I YEAR I SEMESTER BSc MPCs SYLLABUS

SRI RAMAKRISHNA DEGREE COLLEGE (AUTONOMOUS)

NANDYAL

SRI RAMAKRISHNA AUTONOMOUS DEGREE COLLEGE, NANDYAL

I B.A/B.Com/B.Sc. Courses

Semester-I

English Praxis Course-1 (2020-21 Regulations)

Unit-1: Listening skills

1. Importance of Listening
2. Types of Listening
3. Barriers to Listening
4. Effective Listening

Unit-2: Speaking skills

1. Sounds of English : Vowels and consonants
2. Word Accent
3. Intonation

Unit-3: Grammar

1. Concord
2. Modals
3. Tenses
4. Articles
5. Prepositions
6. Question tags
7. Sentence Transformation (Voice, Reported speech& Degrees of comparison)
8. Error correction

Unit-4: Writing skills

1. Punctuation
2. Spelling
3. Paragraph writing

Unit-5: Soft skills

1. SWOC
2. Attitude
3. Emotional Intelligence
4. Telephone Etiquette
5. Interpersonal skills

B.A/B.Com/B.Sc (Three years) Degree Examinations
Model Question Paper
1st year 1st semester Examination

Title of the paper: English Praxis Course-1

Time: 3 Hours **Max. Marks: 70**

Section-A

I. **Read the following passage carefully and answer the questions that follow:** **5x1=5M**

News is as old as Man. When we meet someone, we generally ask, "What is the News?" People in villages meet at a centre-(Racchabanda) to exchange news about others. News is linked to Geography, to time, to the character of the people, their needs and ambitions etc. News is an acronym for North, East, West and South.

News is not something that is spontaneous. It is manufactured first by the influential men and women in the society, second by the media-organization and third by the reporters. News reporters often use the word "story". Story is any narrative or descriptive article in a Newspaper. This word is most bandied between a News editor and a reporter.

1. Where do people of villages meet to exchange News?
2. Is News linked with the character of a person?
3. What are various aspects linked with News?
4. What is the term used by News reporter?
5. How the news is generally manufactured?

II. **Fill in the blanks with suitable articles:** **5x1=5M**

1. Would you like _____ cup of coffee?
2. _____ apple a day keeps the doctor away.
3. What is _____ capital city of Australia?
4. It has been _____ honour to work for you.
5. _____ price of gas keeps rising

III. **Fill in the blanks with suitable prepositions:** **5x1=5M**

1. My best friend lives _____ Italy.
2. Tourists come _____ boat.
3. He was disappointed _____ his results.
4. I hope to find a solution _____ my problem.
5. Can you see the poster _____ the wall.

IV. **Fill in the blanks with the correct form of the verb given in the brackets:** **5x1=5M**

1. I_____ the newspaper every day. (read)
2. We_____ foot ball for one hour. (play)
3. Geetha _____ a dance recital at Ravindra Bharathi yesterday. (give)
4. Earthquakes were occurred in Bihar after we _____ the place. (leave)
5. Dolphins _____ in water. (live)

V. **Match the following sentences with the correct question tags:** **5x1=5M**

1) You are beautiful	( )	a) won't he?
2) I didn't like these books	( )	b) hasn't she?
3) My father will read magazines	( )	c) aren't you?

4) I am singing a song ( ) d) do I?

5) She has visited her parents ( ) e) aren't I?

VI. **Correct the following sentences wherever necessary:** **5x1=5M**

1) I am suffering from fever since Monday.
2) One of my friends have gone to the Andamans.
3) Each of the candidates were interviewed.
4) He is an young research scholar.
5) Economics are a difficult subject.

VII. **Rewrite the following as directed:** **5x1=5M**

1) Reckless driving causes many accidents. (Change it into passive voice)
2) He said, "I have passed the examination."(Change it into indirect speech)
3) Open the window. (Change it into passive voice)
4) Mohan said," I don't believe you. (Change it into indirect speech)
5) Tirupathi is one of the most popular pilgrim towns. (Change it into positive degree)

Section-B

VIII. **Punctuate the following:** **5M**

i don't know what it is to see into the heart of a friend through that window of the soul the eye

IX. **Write a paragraph by using the following hints given below and suggest a suitable** title: **5M**

Reading hobby- good and bad books- of the hour and forever- books as best companions- they entertain educate and enlighten-make one forget one's loneliness.

X. **Answer any Two of the following questions:** **2x5=10M**

1) Write a note on the types of listening.
2) What are the barriers to listening?
3) Explain the strategies for effective listening.

XI. **Answer any Three of the following questions:** **3x5=15M**

1) Mark the stress of the following words:
   a) Absent b) preparation c) Herself d) beauty e) careful
2) Write a note on English Consonant sounds with examples
3) How can one develop Positive Thinking?
4) What are the benefits of SWOC analysis?
5) Why is phone etiquette important?

*****

TELUGU Semester - I

పాఠ్య ప్రణాళిక

యూనిట్-I

రాజనీతి - సన్నయ

మహాభారతం-సభాపర్వం-ప్రథమాశ్వాసం-(26-57 పద్యాలు)

యూనిట్-II

దక్షయజ్ఞం - సన్నెబోయడు

కుమారసంభవం-ద్వితీయాశ్వాసం-(49-86 పద్యాలు)

యూనిట్-III

ధౌమ్య ధర్మోపదేశము - తిక్కన

మహాభారతం-విరాటపర్వం-ప్రథమాశ్వాసం-(116-146) పద్యాలు

యూనిట్-IV

పలనాటి బెబ్బులి - శ్రీనాథుడు (పలనాటి వీరచరిత్ర-ద్విపద కావ్యం పుట 108-112

'బాలచంద్రుడు భీమంబగు సంగ్రామం బొసర్చుట. (108).

..... వెఱగంది కుందీ' (112) సం. అక్కిరాజు ఉమాకాంతం

ముద్రణ.వి.కె.స్వామి, బెజవాడ 1911.

యూనిట్-V

సీతారావణ సంవాదం - మొల్ల

రామాయణము-సుందరకాండము-(40-87 పద్యాలు)

✦వ్యాకరణం

సంధులు: ఉత్వ, త్రిక, ద్రుతప్రకృతిక, సుగాగమ,ద్విరుక్తటకారాదేశ, యణాదేశ, వృద్ధి, శ్చుత్వ, జశ్త్వ, అనునాసిక సంధులు.

సమాసాలు: అవ్యయీభావ, తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

అలంకారాలుః

అర్థాలంకారాలు : ఉపమ, ఉత్ప్రేక్ష, రూపక, స్వభావోక్తి, అర్థాంతరన్యాస, అతిశయోక్తి.

శబ్దాలంకారాలు : అనుప్రాస (వృత్త్యనుప్రాస, ఛేకానుప్రాస లాటానుప్రాస, అంత్యానుప్రాస)

ఛందస్సు

వృత్తాలు: ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము;

జాతులు : కందం, ద్విపద; ఉపజాతులు : ఆటవెలది, తేటగీతి, సీసం మరియు ముత్యాలసరాలు

Semester End Examinations, B.A/B.com/B.Sc
BCM
1st Year 1st Semester Examination
General Telugu

Time 3 hours Max Marks - 70

I. క్రింది పద్యాలలో ఒకదానికి కవి పరిచయము ప్రతిపదార్థ తాత్పర్యాలను వ్రాయండి? 8

(అ) కడు జనవాడునై పురుషకారము దక్షుడునైన మంత్రి వం
పడరగ రాజపుత్రుల మహాధనవంతుల జేసి వారితో
నొడబడి పక్షమేర్పడగ నుండెడుగా ధన మిచ్చి వారికిం
గడుకొని చేయుచుండెను జగన్నుత గర్వము మద్విరోధమున్

(ఆ) స్థూల సమున్నతాంగులు చతుర్భుజ ఫాలతలాక్ష శూలకా
పాల కరోరకార్ముక కృపాణధరుల్ ప్రమథాధినాథులా
భీల పరాక్రముల్ నిఖిల భీకరమూర్తులు వచ్చి రోలిగం
తాల సమేతులై భువనకంపముగా గణనాథు పాలికిన్

II. క్రింది వానిలో రెండింటికి సందర్భసహిత వ్యాఖ్యలు వ్రాయండి 2×3 = 6

1. బలుసాకు తినియైన బ్రతుకగలము
2. రాము డెరిగిత లంకకు రాగలండు?
3. చచ్చిన బ్రతికిన నే ఖని మచ్చుటన
4. అవశ్యము నెగ్గొనరించు నతడు శక్రుండైనన్

III. క్రింది వానిలో రెండింటికి సంగ్రహ సమాధానాలు వ్రాయండి 2×5 = 10

1. బాలచంద్రుడిని చూసి నలగామరాజు సైనికులు భయపడిన విధమెట్టిది?
2. తనను నిందించిన సీతను రావణుడు బెదిరించిన విధమెట్టిది?
3. ఉద్యోగుల పట్ల రాజు వ్యవహరించవలసిన తీరును తెలపండి?
4. దక్షుని కోసం వెదుకుతూ ప్రమథాదులు చేసిన పనులేవి?

IV ఈ క్రింది వానిని ప్రశ్నలలో మూడింటికి సమగ్రంగా సమాధానాలు వ్రాయండి? 3×10 = 30

1) నారదుడు ధర్మరాజునకు తెలిపిన రాజనీతిని సంగ్రహంగా తెలపండి
2) దక్షయజ్ఞం పార్వతీభాగ కథను వ్రాయండి
3) ధౌమ్యుడు పాండవులకు చేసిన ధర్మోపదేశమును వివరించండి
4) పలనాటి యుద్ధములో బాలచంద్రుని యుద్ధ కౌశలాన్ని వివరించండి
5) సీతారావణ సంవాదాన్ని సంగ్రహంగా వివరించండి
6) నన్నియ కవితారీతులను పేర్కొని రాజనీతి పాఠములో ఏవి ఎంత వరకు ప్రతిబింబిస్తున్నాయో తెలపండి

V క్రింది వానిలో నాల్గింటిని విడదీసి వానిసంధి కారణము తెలపండి

అ) 1) ధనుర్జాశవిరుడు 2) జగన్నిత్యుడు 3) మహద్భుత సేవ
4) అభ్యంతరము 5) శతైకవద్ధి 6) కాలాగ్ని
7) వాగుపాలు 8) తదవసరము 4×1 = 4

ఆ) క్రింది వానిలో నాల్గింటికి విగ్రహవాక్యము సమాస నామములను తెలపండి 4×1 = 4
1 వనజగర్భుడు 2 అనఘుడు 3 దివానిశ రక్షము 4 ఆయుర్వేదము
5 సురవరులు 6 త్రిలోకములు 7 ఫణిహారధరులు 8 క్రోధానలము

VI క్రింది పద్యాలలో ఒక పద్యానికి గల అలంకారాన్ని గుర్తించి లక్ష్య లక్షణ సమన్వయము చేయండి. 1×4 = 4

1) వేటకాడు ముట్టి వెనుకొనగా శివిత
నగముచరికి దారు నయిలి వోలె
నభ్రగజము మీద కానరా[illegible]ండు
వలెకి పాటె ప్రమథరాజి యోరవి

2) లోకాలోకములోగల
చీకటి యెల్ల నొక్క పొడవై సేకొని మున్నా
నాకాశము దరి వచ్చె మ
హాకాళ మహాభయంకరాకారములన్

VII ఈ క్రింది పద్యపాదాలలో ఒకదానికి గణవిభజన చేసి యతిని గుర్తించు ~~[illegible]~~ పద్య లక్షణము వ్రాయుము 1×4 =
1. రాముని గీముని చెప్పగిప్ప నగరా రాకెందు బంబానసా
2. వేతోక తెలిసిన నారులకు
మా ఊరక యునికి వెన్ను మనుజేంద్ర తరణి

SRI RAMAKRISHNA DEGREE COLLEGE(A) NANDYAL
BA/B.com/B.sc/B.B.A SANSKRIT FIRST SEMESTER
SYLLABUS 2020-21

प्राचीनसाहित्यं

1)आर्यपादुकाभिषेकः

2)यक्षप्रश्नाः

आधुनिकसाहित्यं

1)मेवाडराज्यस्थापनम्

2)विवेकानन्दसूक्तयः।

गद्यसाहित्यं

1)अत्युत्कटैःपापपुण्यैःइहैवफलमश्नुते

2)शूद्रकवीरवरकथा।

व्याकरणं

1)शब्दाः(देव,कवि,भानु,धातृ,पितृ,गो,रमा,मति)

2)धातवः(भू,गम्,ष्ठा,द्रुशिर्,लभ्,मुद,अस्,भाष्)

3)सन्धयः(अच्- हल्सन्धयः)

4)समासाः(द्वन्द्व,तत्पुरुष,कर्मधारय,द्विगु)

Sri Ramakrishna autonomous degree college Nandyal
BA/B.com/B.sc/B.B.A.1st year -1st Semester
Subject :Sanskrit
Model question Paper (2020-21)

Time:3hrs. **Marks:70**

प्रथमो भागः

I. द्वौ श्लोकौ पूरयित्वा भावं लिखत । 2*5=10

अ)सान्त्वता……..
…….. राज्यमकण्ठकम्।।

आ) अद्यार्य……..
……..दिशोदश।।

इ) माता… ……
……..त्रुणात्।।

ई) सार्थः… ……..
……मरिष्यतः।।

||.चतुर्णा ससन्दर्भं भावः च लिखत। 4*3=12

अ) न ही जीवितस्तस्य वनमागन्तुमर्हसि।
आ) बुद्धिमान् वृद्धसेवया।
इ) अकस्मादागन्तुना सह मैत्री नयुक्ता ।
ई) द्वौ बाहू त्रुतीयश्च खड्गः ।
उ) सत्यमूलानि सर्वाणि सत्यान्नास्ति परं पदम्।
ऊ) अहिंसा परमो धर्मः।
ए) जीवनान्तेपि तव राज्यभंगो नास्ति।
ऐ) उदारचरितानां तू वसुधैव कुटुम्बकम्।

।।। एकस्य सम्पूर्णतया समाधानं लिखता। 1*8=8

अ) आर्य पादुकाभिषेकः पाठ्यभागस्य सारांशं लिखत।
आ) यक्षप्रश्नानां वैशिष्ठयं लिखत।

।v.एकस्य सम्पूर्णतया समाधानं लिखत। 1*8=8

अ) मेवाडराज्यस्थापनं वर्णयत।
आ) विवेकानन्द सूक्तयः इति पाठ्यभागस्य सारांशं लिखत।

V.एकस्य सम्पूर्णतया समाधानं लिखत। 1*8=8

अ) शृगालः कथं लगुडेन मारितः। ।
आ) वीरवर कथा विशदयता।

V।)चतुर्णां लघुसमाधानानि लिखत। 4*1=4

अ) श्रीरामःभरतं वीक्षय किमकरोत् ?
आ) श्रीरामः पित्रु मरणवार्तीं निशम्य किं अकरोत् ?
इ) किंस्वित् गुरुतरा भूमेः? किंस्वित्उच्चतरं च खात्?
ई) किं नु हित्वाअर्थवान् भवति? किं नु हित्वाअर्थवान् सुखी भवेत्?
उ) चम्पकवती नाम अरण्यानी कुत्र अस्ति?
ऊ) म्रुगः केन वञ्चितः?
ए) वीरवरस्य पुत्रः कः?
ऐ) पुत्रस्य मरणानन्तरं वीरवरः आलोच्य किं अकरोत् ?

द्वितीयो भागः

VII) द्वयोः शब्दरूपानि सम्पूर्णतया लिखता। 2*3=6

अ) देव आ) भानु इ) मति ई) रमा

VIII) चतुर्णां नामनिर्देशपूर्वकं सन्धत्ता। 4*1=4

अ) कपि +ईशः । आ) पौ+अकः
इ) इति+अत्र ई) तत्+च
उ) महा+ईशः ऊ) तथा+एव
ए) तत्+टीका ऐ) षट् +मुखः

IX) द्वयोः धातुरूपाणि लिखता 2*3=6

अ) भू- present tense आ) स्था- Imperative tense
इ) लभ् -past tense ई) मुद- potential tense

X), चतुर्णां नामनिर्देशपूर्वकं विग्रहवाक्यानि लिखत । 4*1=4

अ) ग्रामगतः आ) अज्ञानम्
इ) कृष्णसर्पः ई)पञ्चगवं
उ) रामकृष्णौ। ऊ)विन्ध्यपर्वतः
ए)गोपालबालः ऐ) पापभयं

SEMESTER – I

Course I (Inorganic &Physical Chemistry) 60 hrs. (4h/w)

Course outcomes:

At the end of the course, the student will be able to;

1. Understand the basic concepts of p-block elements
2. Explainthe differencebetweensolid,liquidandgasesintermsof intermolecularinteractions.
3. Applytheconceptsofgasequations,pHandelectrolyteswhilestudyingotherchemistrycourses.

INORGANIC CHEMISTRY 24 h

UNIT –I

Chemistry of p-block elements 8h

Group 13: Preparation & structure of Diborane, Borazine

Group 14: Preparation, classification and uses of silicones

Group 15: Preparation & structures of Phosphonitrilic halides $\{(PNCl_2)_n$ where n=3, 4

Group 16: Oxides and Oxoacids of Sulphur (structures only)

Group 17: Pseudohalogens, Structures of Interhalogen compounds.

UNIT-II

1. Chemistry of d-block elements: 6h

Characteristics of d-block elements with special reference to electronic configuration, variable valence, magnetic properties, catalytic properties and ability to form complexes. Stability of various oxidation states.

2. Chemistry of f-block elements: 6h

Chemistry of lanthanides - electronic structure, oxidation states, lanthanide contraction, consequences of lanthanide contraction, magnetic properties. Chemistry of actinides - electronic configuration, oxidation states, actinide contraction, comparison of lanthanides and actinides.

3. Theories of bonding in metals: 4h

Valence bond theory andFree electron theory, explanation of thermal and electrical conductivity of metals based on these theories, Band theory- formation of bands, explanation of conductors, semiconductors and insulators.

PHYSICAL CHEMISTRY 36h

UNIT-III

Solidstate 10h

Symmetry in crystals. Law of constancy of interfacial angles. The law of rationality of indices. The law of symmetry. Miller indices, Definition of lattice point, space lattice, unit cell. Bravais lattices and crystal systems. X-ray diffraction and crystal structure. Bragg's law. Powder method. Defects in crystals. Stoichiometric and non-stoichiometric defects.

UNIT-IV

1. Gaseous state 6h

van der Waal's equation of state. Andrew's isotherms of carbon dioxide, continuity of state. Critical phenomena. Relationship between critical constants and vander Waal's constants. Lawof corresponding states. Joule- Thomson effect. Inversion temperature.

2.Liquid state 4h

Liquid crystals,mesomorphicstate. Differences between liquid crystal and solid/liquid. Classification of liquid crystals into Smectic and Nematic. Application of liquid crystals as LCD devices.

UNIT-V

Solutions, Ionic equilibrium& dilute solutions

1. Solutions 6h

Azeotropes-HCl-H_2O system and ethanol-water system. Partially miscible liquids-phenol-water system. Critical solution temperature (CST), Effect of impurity on consulate temperature. Immiscible liquids and steam distillation.Nernst distribution law. Calculation of the partition coefficient. Applications of distribution law.

2. **Ionic equilibrium 3h**

Ionic product, common ion effect, solubility and solubility product. Calculations based on solubility product.

3. Dilute solutions 7h

Colligative properties- RLVP, Osmotic pressure, Elevation in boing point and depression in freezing point. Experimental methods for the determination of molar mass of a non-volatile

solute using osmotic pressure, Elevation in boing point and depression in freezing point. Abnormal colligative properties. Van't Hoff factor.

Co-curricular activities and Assessment Methods

1. ContinuousEvaluation:Monitoringtheprogressof student'slearning
2. ClassTests,WorksheetsandQuizzes
3. Presentations,ProjectsandAssignmentsandGroupDiscussions:Enhancescriticalthinking skillsand personality
4. Semester-endExamination:criticalindicatorofstudent'slearningandteachingmethodsadoptedby teachersthroughoutthesemester.

List of Reference Books

1. Principles of physical chemistry by Prutton and Marron
2. Solid State Chemistry and its applications by Anthony R. West
3. Text book of physical chemistry by K L Kapoor
4. Text book of physical chemistry by S Glasstone
5. Advanced physical chemistry by Bahl and Tuli
6. Inorganic Chemistry by J.E.Huheey
7. Basic Inorganic Chemistry by Cotton and Wilkinson
8. A textbook of qualitative inorganic analysis by A.I. Vogel
9. Atkins,P.W.&Paula,J.deAtkin'sPhysicalChemistryEd.,OxfordUniversityPress 10thEd(2014).
10. Castellan,G.W.PhysicalChemistry4thEd.Narosa(2004).
11. Mortimer,R. G.PhysicalChemistry3rdEd. Elsevier:NOIDA,UP(2009).
12. Barrow,G.M.PhysicalChemistry

SEMESTER – I

Course I (Inorganic &Physical Chemistry) 60 hrs. (4h/w)

Course outcomes:

At the end of the course, the student will be able to;

1. Understand the basic concepts of p-block elements
2. Explainthe differencebetweensolid,liquidandgasesintermsof intermolecularinteractions.
3. Applytheconceptsofgasequations,pHandelectrolyteswhilestudyingotherchemistrycourses.

INORGANIC CHEMISTRY 24 h

UNIT –I

Chemistry of p-block elements 8h

Group 13: Preparation & structure of Diborane, Borazine

Group 14: Preparation, classification and uses of silicones

Group 15: Preparation & structures of Phosphonitrilic halides $\{(PNCl_2)_n$ where n=3, 4

Group 16: Oxides and Oxoacids of Sulphur (structures only)

Group 17: Pseudohalogens, Structures of Interhalogen compounds.

UNIT-II

1. Chemistry of d-block elements: 6h

Characteristics of d-block elements with special reference to electronic configuration, variable valence, magnetic properties, catalytic properties and ability to form complexes. Stability of various oxidation states.

2. Chemistry of f-block elements: 6h

Chemistry of lanthanides - electronic structure, oxidation states, lanthanide contraction, consequences of lanthanide contraction, magnetic properties. Chemistry of actinides - electronic configuration, oxidation states, actinide contraction, comparison of lanthanides and actinides.

3. Theories of bonding in metals: 4h

Valence bond theory andFree electron theory, explanation of thermal and electrical conductivity of metals based on these theories, Band theory- formation of bands, explanation of conductors, semiconductors and insulators.

PHYSICAL CHEMISTRY 36h

UNIT-III

Solidstate 10h

Symmetry in crystals. Law of constancy of interfacial angles. The law of rationality of indices. The law of symmetry. Miller indices, Definition of lattice point, space lattice, unit cell. Bravais lattices and crystal systems. X-ray diffraction and crystal structure. Bragg's law. Powder method. Defects in crystals. Stoichiometric and non-stoichiometric defects.

UNIT-IV

1. Gaseous state 6h

van der Waal's equation of state. Andrew's isotherms of carbon dioxide, continuity of state. Critical phenomena. Relationship between critical constants and vander Waal's constants. Lawof corresponding states. Joule- Thomson effect. Inversion temperature.

2.Liquid state 4h

Liquid crystals,mesomorphicstate. Differences between liquid crystal and solid/liquid. Classification of liquid crystals into Smectic and Nematic. Application of liquid crystals as LCD devices.

UNIT-V

Solutions, Ionic equilibrium& dilute solutions

1. Solutions 6h

Azeotropes-HCl-H_2O system and ethanol-water system. Partially miscible liquids-phenol-water system. Critical solution temperature (CST), Effect of impurity on consulate temperature. Immiscible liquids and steam distillation.Nernst distribution law. Calculation of the partition coefficient. Applications of distribution law.

2. **Ionic equilibrium 3h**

Ionic product, common ion effect, solubility and solubility product. Calculations based on solubility product.

3. Dilute solutions 7h

Colligative properties- RLVP, Osmotic pressure, Elevation in boing point and depression in freezing point. Experimental methods for the determination of molar mass of a non-volatile

solute using osmotic pressure, Elevation in boing point and depression in freezing point. Abnormal colligative properties. Van't Hoff factor.

Co-curricular activities and Assessment Methods

1. ContinuousEvaluation:Monitoringtheprogressof student'slearning
2. ClassTests,WorksheetsandQuizzes
3. Presentations,ProjectsandAssignmentsandGroupDiscussions:Enhancescriticalthinking skillsand personality
4. Semester-endExamination:criticalindicatorofstudent'slearningandteachingmethodsadoptedby teachersthroughoutthesemester.

List of Reference Books

1. Principles of physical chemistry by Prutton and Marron
2. Solid State Chemistry and its applications by Anthony R. West
3. Text book of physical chemistry by K L Kapoor
4. Text book of physical chemistry by S Glasstone
5. Advanced physical chemistry by Bahl and Tuli
6. Inorganic Chemistry by J.E.Huheey
7. Basic Inorganic Chemistry by Cotton and Wilkinson
8. A textbook of qualitative inorganic analysis by A.I. Vogel
9. Atkins,P.W.&Paula,J.deAtkin'sPhysicalChemistryEd.,OxfordUniversityPress 10thEd(2014).
10. Castellan,G.W.PhysicalChemistry4thEd.Narosa(2004).
11. Mortimer,R. G.PhysicalChemistry3rdEd. Elsevier:NOIDA,UP(2009).
12. Barrow,G.M.PhysicalChemistry

SRI RAMAKRISHNA DEGREE(AUTONOMOUS) COLLEGE, NANDYAL

MODEL QUESTION PAPER
FIRST YEAR B.Sc., DEGREE EXAMINATION
SEMESTER-I CHEMISTRY
INORGANIC & PHYSICAL CHEMISTRY
Time: 3 hours Maximum Marks: 70

PART- A 5X4 =20M

Answer any FIVE of the following questions.

1. Explain the preparation & structures of Phosphonitrilic compounds.
2. Explain in brief, catalytic properties & stability of various oxidation states of d-block elements.
3. Write short note on Bravais lattices and crystal systems.
4. What are Smectic&Nematic liquid Crystals? Explain.
5. Write account on Common ion effect & Solubility product.
6. Describe Andrew's isotherms of carbon dioxide.
7. Explain Actinide Contraction.
8. Explain the structure of Borazine.

PART- B5 X 10 = 50 Marks

Answer any five of the following questions.

9 (a). Explain Classification, Preparations & uses of Silicones

(or)

(b). (i) What are Pseudohalogens.
(ii) Explain the Structures of any one AX3& AX5interhalogen compounds.

10 (a). What is Lanthanide Contraction? Explain the Consequences of LanthanideContraction.

(or)

(b). (i) Explain the magnetic properties of d- block elements.
(ii) Explain about Conductors, Semi-Conductors& Insulators using Band Theory.

11.(a). Write an essay on Crystal defects.

(or)

(b). What is Bragg's Law. Explain the determination of structure of a crystal by powder method.

12.(a). Derive the relationship between Critical constants &Vander Waal constants

(or)

(b)(i) Write any 5 differences between liquid crystals & liquids, solids
(ii) Write the applications of Liquid crystals.

13.(a). Explain Nernst distribution Law. Explain its applications

(or)

(b).What are colligative properties. Write experimental methods for determination of molar mass of a non-volatile solute by using Elevation in boiling point

****

PROBLEM SOLVING IN C

Semester	Course Code	Course Title	Hours	Credits
I	C1	PROBLEM SOLVING IN C	60	3

Objectives:

This course aims to provide exposure to problem-solving through programming. It introduces the concepts of the C Programming language.

Course Learning Outcomes:

Upon successful completion of the course, a student will be able to:

1. Understand the evolution and functionality of a Digital Computer.
2. Apply logical skills to analyse a given problem
3. Develop an algorithm for solving a given problem.
4. Understand 'C' language constructs like Iterative statements, Array processing, Pointers, etc.
5. Apply 'C' language constructs to the algorithms towrite a 'C' language program.

UNIT I

General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations.

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, Programming Languages – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

UNIT II

Introduction to C: Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments –

Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples.

Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement

UNIT III

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi dimensional arrays, character handling and strings.

UNIT IV

Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types.

UNIT V

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

BOOKS

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hill publications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" - Pearson publications.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publications.
4. YashavantKanetkar - Let Us 'C' – BPB Publications.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,

5. Observation of practical skills,
6. Individual and group project reports like “Creating Text Editor in C”.
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

Semester	Course Code	Course Title	Hours	Credits
I	**C1-P**	**PROBLEM SOLVING IN C LAB**	**30**	**2**

Problem solving in C LAB

1. Write a program to check whether the given number is Armstrong or not.
2. Write a program to find the sum of individual digits of a positive integer.
3. Write a program to generate the first n terms of the Fibonacci sequence.
4. Write a program to find both the largest and smallest number in a list of integer values
5. Write a program to demonstrate refection of parameters in swapping of two integer values using **Call by Value**&**Call by Address**
6. Write a program that uses functions to add two matrices.
7. Write a program to calculate factorial of given integer value using recursive functions
8. Write a program for multiplication of twoN X N matrices.
9. Write a program to perform various string operations.
10. Write a program to search an element in a given list of values.
11. Write a program to sort a given list of integers in ascending order.
12. Write a program to calculate the salaries of all employees using ***Employee (ID, Name, Designation, Basic Pay, DA, HRA, Gross Salary, Deduction, Net Salary)*** structure.
    a. DA is 30 % of Basic Pay
    b. HRA is 15% of Basic Pay
    c. Deduction is 10% of (Basic Pay + DA)
    d. Gross Salary = Basic Pay + DA+ HRA
    e. Net Salary = Gross Salary - Deduction
13. Write a program to illustrate pointer arithmetic.

14. Write a program to read the data character by character from a file.
15. Write a program to create***Book (ISBN,Title, Author, Price, Pages, Publisher)***structureand store book details in a file and perform the following operations
    a. Add book details
    b. Search a book details for a given ISBN and display book details, if available
    c. Update a book details using ISBN
    d. Delete book details for a given ISBN and display list of remaining Books

ZOOLOGY SYLLABUS FOR I SEMESTER

PAPER – I: ANIMAL DIVERSITY – BIOLOGY OF NONCHORDATES

UNIT I

Phylum Protozoa

1.3 General Characters and classification of protozoa up to classes with suitable examples

1.4 Nutrition in Protozoans

1.5 Elphidium (type study)

UNIT –II

PhylumPorifera

2.1 General characters and classification up to classes with suitable examples

2.2 Skelton in Sponges

2.3 Canal system in sponges

PhylumCoelenterata

2.4 General characters and classification up to classes with suitable examples

2.5 MetagenesisinObelia

2.6 Polymorphism in coelenterates

2.7 Corals and coral reefs

PhylumCtenophora :

2.8 General Characters and Evolutionary significance(affinities)

Unit – III

PhylumPlatyhelminthes

3.1 General characters and classification up to classes with suitable examples

3.2 Life cycle and pathogenecity of Fasciola hepatica

3.3 Parasitic Adaptations in helminthes

Phylum Nemathelminthes

3.4 General characters and classification up to classes with suitable examples

Unit – IV

Phylum Annelida

4.1 General characters and classification up to classes with suitable examples

4.2 Evolution of Coelom and Coelomoducts

4.3 Vermiculture - Scope, significance, earthworm species, processing, Vermicompost, economic importance of vermicompost

Phylum Arthropoda

4.4 General characters and classification up to classes with suitable examples

4.5 Peripatus - Structure and affinities

4.6 Social Life in Bees and Termites

Unit – V

Phylum Mollusca

5.1 General characters and classification up to classes with suitable examples

5.2 Pearl formation in Pelecypoda

PhylumEchinodermata

5.4 General characters and classification up to classes with suitable examples

5.5 Water vascular system in star fish

5.6 Larval forms of Echinodermata

PhylumHemichordata

5.7 General characters and classification up to classes with suitable examples

5.8 Balanoglossus - Structure and affinities

SRI RAMAKRISHNA DEGREE (AUTONOMOUS) COLLEGE,
NANDYALZOOLOGYI SEMESTER MODELPAPER
ZOOLOGY-PAPER-
IANIMALDIVERSITY-
NONCHORDATES

Time:3 hrs **Max.Marks:70**

I. Answerany Five of the following:
5x4=20Draw labeleddiagramswherevernecessary

1. WriteaboutMetagenisis.
2. WriteaboutSkeletonorspiculesinSponges.
3. Writeabout Hydrozoa.
4. Explainparasiticadaptations in Helminthes.
5. Explainsociallifein Bees.
6. Explainaffinities ofCtenophora.
7. Explain structureofObelia.
8. Explain nutritionin Protozoa.

II. Answerany Five ofthe following:
5x10=50Draw labeleddiagramswherevernecessary

9. Explaintypesofcanalsysteminsponges.
   OR
   Explain Pearlformation in Pelecypoda.
10. Explainpolymorphismin cnidarian.
    OR
    . Explaincoralsandcoralreefsincnidarian.
11. ExplainFasciolahepatica-LifeHistoryandpathogenicity.
    OR
    ExplainVermicompost,processingandeconomic importance.
12. Explain Coelom and Coelomoducts in
    Annelida.OR
    ExplainBalanoglossus-Structureandaffinities
13. Explainlarval formsof Echinodermata.
    OR
    DescribeaboutWatervascularsysteminStar fish.