- This course aims to impart the students, the corporate management, control, possible abuses, the remedies and government regulation of corporate business and winding up of companies.

## MANAGERIAL ACCOUNTING

- *to acquire Managerial Accounting decision-making techniques and reporting methods.*
- Management accounting also is known as managerial accounting and can be defined as a process of providing financial information and resources to the managers in decision making.
- Financial accounting is the recording and presentation of information for the benefit of the various stakeholders of an organization

## AUDITING

- *to understand meaning and elements of auditing and gain knowledge for execution of audit.*
- The objective of an audit is to express an opinion on financial statements
- To give the opinion about the financial statements, the auditor examines the financial statements to satisfy himself about the truth and fairness of the financial position and operating results of the enterprise

## FINANCIAL INSTITUTIONS AND MARKETS

- *To familiarize with various Financial Institutions and Markets*
- Financial institutions, such as banks, credit unions, stockbrokers, finance and insurance companies, often have a business plan with a set list of goals and objectives
- Many financial institutions manage people's personal money. Since fees, investments, insurance and other services may cost the customer money, a financial institution may have an objective to provide services and savings plans that will save the customer money

## ADVANCED CORPORATE ACCOUNTING

- *to gain knowledge of AS-19 & 21 and format accounts*
- Objectives of this note is to provide theoretical knowledge of International Financial Reporting Standards and to enable the students to gain ability to solve problems relating to Holding Company Accounts, Liquidation of Companies and various other Accounts

## Course Title : Physics

### I-SEMESTER

The objective of the module is to introduce and develop the methods of vector analysis. These methods provide a natural aid to the understanding of geometry and some physical concepts. They are also fundamental tool in many theories of Applied Mathematics.

- The concept of frame of reference
- The type of frame of reference-(a) Inertial and (b) non-inertial
- The transformation rules for inertial frames called the Galilean transformation
- The invariance of Galilean transformation with respect to laws of motion- called the Galilean Invariance
- Descriptions of motion of particles in terms of displacement, velocity acceleration vectors
- The concept of instantaneous and average displacement, vector and acceleration
- The concept of system of mass particle and the description of the motion of the system of particles and its dynamics
- To study and verify Kepler's Laws of Planetary Motion. To become acquainted with the elements which are used to describe the shape, positions and orientations of orbits in space.
- Johannes Kepler, a student of Tycho Brahe, failed in his attempts to set up a musical relation among the planets.

### SEMESTER-II

- to study the motion of a simple pendulum, (2) to study simple harmonic motion, (3) to learn the definitions of period, frequency, and amplitude, (4) to learn the relationships between the period, frequency, amplitude and length of a simple pendulum;
- Use the compound pendulum to find: 1) The acceleration due to gravity  $g$ . 2) The moment of inertia of the rod. And  $h$  is the distance between the suspension point and the center of mass.
- In this lecture you will learn the following. Derivation of the governing partial differential equation for longitudinal vibration of bars. Solution of the governing equations in terms of the natural frequencies and mode shapes.
  - Vibrating String. To find the frequency of various modes of vibration of a string. To determine how the frequency depends on the length of the string and the tension.

### SEMESTER-III

- The **kinetic molecular theory of gases** is a model that helps us understand the physical properties of **gases** at the molecular level. ... **Gases** consist of particles (molecules or atoms) that are in constant random motion. **Gas** particles are constantly colliding with each other and the walls of their container.
- Measurable **outcomes** (assessment method): To be able to state the First Law and to define heat, work, thermal efficiency and the difference between various forms of energy. ... To be able to identify and describe energy exchange processes (in terms of various forms of energy, heat and work) in aerospace systems.
- The main **objectives of ENTROPY** include: to design, implement and validate an innovative IT ecosystem for motivating end-users' behavioural changes towards the adoption of energy efficient lifestyles;; to design and implement innovative ICT solutions targeting at aggregation of energy consumption data
- In **thermodynamics**, interactions between large ensembles of **objects** are studied and categorized. ...

Properties can be combined to express internal energy and **thermodynamic potentials**, which are useful for determining conditions for equilibrium and spontaneous processes.

- Quantum mechanics gradually arose from theories to explain observations which could not be reconciled with classical physics, such as Max Planck's solution in 1900 to the black-body radiation problem, and from the correspondence between energy and frequency in Albert Einstein's 1905 paper which explained the photoelectric effect. Early quantum theory was profoundly re-conceived in the mid-1920s by Erwin Schrodinger, Werner Heisenberg, Max Born and others. The modern theory is formulated in various specially developed mathematical formalisms. In one of them, a mathematical function, the wave function, provides information about the probability amplitude of position, momentum, and other physical properties of a particle.
- Important applications of quantum theory include quantum chemistry, superconducting magnets, light-emitting diodes, and the laser, the transistor and semiconductors such as the microprocessor, medical and research imaging such as magnetic resonance imaging and electron microscopy.
- The main goal of this course is to acquire fundamental knowledge of classical and quantum **statistical mechanics**; construct a bridge between macroscopic thermodynamics and microscopic **statistical mechanics** by using mathematical methods and fundamental physics for individual.

#### SEMESTER-IV

- In **optical** engineering, the **objective** is the **optical** element that gathers light from the object being observed and focuses the light rays to produce a real image.
- **Objectives** can be a single lens or mirror, or combinations of several **optical** elements.
- **Fiber Optics Technician Resume Objective** Sample. ... You are responsible for the repair, the install and the maintenance of **fiber optic** systems and the cables that provide so many services to everyone around.

#### SEMESTER-V

**Electrostatics** give evidence for the existence of two kinds of electric charge (like charges repel, unlike charges attract). Describe and demonstrate a method for determining whether an unknown charge is positive or negative.

- Define **capacitance** and apply a relationship among **capacitance**, applied voltage, and total charge. Compute the **capacitance** of a parallel- plate **capacitor** when the area of the plates and their separation in a medium of known dielectric constant are given.
- **Magnetostatics** and Ohms Law: In this course you will learn the following. Magnetic Field and Magnetic Flux Density. Conduction Current Density J. One important **objective of magnetostatics** is to derive formulae for the self inductance and mutual inductance for given current configurations. Use of the vector potential greatly facilitates.
- To understand how induced electric and magnetic fields lead to **electromagnetic waves**. To apply the **wave** model to the **electromagnetic** spectrum. To understand the properties of different types of **electromagnetic waves**.
- To calculate the intensity of light transmitted through a series of polarizing filters.
- **Solid State Physics. Objectives** of the course and intended learning outcomes (competences). Basic understanding of symmetry, electronic and thermodynamic properties of solid state systems and their technological applications. Contents (Syllabus outline). Crystal Structure: Translational symmetry.
- Many industrial laser applications require a higher degree of aberration correction than can be achieved from best forms singlet lenses and standard microscope objectives.
- Whether correction over larger apertures, several wavelengths or a wider field is needed, it may be necessary to use a laser focusing objective. Special Optics has a wide variety of standard designs along with custom options to meet many demanding applications. To measure the wavelengths of visible light emitted by **atomic** hydrogen and verify the measured wavelengths against those predicted by quantum theory. To identify an unknown element through its **emission spectra**.

## SEMESTER-VI

**ATOMIC SPECTRA Objectives** 1. Determine the emission spectrum Of Hydrogen and other elements. 2. Calculate the expected wavelengths of H using the Rydberg equation. 3. Determine the composition of unknown solutions using flame tests. 4. Determine the absorption spectrum of colored solutions and solids.

- One of the main **objectives** of the study of **nuclear physics** is the understanding of the "Structure of Nuclei". This includes all aspects of the motion of the nucleons, their paths in space, their momentum and the correlations between them, the energies binding them to each other.
- Identify methods for making **radioactive** isotopes.
- Recognize the various types of **radioactive** decay.
- Interpret an energy level diagram for **radioactive** decay.
- Identify which modes of **radioactive** decay have application in **radiation** medicine.
- To prepare students to perform the analysis and design of various **digital electronic** circuits.
- Have a thorough understanding of the fundamental concepts and techniques used in **digital electronics**.
- The ability to understand, analyze and design various combinational and sequential circuits

## B.Sc. - CHEMISTRY

*The principal aims and objectives of learning Chemistry as part of the courses are:*

- The chemistry department pledges staff to encourage in this broadest and liberalmanner the advancement of science and particularly chemistry in all of itsbranches
- Create an academic environment which promotes the intellectual and professional development ofstudents
- Develop and maintain a commitment to scholarly activity in research andundergraduate education which is commensurate with the goals and mission of G.D.CGajwel
- Graduating national provisionally qualified Personal who are necessary for the service of the community and the government plans and programs of development, education and industry within theKingdom.
- Contributing to the improvement of the public at the scientific cultural awareness via the academic conferences andworkshops.
- Providing the technical services in field of chemistry to both public and privatesectors.

## B.SC. (BZC) - ZOOLOGY

**Textbooks: Semester – I Animal Diversity - Invertebrates**

**Semester - II Ecology**

**Semester - III Animal Diversity – Vertebrates and Developmental  
Biology**

**Semester - IV Cell and Molecular Biology, Genetics and  
Evolution**

**Semester - V Physiology and Bio-Chemistry**

**Elective: Applied Zoology**

**Semester – VI Immunology and Animal Biotechnology**

**Elective: Aquatic Biology**

**B.Sc Botany**

**Semester - I Microbial Diversity of Lower Plants**

**Semester – II Bryophytes, Pterridophytes, Gymnosperms and  
Palaeobotany**

**Semester – III Taxonomy of Angiosperms and Medicinal Botany**

Semester IV – Plant Anatomy, Embryology and Palynology  
Semester - V Cell Biology and Genetics

**Elective: Ecology and Biodiversity**  
**Semester - VI Plant Physiology**

**Elective: Tissue Culture and Biotechnology**

*The principal aims and objectives of learning Zoology as part of the courses are:*

- To inspire knowledge across diverse fields of Zoology.
- To know the life cycles and mode of reproduction in members of fauna.
- To develop Entrepreneur from our students accordingly subjects like Sericulture, Apiculture, Aquaculture, have been included.
- To equip our students with good quality to appear for competitive examinations
- To make the students to understand the needs of Zoology in shaping our planet. To empower our students with practical skills to comprehend the Physiology and other functions of each and every vital systems.
- As General Zoology is a basic course, students will become familiar with animal classification schemes and associated taxonomic group diagnostic characteristics as well as developing an understanding of adaptability to apply basic zoological principles.
- ^ The laboratory and lecture sections of the course are highly integrated and directed toward teaching students the principles of animal evolution, classification, form and function.

**Programme Outcomes:**

- ◆ This course will provide students with an opportunity to gain information regarding animal classification and systematic, animal structure and function relationships, evolution between and within major animal groups, human evolution and animal reproduction and development.
- ◆ Students will be able to explain how organisms function at the level of the genome, cell, tissue, organ-organ system.

**B.SC. – MATHEMATICS** The principal aims and objectives of learning Mathematics as part of the courses are:

- ◆ To enable the students to solve mathematical problems of daily life. We have to select the content and methods of teaching so that the students are able to make use of their learning of mathematics in daily life.
- ◆ To enable the students to understand the contribution of mathematics to the development of culture and civilization.
- ◆ To develop thinking and reasoning power of the students.
- ◆ To prepare a sound foundation needed for various vocations. Mathematics is needed in various professions such as those of engineers, bankers, scientists, accountants, statisticians etc.
- ◆ To prepare the child for further learning in mathematics and the related fields. School mathematics should also aim at preparing him for higher learning in mathematics.
- ◆ To give the child an insight into the relationship of different topics and branches of the subject.
- ◆ To enable the child to understand popular literature. He should be so prepared that he finds no handicap in understanding mathematical terms and concepts used in various journals, magazines, newspapers etc.
- ◆ To teach the child the art of economic and creative living.
- ◆ To develop in the child rational and scientific attitude towards life.

**Course Objectives:**

- ◆ Aims of teaching mathematics are generally scope whereas objectives of the subject are specific goals leading ultimately to the general aims of the subject.
- ◆ Through mathematics, a pupil acquires the knowledge of the following:
- ◆ He learns mathematical language, for example, mathematical symbols, formulae, figures, diagrams, definitions etc.
- ◆ He understands and uses mathematical concepts like concept of area, volume, number, direction etc.
- ◆ He learns the fundamental mathematical ideas, processes, rules and relationships.
- ◆ He understands the historical background of various topics and contribution of mathematicians.

## **B.SC. -INDUSTRIAL MICROBIOLOGY**

**Semester - I Fundamentals of Industrial Microbiology Semester - II Biostatistics and analytical Microbiology Semester - III Microbial physiology and Biochemistry Semester - IV Microbial Genetics Semester - V Immunology and Medical Microbiology Elective: Instrumentation and Biotechniques Semester - VI Agricultural Microbiology**  
**Elective: Food Microbiology and Fermentation Technology**

Industrial Microbiology is branch of science that deals with the study and understanding of Microorganisms. It has become vital and indispensable since they are connected each and every aspect of human life activities. It has wide applications in multifaceted fields and plays essential role in the sustainable environment.

Microbiology focuses on the interaction between microorganisms, animals and human disease, such as infectious diseases. The different branches of Microbiology like medical microbiology, Food microbiology and Immunology also included in the syllabus that enables the stake holders to understand the basic concepts of microorganism in the and its contributions towards development of associated technologies like biotechnology, bioinformatics and so on.

With this importance of Microorganisms in the world Microbiology was introduced in the curriculum of graduate course as an independent subject. Curriculum was designed to educate important microbiological disciplines, as well as to promote and inculcate the basic skills and competencies that have enduring value beyond the classroom. Industrial Microbiology is responsible for effecting discoveries and development of processes carried out for creation of new products such as vaccines, antibiotics, organic chemicals, and other products useful in the food and beverage industry, health care, agriculture and waste water management.

### *The principal aims and objectives of learning*

#### ***Industrial Microbiology as part of the courses are:***

- ◆ Stake holders or undergraduate students will gain knowledge and familiarity with unique role of microorganisms and their role in play in recombinant DNA modification technologies.
- ◆ Students get information about role of microbe's interaction with the humans.
- ◆ Students will gain familiarity with the role of microbes in the context of ecosystem function.
- ◆ Students will acquire laboratory safety rules and skills applicable to various labs such as microbiology, clinical methods, reporting of observations and analysis of them.
- ◆ By learning Microbiology the students have multiple opportunities to get jobs in various pathological labs, industries and research laboratories, pollution control board jobs as well teaching field.

#### **Semester-I**

- To know the basic foundations laid down by the scientist and their discoveries
- To know the basic principles, branches of Microbiology and their applications in different fields



- Handling Microscopes and their principles to observe the Microorganism
- To familiarize with the basic knowledge about the bacteria, viruses and fungi
- To learn about taxonomic strategies and their development along with emerging technologies
- To learn the methods of preservation and pure culture techniques

### Semester- II

- To learn about the basic metabolisms and pathways present in the microorganisms
- Providing the learning chances to acquire knowledge about microbial growth calculations and their habitation
- To equip the students foundations of biochemical techniques used in the routine laboratory techniques
- To describe the concepts of enzymes, properties and application in the field of industrial and medicine.
- Specifying the importance of biomolecules

### Semester- III

- Learn about how the microorganism are up taking of the nutrients
- To acquire the knowledge of the types of microorganisms and their role in the environment
- To discuss about diversity of microorganism and microbial communities inhabiting a multitude of habitats and occupying a wide range of ecological habitats.
- To absorb to the knowledge about the metabolic pathways of the microorganisms and their significance in detail
- To know about the photosynthesis in microorganisms

### Semester -IV

- To understand the basic foundation concepts of DNA structure and its history for discovery
- To discuss the various applications of crossing over, central dogma.
- To learn about the types of mutations and its impact on the health
- Enable to understand the basic concepts of recombinant DNA technology and regulation of gene function.
- To know about outcomes and advantages of the recombinant DNA technology for the human welfare and novel strategies for cure disease

### Semester V

- Competently explain various aspects of environmental microbiology and microbial ecology and to become familiar with current research in environmental microbiology.
- To learn and understand biogeochemical cycles - Carbon, Nitrogen, Phosphorus cycles etc. and microbes involved and their vital role in environment.
- Understand various plant microbes interactions especially rhizosphere, phyllosphere and mycorrhizae and their applications especially the biofertilizers and their production techniques
- To obtain basic understanding of principles of environment microbiology its applications in encounter environmental problems like waste water treatment and bioremediation
- Know the Microorganisms responsible for water pollution especially Water-borne pathogenic microorganisms and their transmission.
- To describe and comprehend the various methods to determine the Sanitary quality of water and sewage treatment methods used in waste water treatment.
- Learning and understanding the concepts of immunology.
- To understanding the antigen and antibody reaction and application in the detection of diseases

- Conceptualizing the hypersensitivity and autoimmunity, monoclonal antibodies etc to observe their causes and treatment.
- Microorganisms role in the crop productivity

### Semester VI

- Identify microorganisms of relevance to healthcare and the pharmaceutical industry and their sources.
- Discuss Microbial contamination/product spoilage and antimicrobial preservation of food products
- Production of fermented food products via microorganisms
- Recognize the biochemical and genetic basis for antibiotic resistance and ways of controlling spread of antibiotic resistance.
- Demonstrate a knowledge and understanding of microbiological assays of growth promoting and growth inhibiting substances
- To learn the diagnostic microbiology techniques like sample collection, procedures and detection methods and prophylaxis measures
- To inculcate the knowledge about the different types of diseases, transmission, disease cycle, pathogenesis, prophylaxis measures
- To learn the vaccines and their role in prevention of diseases and recent technologies in the development in the vaccine preparation.