Rajiv Gandhi University of Knowledge Technologies
Basar, Nirmal, Telangana State – 504107, India.
☎ +91 – 94923 02117 | ✉ academics@rgukt.ac.in | 🌐 www.rgukt.ac.in

RGUKT/Acad/2021/NB-Hub/026 **Date: 06/12/2021**

CIRCULAR

Subject: Academic Section – PUC – AY21-22 – Consideration of 70% of syllabi for PUC-I and PUC-II for the academic year 2021-22 due to the COVID-19 pandemic - Reg.

Ref:

1. Circular - TSBIE – ERTW-II(TB)/Spl.A/y-2020-21 – in view of COVID-19, dated 10/11/2021
2. Note approval orders dated 06/12/2021

*****

1. This is to inform that the Telangana State Board of Intermediate Education (TSBIE), vide reference 1st, informed that the syllabi of Intermediate Education (of both I and II Years) for Intermediate Public Examinations (IPE) 2022 will be 70% of the actual syllabi as the academic year 2021-22 started late due to COVID-19 pandemic.

2. Our University also decided, vide reference 2nd, to consider 70% of syllabi of PUC (I and II Years), for the AY21-22, for all subjects at PUC level for academic instruction and for End Semester Examinations as the academic year of PUC is also started in last week of October, 2021.

3. The subject-wise detailed syllabus at PUC level for the AY21-22 has been annexed at the end of this circular.

Devaraj 06/12/2021
Associate Dean S & H

Devaraj 06/12/2021
Associate Dean Engineering

Copy to:

1. The PS to the Vice-Chancellor
2. The Administrative Officer
3. All the Associate Deans
4. All the Heads of the Departments
5. All the Faculty / Staff
6. The Examination Section
7. The Student Welfare Section
8. All the Notice Boards / University Hub

PUC-I SYLLABUS ALONG WITH DELETED TOPICS

PUC-I-SEM-I

AY-21-22 CHEMISTRY – SYLLABUS

1.ATOMIC SRUCTURE	**Deleted Topics**
1.3 Developments to the Bohr's model of atom. 1.3.1 Nature of electromagnetic radiation.1.3.2 Particle nature of electromagnetic radiation- Planck's quantum theory. 1.4 Bohr's model for hydrogen atom. 1.4.1 Explanation of line spectrum of hydrogen. 1.4.2 Limitations of Bohr's model. 1.5 Quantum mechanical considerations of sub atomic particles. 1.5.1 Dual behaviour of matter. 1.5.2 Heisenberg's uncertainty principle. 1.6.1 Orbitals and quantum numbers. . 1.6.3 Energies of orbitals. 1.6.4Filling of orbitals in atoms, aufbau principle, Pauli's exclusion principle and Hund's rule of maximum multiplicity. 1.6.5 Electronic configurations of atoms. 1.6.6 Stability of half filled and completely filled orbitals.	1.1 Sub- atomic particles. 1.2 Atomic models- Rutherford's Nuclear model of atom. 1.6 Quantum mechanical model of an atom. Important features of Quantum mechanical model of atom. 1.6.2 Shapes of atomic orbital's.
2. CLASSIFICATION OF ELEMENTS AND PERIODICITY OF PROPERTIES	
2.3 Modern periodic law and present form of the periodic table. 2.4 Nomenclature of elements with atomic number greater than 100. 2.5 Electronic configuration of elements and the periodic table. 2.6 Electronic configuration and types of elements s.p.d. and f blocks. 2.7.1 Trends in physical properties: (a) Atomic radius, (b) Ionic radius, (c) Variation of size in inner transition elements, (d) Ionization enthalpy, (e) Electron gain enthalpy, (f) Electro negativity. 2.7.2 Periodic trends in chemical properties: (a) Valence or Oxidation states, (b) Anomalous properties of second period elements - diagonal relationship. 2.7.3 Periodic trendsandchemicalreactivity	2.1 Need to classify elements. 2.2 Genesis of periodic classification.
3. CHEMICAL BONDING AND MOLECULARSTRUCTURE	
3.1 Kossel - Lewis approach to chemical bonding. 3.2 Ionic or electrovalent bond - Factors favorable for the formation of ionic compounds-Crystal structure of sodium chloride-General properties of ionic compounds. 3.3 Bond Parameters - bond length, bond angle, bond enthalpy, bond order, and resonance-Polarity of bonds dipole	No topic deleted

moment. 3.4 Valence Shell Electron Pair Repulsion (VSEPR) theories. Predicting the geometry of simple molecules. 3.5 Valence bond theory-Orbital overlap concept-Directional properties of bonds-overlapping of atomic orbitals strength of sigma and pi bonds-Factors favouring the formation of covalent bonds. 3.6 Hybridisation-different types of hybridization involving s, p and d orbitals- shapes of simple covalent molecules. 3.7 Coordinate bond - definition with examples. 3.8 Molecular orbital theory- Formation of molecular orbitals. Linear combination of atomic orbitals (LCAO)-conditions for combination of atomic orbitals - Energy level diagrams for molecular orbitals - Bonding in some homo nuclear diatomic molecules- H_2, He_2, Li_2, B_2, C_2, N_2 and 0_2. 3.9 Hydrogen bonding-cause of formation of hydrogen bond-Types of hydrogen bonds-inter and intra molecular-General properties of hydrogen bonds.	
4. STATES OF MATTER: GASES AND LIQUIDS	
4.1 Intermolecular forces. 4.2 Thermal Energy. 4.3 Intermolecular forces Vs Thermal interactions. 4.4 The Gaseous State. 4.5 The Gas Laws. 4.6 Ideal gas equation.4.7 Graham's law of diffusion - Dalton's Law of partial pressures. 4.8 Kinetic molecular theory of gases. 4.9 Kinetic gas equation of an ideal gas (No derivation)- Deduction of gas laws from Kinetic gas equation. 4.11 Behaviour of real gases - Deviation from Ideal gas behaviour - Compressibility factor Vs Pressure diagrams of real gases	4.10 Distribution of molecular speeds - rms. average and most probable speeds-Kinetic energy of gas molecules.4.12 Liquefaction of gases. 4.13 Liquid State - Properties of Liquids in terms of Inter molecular interactions - Vapour pressure. Viscosity and Surface tension (Qualitative idea only. No mathematical derivation).
5. STOICHIOMETRY	
5.1 Some Basic Concepts - Properties of matter - uncertainty in Measurement-significant figures, dimensional analysis 5.3 Atomic and molecular masses- mole concept and molar mass concept of equivalent weight.	5.2 Laws of Chemical Combinations - Law of Conservation of mass, law of definite proportions, law of multiple proportions, Gay Lussac's law of

5.4 Percentage composition of compounds and calculations of empirical and molecularformulae of compounds. 5.5 Stoichiometry and stoichiometric calculations.5.6 Methods of expressing concentrations of solutions-mass percent, mole fraction, molarity, molality and normality. 5.7 Redox reactions-classical idea of redox reactions, oxidation and reduction reactions-redox reactions in terms of electron transfer. 5.8 Oxidation number concept. 5.9 Types of Redox reactions-combination, decomposition, displacement and disproportionation reactions. 5.10 Balancing of redox reactions - oxidation number method, half reaction (ioa-electron) method.	gaseous volumes, Dalton's atomic theory, Avogadro law, principles and examples. 5.11 Redox reactions in titrimetry.
6.THERMODYNAMICS	
6.1 Thermodynamic terms. 6.1.1 The system and the surroundings. 6.1.2. Types of systems and surroundings. 6.1.3 The state of the system. 6.1.4 The Internal Energy as a state function, (a) Work (b) Heat (c) The general case, the first law of Thermodynamics. 6.2 Applications. 6.2.1 Work. 6.2.2 Enthalpy. H- a useful new state function. 6.2.3 Extensive and intensive properties. 6.2.5 The relationship between Cp and Cv. 6.3 Measurement of "U and H": caiorimetry. 6.4 Enthalpy change, 'rH' of reactions - reaction Enthalpy, (a) Standard enthalpy of reactions, (b) Enthalpy changes during transformations, (c) Standard enthalpy of formation, (d) Thermo chemical equations, (e) Hess's law of constant Heat summation. 6.5 Enthalpies for different types of reactions, (a) Standard enthalpy of combustion ("c H°) (b) Enthalpy of atomization ("a Ho). Phase transition, sublimation and ionization, (c) Bond Enthalpy ("bond Hϕ) (d) Enthalpy of solution ("sol ϕ)and dilution. 6.6 Spontaneity, (a) Is decrease in enthalpy a criterion for spontaneity? (b) Entropy and spontaneity, the second law of thermodynamics, (c) Gibbs Energy and spontaneity. 6.8 Absolute entropy and the third law of thermodynamics.	6.2.4 Heat capacity 6.7. Gibbs Energy change and equilibrium.

PUC-I-SEM-II

AY-21-22 CHEMISTRY – SYLLABUS

7.SOLUTIONS	Deleted Topics
7.1 Types of solutions 7.2 Expressing concentration of solutions-mass percentag, volume percentage, mass by volume percentage, parts per million, mole fraction, molarity and molality normality 7.3 Solubility: Solubility of a solid in a liquid, solubility of a gas in a liquid, Henry's law 7.4 Vapour pressure of liquid solutions: vapour pressure of liquid- liquid solutions. Raoult's law as a special case of Henry's law-vapour pressure of solutions of solids in liquids 7.5 Ideal and non-ideal solutions 7.6 Colligative properties and determination of molarmass-relative lowering of vapour pressure elevation of boiling point-depression of freezing point-osmosis and osmotic pressure reverse osmosis and water purification.	7.7 Abnormal molar masses-van't Hoff factor
8. CHEMICAL EQUILIBRIUM AND ACIDS-BASES	
8.1 Equilibrium in physical process. 8.2 Equilibrium in chemical process - dynamic equilibrium. 8.3 Law of chemical equilibrium - Law of mass action and equilibrium constant. 8.4 Homogeneous equilibria, equilibrium constant in gaseous systems, Relationship between KP, and KC 8.5 Heterogeneous equilibria. 8.6 Applications of equilibrium constant. 8.8 Factors affecting equilibria.- Le-chatelier's principle application to industrial synthesis of ammonia and sulphur trioxide. 8.9 Ionic Equilibrium in solutions. 8.10 Acids, bases and salts- Arrhenius, Bronsted-Lowry and Lewis concepts of acids and bases. 8.13 Solubility equilibria of sparingly soluble salts, solubility product constant common ion effect on solubility of Ionic salts.	8.7 Relationship between equilibrium constant K, reaction quotient Q and Gibbs energy G. 8.11 Ionisation of acids and bases -Ionisation constant of water and it's ionic product- pH scale-ionisation constants, of weak acids-ionisation of weak bases- relation between K_a and K_b and poly basic acids and di and poly acidic bases-factors affecting acid strength-common ion effect in the ionization of acids and bases-hydrolysis of salts and pH of their solutions. 8.12 Buffer solutions-designing of buffer solution- preparation of acidic buffer.
9. HYDROGEN AND ITS COMPOUNDS	
9.1 Position of hydrogen in the periodic table. 9.2 Dihydrogen-occurance and isotopes. 9.4 Properties of dihydrogen. 9.5 Hydrides: ionic, covalent. and non-stiochiometric hydrides. 9.6 Water-physical properties; structure of water, ice. 9.8 Chemical properties of water; hard and soft water temporary and permanent hardness of water. Heavy water. 9.9 Hydrogen as a fuel.	9.3 Preparation of dihydrogen 9.4 Properties of dihydrogen. 9.7 Hydrogen peroxide: preparation; physical properties; structure and chemical properties; storage and uses.

10. s– BLOCK ELEMENTS: (ALKALI AND ALKALINE EARTH METALS)	
Group 1 Elements: 10.1 Alkali metals; electronic configurations; atomic and ionic radii; ionization enthalpy; hydration enthalpy; physical properties; chemical properties; uses. 10.2 General characteristics of the compounds of the alkali metals: oxides; halides; salts of oxy acids. 10.3 Anomalous properties of lithium: differences and similarities with other alkali metals, diagonal relationship; similarities between lithium and magnesium. **Group 2 Elements:** 10.6 Alkaline earth elements; electronic configuration; ionization enthalpy; hydration enthalpy; physical properties; chemical properties; uses. 10.7 General characteristics of compounds of the alkaline earth metals: oxides, hydroxides, halides, salts of oxyacids (carbonates; sulphates and nitrates). 10.8 Anomalous behavior of beryllium; its diagonal relationship with aluminum. 10.9 Some important compounds of calcium: Preparation and uses of calcium oxide ; calcium hydroxide; calcium carbonate; plaster of paris; cement. 10.10 Biological importance of calcium and magnesium.	10.4 Some important compounds of sodium- Sodium carbonate; sodium chloride; sodium hydroxide; sodium hydrogen carbonate. 10.5 Biological importance of sodium and potassium. 10.9 Some important compounds of calcium: Preparation and uses of calcium oxide ; calcium hydroxide; calcium carbonate; plaster of paris; cement. 10.10 Biological importance of calcium and magnesium.
11. p-BLOCK ELEMENTS: GROUP-13	
(BORON FAMILY) 11.1 General introduction - electronic configuration, atomic radii, ionization enthalpy, electro negativity; physical & chemical properties. 11.2 Important trends and anomalous properties of boron.	11.3 Some important compounds of boron - borax, ortho boric acid, diborane. 11.4 Uses of boron, aluminium and their compounds.
12. p-BLOCK ELEMENTS: GROUP-14	
(CARBON FAMILY) 12.1 General introduction - electronic configuration, atomic radii, ionization enthalpy, electro negativity; physical & chemical properties. 12.2 Important trends and anomalous properties of carbon. 12.3 Allotropes of carbon. 12.4 Use of carbon.	12.5 Some important compounds of carbon and silicon - carbon monoxide, carbon dioxide, Silica, silicones, silicates and zeolites.
13.ENVIRONMENTAL CHEMISTRY	
Entire chapter deleted	Entire chapter deleted

14. ORGANIC CHEMISTRY- SOME BASIC PRINCIPLESAND TECHNIQUES	
14.1 General introduction. 14.2 Tetravalency of carbon: shapes of organic compounds. 14.3 Structural representations of organic compounds. 14.4 Classification of organic compounds. 14.5 Nomenclature of organic compounds. 14.6 Isomerism. 14.7 Fundamental concepts in organic reaction mechanisms. 14.7.1 Fission of covalent bond. 14.7.2 Nucleophiles and electrophiles. 14.7.3 Electron movements in organic reactions. 14.7.4 Electron displacement effects in covalent bonds. 14.7.5 Types of Organic reactions	14.8 Methods of purification of organic compounds. 14. 9 Qualitative elemental analysis of organic compounds. 14.10 Quantitative elemental analysis of organic compounds.

PUC-1-SEMESTER-1
PHYSICS SYLLABUS
AY2021-22

70% CONTENT IN VIEW OF COVID-19 PANDEMIC	**30% DELETED CONTENT**
CHAPTER – I: PHYSICAL WORLD	
1.1.What is Physics? 1.4Fundamental forces in nature	1.2Scope and excitement of physics 1.3Physics, technology and society 1.5 Nature of physical laws (To be discussed as a part of introduction and integrated with other topics)
CHAPTER –II: UNITS AND MEASUREMENTS	
2.1Introduction 2.2.The International system of units 2.3.Measurement of length 2.4.Measurement of mass 2.5Measurement of time 2.6Accuracy, precision of instruments and errors in measurement 2.7Significant figures 2.8Dimensions of physical quantities 2.9Dimensional formulae and dimensional equations 2.10Dimensional analysis and its applications	No deletion
Chapter-III: MOTION IN A STRAIGHT LINE	
3.1.Introduction 3.2.Position, path length and displacement 3.3.Average velocity and average speed 3.4.Instantaneous velocity and speed 3.5.Acceleration 3.6 Kinematic equations for uniformly accelerated motion	3.7 relative velocity

CHAPTER –IV : MOTION IN A PLANE	
4.1.Introduction 4.2.Scalars and vectors 4.3.Multiplication of vectors by real members 4.4.Addition and subtraction of vectors graphical method 4.5.Resolution of vectors 4.6.Vector addition Analytical method 4.7.Motion in a plane 4.8.Motion in a plane with constant acceleration 4.9.Relative velocity in two dimensions 4.10.Projectile motion 4.11.Uniform circular motion	No deletions
CHAPTER-V: LAWS OF MOTION	
5.1Introduction 5.7.Conservation of momentum 5.8Equilibrium of a particle 5.9Common forces in mechanics 5.10Circular motion 5.11.Solving problems in mechanics	5.3.The law ofinertia 5.4.Newton's first law ofmotion 5.5.Newton's second law ofmotion 5.6.Newton's third law ofmotion
CHAPTER – VI: WORK, ENERGY AND POWER	
6.1Introduction 6.2.Notions of work and kinetic energy: The work-energy theorem 6.3.Work 6.4.Kinetic Energy 6.5.Work done by a variable force 6.6.The work-energy theorem for a variable force. 6.7.The concept of potential energy 6.8.The conservation of mechanical energy 6.9.The potential energy of a spring 6.10.Various forms of energy: the law of conservation of energy 6.11.Power 6.12Collisions	No deletions
CHAPTER-VII: SYSTEM OF PARTICLES AND ROTATIONAL MOTION	
7.1.Introduction 7.2.Centre of mass. Centre of gravity 7.3.Motion of Centre of mass	7.10 Theorems of perpendicular and parallel axis

7.4.Linear momentum of a system of particles 7.5Vector product of two vectors 7.6.Angular velocity and its relation with linear velocity 7.7.Torque and angular momentum 7.8Equilibrium of a rigid body 7.9.Moment of inertia 7.11Dynamics of rotational motion about a fixed axis. 7.12.Angular momentum in case of rotations about a fixed axis. 7.13.Rolling motion	

PUC-1_SEMESTER-2
PHYSICS
AY2021-22

70% CONTENT IN VIEW OF COVID-19 PANDEMIC	**30% DELETED CONTENT**
Chapter VIII: OSCILLATIONS	
8.1.Introduction 8.2.Periodic and oscillatory motions 8.3.Simple Harmonic motions 8.4.Simple Harmonic motion and uniform circular motion 8.5.Velocity and acceleration in simple harmonic motion 8.6.Force law for simple harmonic motion 8.7.Energy in simple harmonic motion 8.8.Some systems executing simple harmonic motion 8.9.Damped simple harmonic motion 8.10.Forced oscillations and resonance	No deletions
CHAPTER –IX: GRAVITATION	
9.1.Introduction 9.3Universal law of gravitation 9.6.Acceleration due to gravity below and above the surface of earth 9.7Gravitational Potential energy 9.8Escape Speed 9.9.Earth Satellite 9.10.Energy of an orbiting satellite 9.11.Geo Stationary and Polar Satellites 9.12.Weightlessness	9.2.Kepler's laws 9.4.The gravitational constant 9.5 Acceleration due to gravity on the earth
CHAPTER –X: MECHANICAL PROPERTIES OF SOLIDS	
10.1Introduction 10.2Elastic behaviour of solids 10.3Stress and Strain 10.4Hooke's Law 10.5.Stress-Strain curve 10.6.Elastic Moduli 10.6.1.Young's Modulus 10.6.4 Bulk Modulus	10.6.3 shear modulus 10.6.5.poissons ratio 10.6.6.Elastic potential energy in a stretched wire.
CHAPTER –XI: MECHANICAL PROPERTIES OF FLUIDS	
11.1.Introduction 11.2.Pressure 11.3.Streamline Flow 11.4.Bernoulli's Principle 11.5.Viscosity	No deletions

11.6.Renolds Number 11.7.Surface Tension	
CHAPTER –XII: THERMAL PROPERTIES OF MATTER	
12.1.Introduction 12.2.Temperature and Heat 12.3.Measurement of Temperature 12.4.Ideal Gas Equation and Absolute Temperature 12.5.Thermal Expansion 12.6.Specific Heat Capacity 12.7.Calorimetry 12.8.Change of State Blackbody Radiation Green House Effect 12.10 Newton's Law of Cooling	12.3.Measurement of temperature 12.9 Heat transfer
CHAPTER –XIII: THERMODYNAMICS	
13.1Introduction 13.2Thermal equilibrium 13.3.Zeroth law of thermodynamics 13.4.Heat, internal energy and work 13.5.First law of thermodynamics 13.6.Specific heat capacity 13.7.Thermodynamic state variables and equation of state 13.8.Thermodynamic Process 13.11.Second law of thermodynamics 13.12.Reversible and irreversible processes	13.9Heat engines 13.10.Refrigerator and heat pumps 13.13 Carnot engine
CHAPTER – XIV: KINETIC THEORY	
14.1.Introduction 14.2.Molecular nature of matter 14.3.Behaviour of gases 14.4.Kinetic theory of an ideal gas 14.5.Laws of equipartition of energy 14.6.Specific heat capacity 14.7.Mean free path	No deletions

AY 21-22 PUC-I-Sem-1 Mathematics Syllabus

S.NO.	SYLLABUS	DELETED TOPICS
1	**Functions** Ordered pairs Types of Functions – Definitions Inverse Functions and Theorems Real valued functions(Domain, Range and Inverse)	
2	Mathematical Induction Principles of mathematical induction and Theorems Applications of mathematicalinduction Problems on divisibility	
3	Matrices Types of matrices Scalar multiple of a matrix and multiplication of matrices Transpose of a matrix Determinants Adjoint and inverse of a Matrix Consistency and Inconsistency of system ofSimultaneous Equations – Rank of a matrix Solution of Simultaneous Linear Equations	
4	Additon of Vectors Complete chapter	Vectors as a triad of real numbers , some basic concepts Classification(Types) ofvectors Sum(Addition) of vectors Scarlar Multiplication of avector Angle between two non-zerovectors Linear Combination of vectors Components of a vectors inThree Dimensions Vector Equation of Line andPlane

5	Product of Vectors Complete chapter	Scalar or dot product of twovectors – Geometrical interpretation – Orthogonal Projections Properties of dot product Expression for scalar(dot)product, Angle between two vectors Geometrical vector methods Vector equation of a plane – normal form Angle between two planes Vector product (cross product) of two vectors and properties Vector product in (i , j , k)system Vector Areas Scalar triple product Vector equation of a plane –different forms, skew lines, Shortest distance – plane, condition for coplanarity etc. Vector triple product -results
6	Trigonometric Ratios upto Transformations Trigonometric ratios – variation – Graphs and periodicity Trigonometric ratios ofcompound angles Trigonometric ratios of multipleand sub-multiple angles Sum and product transformations	
7	Trigonometric Equations General solutions of trigonometric equations Simple trigonometric equations - Solutions	

8	Inverse Trigonometric Functions	
	To reduce a trigonometric function into a bijective function Graphs of Inverse trigonometricfunctions Properties of inverse trigonometric functions	

9	Hyperbolic Functions	
	Definitions of Hyperbolic functions, graphs Definition of Inverse hyperbolic functions and graphs Addition formulas of Hyperbolic functions	
10	Properties of Triangle	Relation between the sidesand angles of a triangle Sine, Cosine and TangentRules – Projection Rules Half angle formulae andarea of a triangle Incircle and excircles of atriangle.
	Complete chapter	

AY 21-22 PUC-I-Sem-2 Mathematics Syllabus

S.NO.	SYLLABUS	DELETED TOPICS
1	**LOCUS** 1.1 Definition of Locus – Illustrations 1.2 Equation of Locus – Problems connected to it	
2	Transformation of axes 2.1 Transformation of axes – Rules, derivations and illustrations 2.2 Rotation of axes – Derivations - Illustrations	
3	The straight line 3.1 Revision of fundamentals 3.2 Straight line – Normal form - Illustrations 3.3 Straight line – Symmetric form 3.4 Straight line – Reduction into various forms 3.5 Intersection of two straight lines 3.6 Family of straight lines – Concurrent lines 3.7 Condition for concurrent lines 3.8 Angle between two lines 3.9 Length of the perpendicular from a point to a line 3.10 Distance between two parallel lines 3.11 Concurrent lines – Properties related to a triangle	
4	Pair of Straight lines Complete chapter	4.1. Equations of a pair of lines passing through the origin, Angle between a pair of lines 4.2. Condition for perpendicular and coincident lines, bisectors of angles 4.3. Pair of bisectors of angles 4.4. Pair of lines – Second degree general equation 4.5. Conditions for parallel lines – Distance between them, Point of intersection of pair of lines 4.6. Homogenising a second degree equation with a first degree equation in x and y.
5	Three Dimensional coordinates Complete chapter	5.1 Coordinates 5.2 Section formula 5.3 Solved problems

6	Direction Cosines and Direction Ratios Complete chapter	6.1 Direction cosines 6.2 Direction ratios
7	The Plane Complete chapter	7.1 Cartesian equation of a plane – Simple illustrations
8	Limits and continuity 8.1 Intervals and neighbourhoods 8.2 Limits 8.3 Standard Limits 8.4 Continuity	
9	Differentiation 9.1 Derivatives of a function 9.2 Elementary properties 9.3 Trigonometric, Inverse Trigonometric, Hyperbolic, Inverse Hyperbolic Functions – Derivatives 9.4 Methods of differentiation 9.5 Second Order Derivatives	
10	Applications of Derivatives 10.2 Geometrical interpretation of the derivative 10.3 Equations of tangent and normal to a curve 10.4 Lengths of tangent, normal, subtangent and subnormal 10.5 Angle between two curves and condition for orthogonality of curves 10.7 Rolles's Theorem and Lagrange's Mean Value Theorem 10.8 Increasing and Decreasing functions 10.9 Maxima and Minima	10.1 Errors amd approximations 10.6 Derivative as a rate of change

Department of English
Revised syllabus for PUC1 for AY21-22

PUC-ISEM-I
AY21-22English–SYLLABUS

I. POETRY	DELETED TOPICS
1. Happiness 2. A Red Red Rose	5. Keep Going
II. PROSE	**DELETED TOPICS**
6. Two Sides of Life 7. Father, Dear Father	9. The First Four Minutes 10. Box and Cox (One-Act Play)
III. SHORT STORY	**DELETED TOPICS**
11. Playing the Game 12. The Five Boons of Life	
IV. GRAMMAR	**DELETED TOPICS**
16. Parts of Speech 17. Articles 18. Prepositions	

PUC- I SEM- II

AY-21-22English–SYLLABUS

I. POETRY	DELETED TOPICS
3. The Beggar 4. The Noble Nature	
II. PROSE	**DELETED TOPICS**
8. The Green Champion - Thimmakka	
III. SHORT STORY	**DELETED TOPICS**
13. The Short-sighted Brothers 14. SanghalaPanthulu	15. The Dinner Party
IV. GRAMMAR	**DELETED TOPICS**
19. Tenses 20. Transformation 21. Correction of Errors in Sentences	22. Word Grammar 23. Study Skills 24. Reading Comprehension Passages

RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES, BASAR
(A.Y 2021-2022)

Telugu

AY 2021-22 P1S1 SYLLABUS

PROSE/POETRY/ NON-DETAILED/GRAMMAR	DELETED
Unit-1. విద్యాలక్ష్యం **2. పాల్కురికి సోమనాథుడు**	NO
Unit-2: 3. సంధులు **4. గొల్ల రామవ్వ**	No
Unit-3: 5 మిత్రధర్మం **6. తెలంగాణ తెలుగు పదాలు ఉర్దూ మూలాలు**	NO
7. సమాసాలు **8. బిచ్చగాడు**	NO
Unit-5: 9. శతకసుధ **10. ప్రాచీన సాహిత్యంలో మానవతావాదం**	NO
Unit-6: 10. ప్రాచీన సాహిత్యంలో మానవతావాదం	No
Unit-7: 11. లేఖ రచన	NO

COURSE CONTENT

PUC - I SEMESTER-2 ACADEMIC YEAR (2021-22)

PROSE/POETRY/ NON-DETAILED/GRAMMAR	**Deleted**
Unit-1 1. అచలం 2. బతుకమ్మ పండగ	**NO**
Unit-2: 3. సాధారణ వ్యాసాలు	NO
Unit-3 4. నా పేరు ప్రజా కోటి 5. తెలంగాణ జాతీయాలు	NO
Unit-4: 6. స్థూల అవగాహన 7. స్నేహలతా దేవి లేఖ	NO
Unit-5: 7. ముహైక 8.రాజా బహదూర్ వెంకట రామిరెడ్డి సేవాతత్పరత	NO
Unit-6 9. అనువాదం	NO
Unit-7: 10. ఇన్సానియత్	NO

SANSKRIT PUC-I SEMESTER-I ACADEMIC YEAR (2021-22)

PROSE/POETRY/ NON-DETAILED/GRAMMAR	DELETED
Unit-1:पद्यभागः– **1.**भर्तृहरिसुभषितानि 1,3,4, IMP, total-10-Slokas, **2.**रामोविग्रहवान्धर्मः 33-slokas,	**1.**भर्तृहरिसुभषितानि2,5,10 2.लक्ष्यशुद्धिः 33slokas -
Unit-2:गद्यभागः – **1**.दयालुदानशीलनागार्जुनः 2.टिट्टिभदम्पती,	वीरवनिताकीर्तिसेन
Unit-3: उपवचकम्– 1.उद्योगिनंपुरुषसिम्हमुपैतिलक्ष्मीः, 2.भाग्यचक्रम्,	1.श|श्वतंहिकार्यंकरणीयम्,
Unit-4: Grammar- सम्भाषणसंस्कृतम्,	
Unit-5:शब्दाः - स्त्रीलिंग, पुंलिंग, नपुंलिन्गशब्दाः 1.Rama,2kavi,3Bhanu,4Sitha,5Mati,6vadhū, (7vana, (8 vāri, (9madhu	1Dhata,2gau,3nadi,
Unit-6:धातुरूपणि1.परस्मैपदी, धार्ुरून्नाणण dhāturūpāṇi – (1)भूसत्तायाम्bhū sattāyām, (2) paṭh vyaktāyāṃ vāci, (3) akṣaravinyāse, (4) gamlṛ gatau, (5)khād bhakṣaṇe, (6)pā pāne, (7)हसहसनेhas hasane , (8) dhāv gatau, (9)dṛśir prekṣaṇe,	no
Unit-7:अनुवादः -18	19-25
Unit-8:संवित्परीक्षा - १गतनुगतिकोलोकः, २लुब्दःकर्षकः, ३परनुकारीगर्दभः, ४हितोपदेशोमुर्खाय-All	1.बिdaaलस्यगलेघण्टा 2.मूर्खस्यनास्त्यौशधम्

COURSE CONTENT

PUC -I SEMESTER-2 ACADEMIC YEAR(2021-22)

PROSE/POETRY/ NON-DETAILED/GRAMMAR	Deleted
Unit-9:पद्यभागः– **1.**गानपरीक्षा, 2.मातृगीतम् (भर्तृहरिसुभषितानि)	3.श्रीकृष्णस्यगुरुदक्षिणा 23slokas
Unit-10: गद्यभागः – 1 Sharna Gatasy Rakshanam 2.पितृसेवापरःश्रवणकुमारः	1.Pitru sevaparah Shravanah
Unit-11: उपवचकम् – 1.विद्वान्कुलीनोनकरोतिगर्वम् 2.किमस्तिपेटिकायाम्,	1.स्वावलम्बीरजीवः
Unit-12: Grammar- सम्भाषणसंस्कृतम्,	no
Unit-13: शब्दाः -1.तद् 2.किम्स्त्रीलिंग, पुंलिंग, नपुंलिन्गशब्दाः	1.Etat,2Asmat,Usmat
Unit-14:सन्धिः–1.सवर्णदीर्घ, 2.गुण, 3.वृद्धिसन्धिः 4.पूर्वरूपसन्धिः	Yanadesha Sandhi, Ayadi sandhi
Unit-14:धातुरूपणि2.आत्मनेपदी (10) vadi abhivādanastutyoḥ, (11) labh prāptau, (12)sev sevane	no

PUC-II SYLLABUS ALONG WITH DELETED TOPICS

Rajiv Gandhi University of Knowledge Technologies, IIIT-Basar

AY2021-22 P2 sem1 CHEMISTRY

SEMESTER-I:

S.No	UNIT	Topics taught	Reduced topics
1.	Hydrocarbons (10h)	Classification of hydrocarbons. Aliphatic hydrocarbons: Alkanes, Alkenes and Alkynes their nomenclature, Isomerism, physical and chemical properties. Aromatic hydrocarbons, Benzene nomenclature, synthesis, and physical and chemical properties.	Nil
2.	Chemical Kinetics (5h)	Rate of a reaction, factors affecting rate of reaction: concentration, order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions)	Concept of collision theory (elementary idea, nomathematical treatment), activation energy, Arrhenius equation.
3.	p-block elements (7h)	**Group -15:** General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties. Preparation properties and uses of N_2, NH_3Nitric acid. **Group -16:** General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties. Preparation properties and uses of dioxygen, classification of Oxides, Ozone, Sulphur allotropic forms, Compounds of Sulphur, Sulphur dioxide, Sulphuric acid, Oxoacids of Sulphur (Structures only). **Group-17:**General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties, Preparation properties and uses of Chlorine and Hydrochloric acid, Interhalogen compounds, Oxoacids of halogens (structures only). **Group-18:**General introduction, electronic	Preparation and properties of Phosphine, Elementsindustrial Processof manufacture, Oxides of Nitrogen (Structure only); Phosphorous-allotropic forms, compounds of Phosphorous, Preparation and properties of Halides and Oxo acids (elementary idea only).

		configuration, occurrence, oxidation states, trends in physical and chemical properties, uses.	
4.	Electrochemistry (7h)	Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis.	Lead accumulator, fuel cells, corrosion, law of electrolysis (elementary idea), dry cell- electrolytic cells and Galvaniccells,
5.	General Entire unit Principles and Processes of Isolation of Elements	Nil	Entire unit
6.	Haloalkanes and Haloarenes (9h)	**Haloalkanes:** Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions. **Haloarenes:** Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).	Uses and environmental effects of - Dichloromethane, Trichloromethane, Tetrachloromethane, Iodoform, Freons, DDT.

AY21-22_P2_S2_CY225_Chemistry Syllabus

SEMESTER-II:

S.No	UNIT	Topics to be taught	Reduced topics
1.	Alcohols, Phenols and Ethers (9h)	**Alcohols:** Nomenclature, methods of preparation, physical and chemical properties (1º alcohols only), identification of 1º, 2º and 3º alcohols, mechanism of dehydration. **Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols. **Ethers:**Nomenclature, methods of preparation, physical and chemical properties, uses.	Uses with special reference to methanol and ethanol.
2.	Aldehydes, Ketones and Carboxylicacids (10h)	**Aldehydes and Ketones:** Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses. **Carboxylic acids:** Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.	Nil
3.	Amines (7h)	Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary, and tertiary amines.	Diazonium salts: Preparation, chemical reactions, andimportance in synthetic organic chemistry.
4.	Biomolecules (8h)	**Carbohydrates:** Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration. **Proteins**: Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary	Oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen), importance of carbohydrates. Vitamins– classification and functions. Enzymes,Hormones - Elementary idea

		structures (qualitative idea only), denaturation of proteins. **Nucleic acids:** DNA and RNA.	excluding structure.
5.	Solid state (8h)	Classification of solids based on different binding forces: molecular, ionic, covalent, and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three-dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects.	Electrical and magnetic properties. Band theory of metals, conductors, semiconductors and insulators and n and p type semiconductors.
6.	Surface Chemistry (5h)	Adsorption - physisorption and chemisorption, factors affecting adsorption of gases on solids, colloidal state: distinction between true solutions, colloids, and suspension; lyophilic, lyophobic, multi-molecular and macromolecular colloids; properties of colloids; Tyndall effect, Brownian movement, electrophoresis, coagulation	Emulsion - types of emulsions, Catalysis: homogenous and heterogeneous, activity and selectivity of solid catalysts, enzyme catalysis.
7.	d and f Block Elements (7h)	General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first-row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation. Lanthanoids-Electronic configuration, oxidation states and lanthanoid contraction and its consequences.	ChemicalReactionsof lanthanoids, Actinoids – Electronicconfiguration, oxidation states and comparison with lanthanoids. Preparation and properties of $KMnO_4$ and $K_2Cr_2O_7$
8.	Coordination Compounds (8h)	Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding,	Structure and stereoisomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and

		Werner's theory, VBT, and CFT.	biological system).
9.	Polymers	Nil	Entire chapter
10.	ChemistryinEverydaylife	Nil	Entire chapter

RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES

(A.P. Govt. Act of 18 of 2008 & Telangana Govt. Adaptation G.O.Ms.No.29, Dt.17.12.2014)

Basar, Nirmal District, Telangana- 504107

PUC-II-SEM-I

AY-21-22 PHYSICS – SYLLABUS

1. WAVES	**Deleted Topics**
1.1 INTRODUCTION 1.2 Transverse and longitudinal waves 1.3 Displacement relation in a progressive wave 1.4 The speed of a travelling wave 1.5 The principle of superposition of waves 1.6 Reflection of waves 1.7 Beats	1.8 Doppler effect.
2. RAY OPTICS AND OPTICAL INSTRUMENTS	
2.1 INTRODUCTION 2.3 Refraction 2.4 Total Internal Reflection 2.5 Refraction at Spherical Surfaces and by Lenses 2.6 Refraction through a Prism 2.7 Dispersion by a Prism 2.8 Some Natural Phenomena due to Sunlight 2.9 Optical Instruments .	2.2 Reflection of Light by Spherical Mirrors 2.8.2 Scattering of light .
3. WAVE OPTICS	
3.1 Introduction 3.2 Huygens Principle 3.3 Refraction and reflection of plane waves using Huygens Principle 3.4 Coherent and Incoherent Addition of Waves 3.5 Interference of Light Waves and Young's Experiment 3.6 Diffraction.	3.6.3 Resolving power of optical instruments 3.7 Polarization

4.ELECTRIC CHARGES AND FIELDS	
4.1 INTRODUCTION 4.2 Electric Charges 4.3 Conductors and Insulators 4.4 Charging by Induction 4.5 Basic Properties of Electric Charge 4.6 Coulomb's Law 4.7 Forces between Multiple Charges 4.8 Electric Field 4.9 Electric Field Lines 4.10 Electric Flux 4.11 Electric Dipole 4.12 Dipole in a Uniform External Field 4.13 Continuous Charge Distribution 4.14 Gauss's Law 4.15 Application of Gauss's Law	4.15.3 Field due to a uniformly charged thin spherical shell
5.ELECTROSTATIC POTENTIAL AND CAPACITANCE	
5.1 INTRODUCTION 5.2 Electrostatic Potential 5.3 Potential due to a Point Charge 5.4 Potential due to an Electric Dipole 5.5 Potential due to a System of Charges 5.6 Equipotential Surfaces 5.7 Potential Energy of a System of Charges 5.8 Potential Energy in an External Field 5.9 Electrostatics of Conductors 5.10 Dielectrics and Polarisation 5.11 Capacitors and Capacitance 5.12 The Parallel Plate Capacitor 5.13 Effect of Dielectric on Capacitance 5.14 Combination of Capacitors 5.15 Energy Stored in a Capacitor	5.16 Van de Graaff Generator
6. CURRENT ELECTRICITY	
6.1 INTRODUCTION 6.2 Electric Current 6.3 Electric Currents in Conductors 6.4 Ohm's law 6.5 Drift of Electrons and the Origin of Resistivity 6.6 Limitations of Ohm's Law 6.8 Temperature Dependence of Resistivity 6.9 Electrical Energy, Power 6.11	6.7 Resistivity of various Materials 6.10 Combination of Resistors — Series and Parallel

Cells, emf, Internal Resistance 6.12 Cells in Series and in Parallel 6.13 Kirchhoff's Laws 6.14 Wheatstone Bridge 6.15 Meter Bridge 6.16 Potentiometer	
7.MOVING CHARGES AND MAGNETISM	
7.1 INTRODUCTION 7.2 Magnetic Force 7.3 Motion in a Magnetic Field 7.5 Magnetic Field due to a Current Element, Biot-Savart Law 7.6 Magnetic Field on the Axis of a Circular Current Loop 7.7 Ampere's Circuital Law 7.8 The Solenoid and the Toroid 7.9 Force between Two Parallel Currents, the Ampere 7.10 Torque on Current Loop, Magnetic Dipole 7.11 The Moving Coil Galvanometer	7.4 Motion in Combined Electric and Magnetic Fields

PUC-II-SEM-II

AY-21-22 PHYSICS – SYLLABUS

8.MAGNETISM AND MATTER	Deleted Topics
8.1 INTRODUCTION 8.2 The Bar Magnet 8.3 Magnetism and Gauss's Law 8.4 The Earth's Magnetism 8.8 Magnetisation and Magnetic Intensity.	8.2.2 Bar magnet as a equivalent solenoid 8.2.3 The dipole in a uniform magnetic field 8.6 Magnetic Properties of Materials 8.7 Permanent Magnets and Electromagnets.
9.ELECTROMAGNETIC INDUCTION	
9.1 INTRODUCTION 9.2 The Experiments of Faraday and Henry 9.3 Magnetic Flux 9.4 Faraday's Law of Induction 9.5 Lenz's Law and Conservation of Energy 9.6 Motional Electromotive Force 9.7 Energy Consideration: A Quantitative Study 9.8 Eddy Currents 9.9 Inductance 9.10 AC Generator	No deletions .
10. ALTERNATING CURRENT	
10.1 INTRODUCTION 10.2 AC Voltage Applied to a Resistor 10.3 Representation of AC Current and Voltage by Rotating Vectors — Phasors 10.4 AC Voltage Applied to an Inductor 10.5 AC Voltage Applied to a Capacitor 10.8 AC Voltage Applied to a Series LCR Circuit 10.8 LC Oscillations 10.9 Transformers	10.7 Power in AC Circuit: The Power Factor
11. ELECTROMAGNETIC WAVE	
11.1 INTRODUCTION 11.3 Electromagnetic Waves 11.4 Electromagnetic Spectrum	11.2 Displacement Current
12. DUAL NATURE OR RADIATION AND MATTER	

12.1 Introduction 12.2 Electron Emission 12.3 Photoelectric Effect 5 12.4 Experimental Study of Photoelectric Effect 12.5 Photoelectric Effect and Wave Theory of Light 12.6 Einstein's Photoelectric Equation: Energy Quantum of Radiation 12.7 Particle Nature of Light: The Photon 12.8 Wave Nature of Matter	12.9 Davisson and Germer Experiment
13. ATOMS	
13.1 INTRODUCTION 13.2 Alpha-particle Scattering and Rutherford's Nuclear Model of Atom 13.3 Atomic Spectra 13.4 Bohr Model of the Hydrogen Atom 13.5 The Line Spectra of the Hydrogen Atom 13.6 DE Broglie's Explanation of Bohr's Second Postulate of Quantisation CHAPTER	No deletions
14. NUCLEI	
14.1 INTRODUCTION 14.2 Atomic Masses and Composition of Nucleus 14.3 Size of the Nucleus 14.4 Mass-Energy and Nuclear Binding Energy 14.5 Nuclear Force 14.7 Nuclear Energy	14.4.2 Nuclear Binding energy 14.6 Radioactivity
15.SEMICONDUCTOR ELECTRONICS: MATERIALS, DEVICES AND SIMPLE CIRCUITS	
15.1 INTRODUCTION 15.2 Classification of Metals, Conductors and Semiconductors 15.3 Intrinsic Semiconductor 15.4 Extrinsic Semiconductor 15.5 p-n Junction 15.6 Semiconductor diode 15.7 Application of Junction Diode as a Rectifier 15.8 Special	15.8.1 Zener diode 15.9.3 Transistor as a device 15.9.4 Transistor as an amplifier (CE configuration) 15.9.5 Feedback amplifier and transistor

Purpose p-n Junction Diodes 6 15.9 Junction Transistor 15.10 Digital Electronics and Logic Gates 15.11 Integrated Circuits	oscillator
16. COMMUNICATION SYSTEMS	
16.1 INTRODUCTION 16.2 Elements of a Communication System 16.3 Basic Terminology Used in Electronic Communication Systems 16.4 Bandwidth of Signals 16.5 Bandwidth of Transmission Medium 16.6 Propagation of Electromagnetic Waves 16.7 Modulation and its Necessity 16.8 Amplitude Modulation 16.9 Production of Amplitude Modulated Wave 16.10 Detection of Amplitude Modulated Wave	No deletions

RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES BASAR

A.P. Govt Act of 18 of 2008 & Telangana Govt.Adaption G.O.Ms.No.29,
Basar, Nirmal District,Telangana State-504107

AY 21-22 PUC-II Sem-1 Mathematics Syllabus

S.No	Complex Numbers	Deleted Syllabus
1	1.1: Complex number as an Ordered pair of real numbers Fundamental operations 1.2: Representation of Complex number in the form a+ib 1.3:Modulus and Amplitude of a complex Number 1.4: Geometrical and Polar Representation of complex number in Argand plane -Argand diagram	
2	**DeMoivre's Theorem** 2.1:DeMoivre's Theorem- Integral and Rational Indices 2.2:nth Roots of Unity-Geometrical Interpretations	
3	**Quadratic Expressions** 3.1: Quadratic Expressions,Equations in one variable • The roots of a quadratic equation • Nature of Roots of a Quadratic Equation • Relation Between Coefficients and Roots of quadratic equation • Equations reducible to Quadratic equations 3.2: Sign of quadratic expressions • Theorems on Sign of quadratic expressions • Maximum and minimum values of Quadratic expressions	3.3 Quadratic Inequations and related problems in Exercise-3(C)

4	**Theory Of Equations** 4.1:Relation between the roots and coefficients in an equation • Remainder Theorem • Fundamental theorem of Algebra • The relations between the roots and the coefficients 4.2:Solving an equation when two or more of its roots are connected by certain relations • Synthetic Division • Method of finding quotient and the remainder when a polynomial is divided by $(x-a)$ and x^2-px-q 4.3: Equations with real coefficients occurrence of complex roots in conjugate pairs 4.4: Reciprocal Equations	• Concept of Multiple Roots and related problems in Exercise-4(B) • 4.4 Transformations of equations and related problems related in Exercise-4(D)
5	**Permutations and Combinations** 5.1:Fundamental Principles of Counting - Linear permutations. 5.2:Permutations of n dissimilar things taken r at a time 5.6: Combinations • Definitions and Theorems	**Deleted Syllabus** 5.3:Permutations when repetitions are allowed and related problems in Exercise-5(B) 5.4:Circular permutations and related problems in Exercise-5(C) 5.5:Permutations with Constraint repetitions and related problems in Exercise-5(D)
6	**Binomial Theorem** 6.1: Binomial Theorem for positive integral index • Numerical Greatest term in a Binomial Expansion	6.2: Binomial Theorem with Rational Index and related problems in Exercise-6(B) 6.3: Approximations using Binomial Theorem and related problems in Exercise-6(C)
7	**Partial Fractions** 7.0: Rational Fractions 7.1:Partial Fractions of $\frac{f(x)}{g(x)}$,when $g(x)$ contains non-repeated linear factors 7.2:Partial Fractions of $\frac{f(x)}{g(x)}$,when $g(x)$ contains repeated and or non-repeated linear factors 7.3:Partial Fractions of $\frac{f(x)}{g(x)}$,when $g(x)$ contains irreducible factors 7.4: Partial fractions of an Improper fraction	7.4: Conversion of $\frac{f(x)}{g(x)}$ in power series and related problems in Exercise-7(D)

8	**Measures of Dispersion**	8.1: Range 8.2: Mean Deviation 8.3: Variance and Standard Deviation of grouped and ungrouped Data 8.4: Coefficient of Variation and analysis of frequency distributions with equal means but different variances
	Complete Chapter	
9	**Probability**	9.3:Independent and Dependent Events Conditional Probability and Baye's Theorem
	9.1 Random experiments and events 9.2 Classical definition of probability, axiomatic approach and Addition theorem on probability	
10	**Random variables**	10.1: Continuous and Discrete Random Variables , Mean and Variance of a Random variable 10.2: Theoretical Distributions- Binomial and Poisson distribution
	Complete Chapter	

RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES BASAR

A.P. Govt Act of 18 of 2008 & Telangana Govt.Adaption G.O.Ms.No.29,
Basar, Nirmal District,Telangana State-504107

AY 21-22 PUC-II Sem-2 Mathematics Syllabus

S.No	Circles	Deleted Syllabus
1	1.1: Equation of circle-standard form-centre and radius of a circle with a given line segment as diameter and equation of circle through three non collinear-parametric equation of a circle. 1.2: Position of a point of a circle -Power of a point -definition of tangent-length of tangent 1.3: Position of a straight line in the plane of a circle – conditions for a line to be a tangent-chord joining two points on a circle-equation of the tangent at a point on the circle-point of contact-equation of normal.	1.4: Chord of Contact- pole and polar -conjugate points and conjugate lines-equation. 1.5: Relative position of two circles-circles touching each other externally, internally, common tangents-centres of similitude-equation of pair of tangent from an external point
2	**System of Circles**	2.1: Angle between two intersecting circles. 2.2: Radical axis of two Circles-properties-common card and common tangent of two circles-radical centre 2.3: intersection of a Line and a Circle.
3	**Parabola** 3.1: Conic sections- Parabola-equation of parabola in standard form – different forms of parabola-parametric equations.	3.2: Equations of tangent and normal at a point on the parabola (Cartesian and parametric) conditions for a straight line to be a tangent.
4	**Ellipse** 4.1: Equation of ellipse in standard form-parametric equation	4.2: Equation of tangent and normal at a point on the ellipse Cartesian and parametric-condition for a straight line to be a tangent

5	**Hyperbola**	5.1: Equation of Hyperbola in standard form-parametric equation 5.2: Equation of tangent and normal at a point on the Hyperbola (Cartesian and Parametric)-condition for a straight line to be a tangent-Asymptotes
6	**Integration**	
	6.1: Integration as the inverse process of differentiation – standard forms-properties of integrals. 6.2: method of substitution-integration of algebraic, exponential, logarithmic trigonometric, inverse trigonometric functions. Integration by parts. 6.3: Integration - Partial fractions method. 6.4: Reduction formulae	
7	**Definite Integrals**	
	7.1: Definite integral as the limit of Sum. 7.2: Interpretation of definite integral as an area. 7.3: Fundamental theorem of integral calculus. 7.4: properties of definite integrals. 7.5: Reduction formula. 7.6: Application of definite integral to areas	
8	**Differential equations**	
	8.1: Formation of differential equation-Degree and Order of an ordinary differential equation. 8.2: solving differential equation by • Variable separable method • Homogeneous differential equation	• Solving non-homogeneous differential equation. • Linear differential equations

RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES

(A.P. Govt. Act of 18 of 2008 & Telangana Govt. Adaptation G.O.Ms.No.29, Dt.17.12.2014)

Basar, Nirmal District, Telangana- 504107

PUC-II-SEM-I

AY-21-22 ENGLISH – SYLLABUS

1. PROSE/POETRY/SHORT STORY/GRAMMAR	**Deleted Topics**
MODULE-I Unit-1:Prose –Dancing in the Rain Unit-2:Poetry – I Celebrate Myself Unit-3:Short story- The Boy Who Broke the Bank Unit-4: Grammar- Language, Usage and Activities: Study Skills-I Section-A:Punctuation Section-B:Vocabulary Section-C:Understanding Non-verbal Data Section-D:Understanding Advertisements	MODULE-V Unit-17:Prose–TheSandbox(One-Act play) Unit-18: Poetry – What kind of Place? Unit-19: Short story- Don't Die, Hilton! Don't Die! Unit-20: Describing a process
2. PROSE/POETRY/SHORT STORY/GRAMMAR	
MODULE-II Unit-5:Prose –Opportunities for Youth Unit-6:Poetry – The Magical Earth Unit-7:Short story- Parige Unit-8: Grammar- Language, Usage and Activities - Letter Writing	

PUC-II-SEM-II

AY-21-22 ENGLISH – SYLLABUS

3. PROSE/POETRY/SHORT STORY/GRAMMAR	Deleted Topics
MODULE-III Unit-9:Prose –To Sir, with Love Unit-10:Poetry – Polonius' Advice to his Son Unit-11:Short story- My Elder Brother Unit-12: Language, Usage and Activities Section-A:Filling in Forms Section-B:Resume/CV/Bio-data and Cover Letters Section-C: Understanding Job Advertisements	MODULE-VI Unit-21:Comprehension and composition Section-A: Study skills-III: Idioms and Phrases Section B: Note making Section C: Verb Patterns Unit 22: Comprehension Passages
4. PROSE/POETRY/SHORT STORY/GRAMMAR	
MODULE-IV Unit-13:Prose –Polluting the World Unit-14:Poetry – Footprints in the Sand Unit-15:Short story- The Awakening Unit-16:Language, Usage and Activities Section-A –Dialogue writing Section-B –Study Skills-II: Word-stress	

TELUGU

COURSE CONTENT

PUC-II SEMESTER-I ACADEMIC YEAR (2021-22)

PROSE/POETRY/ NON-DETAILED/GRAMMAR	Deleted
Unit-1: 1. శ్రీకృష్ణ రాయబారం	NO
Unit-2 2. మిత్రలాభం 3. అలంకారాలు	NO
Unit-3: 4. భగీరథ ప్రయత్నం	NO
Unit-4: 5. తెలంగాణ సాహితీ వికాసం 6. చంధస్సు	NO
Unit-5: 7. జ్ఞాన బోధ	NO
Unit-6: నా సాహిత్య పరిశోధన	NO
Unit-7: భాషా భాగాలు	NO

COURSE CONTENT

PUC - II SEMESTER-2 ACADEMIC YEAR (2021-22)

PROSE/POETRY/ NON-DETAILED/GRAMMAR	**Deleted**
Unit-1 1. దుందుభి 2. గోల్కొండ మధుర స్మృతులు	**NO**
Unit-2 3. సంక్షిప్తీకరణ 4. కోకిలా ! ఓ కోకిలా !	**NO**
Unit-3: 5. మా భాగోతంలో మేము	NO
Unit-4: 6. సంభాషణ రచనా నైపుణ్యం	NO
Unit-5: 7. ఆడపిల్లలంటెనే	NOP
Unit-6: సృజన శీలత	NO
Unit-7: నా ప్రథమ విదేశ యాత్ర	NO

COURSE CONTENT

SANSKRIT

PUC-II SEMESTER-I ACADEMIC YEAR (2021-22)

PROSE/POETRY/ NON-DETAILED/GRAMMAR	Deleted
Unit-1:पद्यभागः–**1.**साधुवर्तनम् 1,5,8,14-IMP, total-20-Slokas, **2.**विक्रमन्कस्यऔदार्यम् 21-slokas,	(15,and 17 sloka in) 1.Sadhuvartanam 2.Kumudwati Parinayah
Unit-2: गद्यभागः – **1**.भ्रातृवात्सल्यम्, **2**.सुहृद्भेदः	1.Somadatta charitam
Unit-3: उपवाचकम्–1.न्यासरक्षा	1.Mudra Rakshasam
Unit-4: Grammar- सम्भाषणसंस्कृतम्,	no
Unit-5:हलन्त्यशब्दाः - स्त्रीलिंग, पुंलिंग, नपुंलिन्गशब्दाः, Vanik,marut,Gunin,Twak,Srak,Sarit,Naman,Vapus,Mans, TAT,KIM,PUM,SRI,NAOUM.	Vidvan,Dik,Karma
Unit-6:वाक्यशुद्धीकरणम्-कर्ता,कर्म,क्रियावाच्य	2
Unit-7:सन्धिः–सन्धिः1.श्चुत्व,2.अनुनासिक, 3.विसर्गसन्धिः,	SHTUTVA,JASTVA

COURSE CONTENT

PUC - II SEMESTER-2 ACADEMIC YEAR(2021-22)

PROSE/POETRY/ NON-DETAILED/GRAMMAR	PERIODS
Unit-8:पद्यभागः– **1.**गायत्रीनीतिगीतावलिः-20 Slokas 2.नृसिम्हाविर्भावः20-slokas	**Rudrama Devi**
Unit-9: गद्यभागः – **1**.वृक्षरक्षिकापितामही 2.भारतभूषावीरयोषा	**Bhishajo Bhashajyam**
Unit-10: उपवाचकम् –1.अनूरवम्	no
Unit-11: Grammar- सम्भाषणसंस्कृतम्,	no
Unit-12:समसाः- 1.अव्ययीभाव, 2.द्विगु, 3.द्वन्द्व, 4.बहुव्रीहिः,	TATPURUSHA, Karmadharaya
Unit-13:पत्रलेखनम्-2 Pitaram,pracharyam,putsakalayam	Mataram
Unit-14:वाक्यशुद्धीकरनम्	no