



II YEAR III SEMESTER BSc BZC SYLLABUS

SRI RAMAKRISHNA DEGREE COLLEGE (AUTONOMOUS)

NANDYAL

102-A

Sri Ramakrishna Degree College(Autonomous), Nandyal.

B.A/B.Com/B.SC (Three years) Degree Examinations

IIInd Year IIIrd Semester Examination

Title of the paper: English Praxis Course-III

Time: 3 hours

Max. Marks: 70

Section-A

- A. Read the following passage and answer the questions given below: 5x1=5M
Happy is the man who acquires the habit of reading when he is young. He has secured a life long source of pleasure , instruction and inspiration. So long as he has his beloved books, he need never feel lonely. He always has pleasant occupation of leisure moments, so that he need never feel bored. He is the possessor of wealth more precious than gold. Ruskin calls books “kings Treasures” treasuries filled not with gold and silver and precious stones but with riches much more valuable than these: knowledge,noble thoughts and high ideals. Poor indeed is the man who does not read and empty in his life.
1. Who can secure life long source of pleasure and inspiration?
 2. Who is a lonely person?
 3. What are called “kings treasures”?
 4. “He is the possessor of wealth” _ what is the wealth that the speaker is referring to?
 5. What is the synonym to “valuable”?
- B. Answer any one of the following questions in about 100 words : 1x5=5M
1. According to Nehru what does freedom and power bring?
 2. Who is Ann Nixon Cooper? What does Obama say about her?
 3. Why did Steve Job become interested in Calligraphy?
- C. Answer any one of the following in about 200 words: 1x10=10M
1. Summarise Nehru’s speech ‘A Tryst with Destiny’.
 2. Analyse Barack Obama’s speech ‘Yes, We Can?’
 3. What was the message of Steve Job’s speech ‘You’ve got to find what you love?’
- D. Answer any one of the following in about 100 words: 1x5= 5 M
1. What is common between Mother Theresa and Nelson Mandela?
 2. What are the six leadership traits that Kalam talks about?
 3. How does JRD Tata defend the Voltas?
- E. Answer any one of the following in about 200 words : 1x10=10 M
1. What was the message given by Nelson Mandela as seen in the interview with Larry King?
 2. How does Dr. .A .P .J. Abdul Kalam share his ideas on managing failure with Knowledge@Whart?
 3. Summarise JRD Tata’s interview with T.N.Ninan

Section-B

F. Fill in the blanks with suitable expressions: 1x5=5M

Ranjith: _____ , Mr Rao.

Rao: Good afternoon, Mr Ranjith. How are you?

Ranjith: _____ , thank you. How are you Mr Rao?

Rao: I'm fine, thanks. I came to buy some shirts and trousers.

Ranjith: Ok. I came here to buy a nice watch for my friend.

_____ , Mr Rao.

Rao: Thanks, and you too. Bye!

Ranjith: _____ !

G. Turn the following statements into Polite Requests: 1x5=5M

1. Give me your notes. (To your classmate)
2. Clear my doubts. (To your teacher)
3. Carry my luggage. (To your friend)
4. Close the door. (To a stranger)
5. Send the documents. (Manager to a clerk)

H. Match the following with suitable expressions : 1x5=5M

- | | | |
|---------------------------------|-----|---------------------------------------|
| 1) Can I have a glass of water? | () | a) I'm sorry, I need some fresh air. |
| 2) Please, shut the door | () | b) Of course, there is a bottle. |
| 3) Can I take your printer? | () | c) Why not, you can read and return. |
| 4) Do you mind my singing? | () | d) I'm sorry I have some work now. |
| 5) Can I take your news paper | () | e) By all means. I want to study now. |

I. Construct a dialogue between two friends on the choice of their career: 1x10=10M

J. Describe your favourite city: 1x5=5M

k. Write an instructions on how to prepare tea 1x5=5M

General Telugu

నమస్కర్-3

పాఠ్య ప్రణాళిక

యూనిట్-1: వ్యక్తీకరణ నైపుణ్యాలు

1. భాష-ప్రాధమికాంశాలు: భాష-నిర్వచనం, లక్షణాలు, ఆవశ్యకత, ప్రయోజనాలు
2. వర్ణం-పదం-వాక్యం', వాక్య లక్షణాలు, సామాన్య-సంయుక్త-సంశ్లిష్టవాక్యాలు
3. భాషా నిర్మాణంలో 'వర్ణం-పదం-వాక్యం' ప్రాధాన్యత

యూనిట్-II సృజనాత్మక రచన

4. కవితా రచన : ఉత్తమ కవిత - లక్షణాలు
5. కథారచన : ఉత్తమ కథ - లక్షణాలు
6. వ్యాస రచన : ఉత్తమ వ్యాసం-లక్షణాలు

యూనిట్-III: అనువాద రచన

7. అనువాదం-నిర్వచనం, అనువాద పద్ధతులు,
8. అనువాద సమస్యలు-భౌగోళిక,భాషా,సాంస్కృతిక సమస్యలు, పరిష్కారాలు
9. అభ్యాసము : ఆంగ్లం నుండి తెలుగుకు,తెలుగు నుండి ఆంగ్లానికి ఒక పేరానుఅనువదించడం

యూనిట్ IV మాధ్యమాలకు రచన-1 (ముద్రణామాధ్యమం/ప్రింట్ మీడియా)

10. ముద్రణామాధ్యమం (అచ్చుమాధ్యమం) : పరిచయం, పరిధి, వికాసం
11. వివిధ రకాల పత్రికలు-పరిశీలన, పత్రికాభాష, శైలి, వైవిధ్యం
12. పత్రికా రచన : వార్తా రచన, సంపాదకీయాలు, సమీక్షలు-అవగాహన

యూనిట్ V మాధ్యమాలకు రచన-2 (ప్రసార మాధ్యమం/ఎలక్ట్రానిక్ మీడియా)

13. ప్రసారమాధ్యమాలు : నిర్వచనం, రకాలు, విస్తృతి, ప్రయోజనాలు
14. శ్రవణ మాధ్యమాలు - రచన: రేడియో రచన, ప్రసంగాలు, నాటికలు, ప్రసార సమాచారం
15. దృశ్యమాధ్యమాలు - రచన: వ్యాఖ్యానం (యాంకరింగ్), టెలివిజన్ రచన

Sri Ramakrishna Degree College, Nandyal
BA/B.com/B.sc/BBA - 2nd year - 3rd Semester
Sanskrit Syllabus(2021-22)

प्रथमविभाग:(Unit-I)

प्राचीन रूपक विभाग:

1. मध्यमव्यायोग: -महाकवि भासः

द्वितीय विभाग:(Unit-II)

आधुनिक रूपक विभाग:

2. संकल्पबलम्- आचार्य जि.यस्.आर्. कृष्णमूर्तिः

तृतीय विभाग:(Unit-III)

उपनिषद् विभागः, भगवद्गीता

3. उपनिषद् — दकार कथा

शिष्यानुशासनम्

4. भगवद्गीता — श्रद्धात्रयविभागयोगः

चतुर्थविभाग: (Unit-IV)

अलङ्कारः, महाकवि शास्त्रकारः विभागः

5. अलङ्कारः

6. महाकवि शास्त्रकारः

- | | | | |
|------------|-------------|------------------|------------|
| 1. पाणिनि, | 2.कौटिल्यः, | 3. भरतमुनिः, | 4. भारविः, |
| 5. माघः, | 6. भवभूतिः, | 7. शङ्कराचार्यः, | 8. दण्डी |

पञ्चमविभाग:(Unit-V)

हलन्त शब्दाः

7. व्याकरणविभागः- जलमुच्, मरुत्, भगवत्, भवत्, पचत्, राजन्, गुणिन्, नामन्, विद्वस्, मनस्, अस्मद्, युष्मद्।

Sri Ramakrishna Degree College, Nandyal
BA/B.com/B.sc/BBA - 2nd year - 3rd Semester

Sub: Sanskrit
Model Question paper (2021-22)

Time : 3 hours.

Marks=70

प्रथमोभागः(50 marks)

- I. द्वौश्लोकोपूरयित्वाभावंलिखत ! **2 x 4=08**
अ) आयुः-----सात्विकप्रियाः!!
आ)देवव्दिज-----उच्यते !!
इ) मनःप्रसाद-----मुच्यते !!
ई) औत्सदिति-----विहिताःपुरा !!
- II. चतुर्णांससन्दर्भभावंचलिखत ! **4 x 3=12**
अ) व्दिजोत्तमाःपूज्यतमा-पृथिव्याम् !
आ) पतिमात्रधर्मिणीपतिव्रतेतिनाम !
इ) जात्याराक्षसी। नसमुदाचारेण !
ई) दण्डंयथार्थमिहधारयितुंसमर्थाः !
उ) मातृदेवोभव !
ऊ) श्रद्धायःदेयम् ! अश्रद्धयाःदेम्!
ए) एषआदेशः!एषः उपदेशः!एतदनुशासनम् !
ऐ)दमंदानंदयामिति!
- III. एकस्यसम्पूर्णतयासमाधानंलिखत ! **1 x 8=8**
अ) भीमधटोत्कचयोःशीलंलिखत !
आ)मध्यमव्यायोगरूपकस्यकथासारंलिखत!
- IV. एकस्य सम्पूर्णतया समाधानंलिखत ! **1 x 8=8**
अ) गान्धिमहाशयस्यआदर्शः गुणान् पाठ्यभागानुसारंविशदयत !
आ) संकल्पबलमूपकस्यकथासारं लिखत !
- V. एकस्य सम्पूर्णतया समाधानंलिखत! **1 x 8=8**
अ) गुरुःशिष्यन्किम्अनुशास्ति?
आ)बृहदारण्यकोपनिषदिवर्णितानुसारंदकारकथस्य वैशिष्ट्यंविचारयत !
- VI. षण्णालघुसमाधानानिलिखत! **1 x 6=6**
अ) मध्यमव्यायोगस्यकर्ताकः?

- आ) पाण्डवाःकीर्दशाः ?
 इ) मांसभक्षणेकिंमलिनंभवति ?
 ई) शर्तुतिवचनंकिम् ?
 उ) प्रजापतेःकतिपुत्राःसन्ति?
 ऊ) प्रजापतिःदेवान्उद्दिश्य किंउपदिदेश ?
 ए) उपनिषद्इतिशब्दस्यअर्थःकः?
 ऐ) कस्यांनप्रमदितव्यम् ?
 क) त्रिविधश्रद्धाका ?
 ख) त्रयःआहाराःके ?

द्वितीयभागः(20Marks)

VII. व्दयोःशब्दरूपानिसम्पूर्णतयालिखित !

2 x 3=6

अ) जलमुच् आ) भगवत् इ) राजन् ई) विव्दस्

VIII. व्दयोःलक्षलक्षणंसमन्वयंलिखित !

2 x 3=6

अ) उपमा। आ) दीपकम् इ) द्रुष्टान्तः। ई) उल्लेखः

IX. व्दयोःलघुविवरणंकुरुत !

2x 4=8

अ) भारविः। आ)माघः। इ) पाणिनि ई) भवभूतिः

ZOOLOGY SYLLABUS FOR III SEMESTER
ZOOLOGY - PAPER - III
CYTOLOGY, GENETICS AND EVOLUTION

Unit - I

1. Cytology - I

1.1 Definition, history, prokaryotic and eukaryotic cells, virus, viroids, mycoplasma

1.2 Electron microscopic structure of eukaryotic cell.

1.3 Plasma membrane –Different models of plasma membrane.

Unit – II

2. Cell organelles

2.1 Structure and functions of Endoplasmic Reticulum

2.2 Structure and functions of Golgi apparatus

2.3 Structure and functions of Lysosomes

2.4 Structure and functions of Ribosomes

2.5 Structure and functions of Mitochondria

2.6 Nucleus

2.7. Chromatin - Structure and significance, Chromosomes - Structure, types, functions

Unit - III

3.1 Genetics - I

3.1.1 Mendel's work on transmission on traits

3.1.2 Principles of inheritance

3.1.3 Incomplete dominance and codominance

3.1.4 Lethal alleles, Epistasis, Pleiotropy

Unit - IV

4.1 Genetics - II

4.1.1 Sex determination

4.1.2 Sex linked inheritance

4.1.3 Linkage and crossing over

4.1.4 Extra chromosomal inheritance

4.1.5 Human karyotyping

Unit - V

5.1 Evolution

5.1.1 Origin of life

5.1.2 Lamarckism, Darwinism, Neo – Darwinism, Hardy-Weinberg Equilibrium.

5.1.3 Variations, isolating mechanisms, natural selection

5.1.4 Types of natural selection (directional, stabilizing, disruptive)

5.1.5 Artificial selection and forces of evolution

5.1.6 Speciation (Allopatric and Sympatric)

5.1.7 Macro evolutionary principles (Example: Darwin's finches)

ZOOLOGY MODEL PAPER
III SEMESTER , PAPER - III
CYTOLOGY, GENETICS AND EVOLUTION

Time: 3 hrs

Max. Marks: 70

I. Answer any FIVE of the following:

5x4=20

Draw labeled diagrams wherever necessary

1. VIRUS
వైరస్
2. MYCOPLASMA
మైకోప్లాస్మా
3. LYSOSOMES
లైసోసోమ్స్
4. NUCLEUS
న్యూక్లియస్
5. INCOMPLETE DOMINANCE
అసంపూర్ణ ఆధిపత్యం
6. CROSSING OVER
7. NATURAL SELECTION
సహజమైన ఎన్నిక
8. LAMARCKISM
లామార్కిజం

II. Answer any FIVE of the following:

5x10=50

Draw labeled diagrams wherever necessary

9. Write an essay on different models of plasma membrane

ప్లాస్మా పొర యొక్క వివిధ నమూనాలపై ఒక వ్యాసం వ్రాయండి

OR

Describe Structure and functions of Endoplasmic Reticulum

ఎండోప్లాస్మిక్ రెటిక్యులం యొక్క నిర్మాణం మరియు విధులను వివరించండి

10. Write an essay on Chromosomes - Structure, types, and functions

Chromosomes - నిర్మాణం, రకాలు మరియు విధులపై ఒక వ్యాసం రాయండి

OR

Write an essay on Mitochondria

మైటోకాండ్రీయాపై ఒక వ్యాసం రాయండి

11. Write an essay on Epistasis

ఎపిస్టాసిస్పై ఒక వ్యాసం రాయండి

OR

Write an essay on Sex determination

లింగ నిర్ధారణపై ఒక వ్యాసం రాయండి

12. Write an essay on Mendel's work on transmission on traits

లక్షణాలపై ప్రసారంపై మెండెల్ చేసిన పనిపై ఒక వ్యాసం రాయండి

OR

Write an essay on Sex linked inheritance

సెక్స్ లింక్డ్ హెరిటెన్స్పై ఒక వ్యాసం రాయండి

13. Describe the Hardy-Weinberg Equilibrium.

హార్డీ-వీన్బర్గ్ సమతౌల్యాన్ని వివరించండి

OR

Write an essay on Speciation

స్పెసియేషన్పై ఒక వ్యాసం రాయండి

SRI RAMAKRISHNA DEGREE (AUTONOMOUS) COLLEGE, NANDYAL

BOTANY, II YEAR - SEMESTER III

**Anatomy and Embryology of angiosperms, plant Ecology and
Biodiversity**

TIME : 3 HOURS

MAX. MARKS. 70 M

SECTION – A

Answer any FIVE questions

5x4=20M

1. Histogen theory

హిస్టోజెన్ సిద్ధాంతము

2. Red sanders

రెడ్ సాండర్స్

3. Structure of Anther

పరాగ కోశము యొక్క నిర్మాణం

4. Ecological Pyramids

పర్యావరణ పిరమిడ్లు

5. Light factor

కాంతి కారకం

6. Growth curves

వృద్ధి వక్ర రేఖలు

7. P/R Ratio

P/R నిష్పత్తి

8. Red Data Book

రెడ్ డేటా బుక్

SECTION - B

Answer any FIVE questions

5x10=50M

9. Write an essay on anomalous secondary growth in Boerhaavia?

బోయర్ హవియాలో ద్వితీయ వృద్ధి పై ఒక వ్యాసం రాయండి?

(OR)

Write an essay on apical meristems?

ఎపికల్ మెరిస్టెమ్స్పై ఒక వ్యాసం రాయండి?

10. Write an essay on microsporogenesis and development of male gametophyte ?

సూక్ష్మసిద్ధబీజదము మరియు పురుష సంయోగ బీజద అభివృద్ధిపై ఒక వ్యాసం రాయండి?

(OR)

Write an essay on development of Dicot embryo?

ద్విదళ బీజ పిండ అభివృద్ధిపై ఒక వ్యాసం రాయండి?

11. Write an essay on Ecological succession - Hydrosere?

పర్యావరణ వారసత్వంపై ఒక వ్యాసం రాయండి - జలక్రమము ?

(OR)

Write an essay on energy flow, food chain and food web?

శక్తి ప్రవాహం, ఆహార గొలుసు మరియు ఆహారపు వలపై ఒక వ్యాసం రాయండి?

12. Write an essay Natality, Mortality and Growth curves ?

నాటాలిటీ, మోర్టాలిటీ మరియు వృద్ధి వక్ర రేఖలు పై వ్యాసం రాయండి?

(OR)

Write an essay on GPP and NPP?

GPP మరియు NPP పై ఒక వ్యాసం రాయండి?

13. Write an essay on levels of Biodiversity ?

జీవవైవిధ్య స్థాయిలపై ఒక వ్యాసం రాయండి?

(OR)

Write an essay on Hotspots of India ?

భారతదేశంలోని హాట్ స్పాట్లపై ఒక వ్యాసం రాయండి?

III Semester /Botany Core Course - 3

Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity

Unit – 1: Anatomy of Angiosperms

1. Organization of apical meristems: Tunica-carpus theory and Histogen theory.
2. Anomalous secondary growth in *Boerhaavia* and *Dracaena*.
3. Study of timbers of economic importance - Teak, Red sanders and Rosewood.

Unit – 2: Embryology of Angiosperms

1. Structure of anther, anther wall, types of tapetum. Microsporogenesis and development of male gametophyte.
2. Structure of ovule, megasporogenesis; monosporic (*Polygonum*), bisporic (*Allium*) and tetrasporic (*Peperomia*) types of embryo sacs.
3. Endosperm - Types and biological importance - Free nuclear, cellular, helobial and ruminant.
4. Development of Dicot (*Capsella bursa-pastoris*) embryo.

Unit – 3: Basics of Ecology

1. Ecosystem: Concept and components, energy flow, food chain, food web, ecological pyramids.
2. Plants and environment: Climatic (light and temperature), edaphic and biotic factors.
3. Ecological succession: Hydrosere and Xerosere.

Unit – 4: Population, Community and Production Ecology

1. Population ecology: Natality, mortality, growth curves, ecotypes, ecads
2. Concepts of productivity: GPP, NPP and Community Respiration
3. Secondary production, P/R ratio and Ecosystems.

Unit – 5: Basics of Biodiversity

1. Value of Biodiversity; types and levels of biodiversity and Threats to biodiversity
2. Biodiversity Hot spots in India. Biodiversity in North Eastern Himalayas and Western Ghats.
3. Principles of conservation: IUCN threat-categories, RED data book

SEMESTER - III

Course III (ORGANIC CHEMISTRY & SPECTROSCOPY)

ORGANIC CHEMISTRY

UNIT-I

1. Chemistry of Halogenated Hydrocarbons : Alkylhalides Methods of preparation and properties ,nucleophilic substitution reactions– SN1,SN2 and mechanisms with stereo chemical aspects and effects of solvent etc. Nucleophilic substitution vs. elimination, Williamson's synthesis.

Arylhalides : Preparation (including preparation from diazonium salts) and properties, nucleophilic aromatic substitution,SNAr, Benzyne mechanism
Relative reactivity of alkyl ,allyl ,benzyl ,vinyl and aryl halides towards nucleophilic substitution reactions.

- 2 . Alcohols & Phenols

Alcohols: preparation, properties and relative reactivity of 1°, 2°, 3° alcohols, Bouvaelt Blanc Reduction; Oxidation of diols by per iodic acid and lead tetra acetate, Pinacol-pinacolone rearrangement

Phenols:Preparation and properties;Acidity and factors affecting it
Reimer–Tiemann and Kolbe's–Schmidt Reactions, Fries and Claisen rearrangements with mechanism

UNIT-II

Carbonyl Compounds

Structure, reactivity, preparation and properties; Nucleophilic additions, Nucleophilic additions - Elimination reactions with ammonia derivatives
Mechanisms of Aldol and Benzoin condensation, Perkin and Cannizzaro ,Beckmann haloform reaction and Baeyer Villiger oxidation , α -Substitution reactions ,and reductions
(Clemmensen, wolf –kishner, with LiAlH₄&NaBH₄). Addition reactions of α,β -unsaturated carbonyl compounds: Michael addition.

Active methylene compounds: Keto-Enol tautomerism .Preparation and synthetic applications of diethyl malonate and ethylaceto acetate.

UNIT-III

Carboxylic Acids and their Derivatives

General methods of preparation, physical properties and reactions of mono carboxylic acids, effect of Substituents on acidic strength. Typical reactions of dicarboxylic acids ,hydroxyl acids and unsaturated acids.

Preparation and reactions of acid chlorides, anhydrides ,esters and amides;
Comparative study of nucleophilic substitution of acyl group. Mechanism of acidic and alkaline

hydrolysis of esters, Claisen condensation, Reformatsky reactions and Curtius rearrangement

Reactions involving H, OH and COOH groups- salt formation, anhydride formation, acid chloride formation, amide formation and esterification (mechanism). Degradation of carboxylic acids by Huns-Diecker reaction , decarboxylation by Schimidt reaction, Arndt-Eistert synthesis, halogenation by Hell- Volhard- Zelinsky reaction.

UNIT-IV

SPECTROSCOPY

Molecular Spectroscopy:

Interaction of electro magnetic radiation with molecules and various types of spectra
Rotation spectroscopy: Selection rules, intensities of spectral lines, determination of bond lengths of diatomic and linear triatomic molecules, isotopic substitution

Vibrational spectroscopy: Classical equation of vibration, computation of force constant, Harmonic and vibrational degrees offered for polyatomic molecules, modes of vibration. Selection rules for vibrational transitions, Fundamental frequencies, overtones and hot bands. Fermi Resonance.

Electronic spectroscopy: Energy levels of molecular orbitals (σ , π , n). Selection rules for electronic spectra. Types of electronic transitions in molecules, effect of conjugation. Concept of chromophore, oxochromic, bathochromic and hypsochromic shifts. Beer-Lambert's law and its limitations. hyper Chromic, hypo Chromic Shift.

Nuclear Magnetic Resonance (NMR) spectroscopy: Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals, multiplicity Chemical shift,

NMR splitting of signal factors affecting chemical shift, spin-spin coupling, coupling constants. Applications of NMR with suitable examples - ethyl bromide, ethanol, acetaldehyde, 1,1,2-tribromo ethane, ethyl acetate, toluene and acetophenone.

UNIT-V

Application of Spectroscopy to Simple Organic Molecules

Application of visible, ultraviolet and Infrared spectroscopy in organic molecules. Application of electronic spectroscopy and Woodward rules for calculating λ_{\max} of conjugated dienes and α, β - unsaturated compounds.

Infrared radiation and types of molecular vibrations, functional group and finger print region. IR spectra of alkanes, alkenes and simple alcohols (inter and intra molecular hydrogen bonding), aldehydes, ketones, carboxylic acids and their derivatives (effect of substitution on $>C=O$ stretching absorptions)