II YEAR III SEMESTER BSc MPCs SYLLABUS

SRI RAMAKRISHNA DEGREE COLLEGE (AUTONOMOUS)

NANDYAL

SRI RAMAKRISHNADEGREE COLLEGE(AUTONOMOUS), NANDYAL

II B.A/B.COM/B.SC. SEMESTER-III

English Praxis Course-III (2020-2021 Regulations)

Time: 3 hours	Max. Marks: 70

Unit-I

1. Tryst with Destiny (speech)   Jawaharlal Nehru
2. Greetings (skills)
3. Introductions (skills)

Unit-II

1. Yes, We Can   - Barack Obama
2. A Leader Should Know How to Manage Failure (Interview)
   Dr.A.P.J.Abdul Kalam @ India Knowledge at Wharton
3. Requests (Skills)

Unit-III

1. Nelson Mandela's Interview with Larry Kings (Interview)
2. Asking and Giving Information (Skills)
3. Agreeing and Disagreeing (Skills)

Unit-IV

1. JRD Tata's Interview with T.N.Ninan (Interview)
2. Dialogue Building (Skills)
3. Giving Instructions and Directions (Skills)

Unit-V

1. You've Got to Find What You Love (Speech)   Steve Jobs
2. Debates (Skills)
3. Descriptions (Skills)
4. Role Plays (Skills)

Sri Ramakrishna Degree College(Autonomous), Nandyal.

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

సెమిస్టర్-3

పాఠ్య ప్రణాళిక

యూనిట్-I: వ్యక్తీకరణ నైపుణ్యాలు

1. భాష-ప్రాథమికాంశాలు: 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 ˈ

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

<center>**प्रथमविभागः(Unit-I)**</center>

<center>**प्राचीन रूपक विभागः**</center>

1. मध्यमव्यायोगः -महाकवि भासः

<center>**द्वितीय विभागः(Unit-II)**</center>
<center>**आधुनिक रूपक विभागः**</center>

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

<center>**तृतीय विभागः(Unit-III)**</center>
<center>**उपनिषद् विभागः, भगवद्गीता**</center>

3. उपनिषत् — दकार कथा
   शिष्यानुशासनम्
4. भगवद्गीता — श्रद्धात्रयविभगयोगः

<center>**चतुर्थविभागः (Unit-IV)**</center>
<center>**अलङ्कारः, महाकवि शास्त्रकारः विभागः**</center>

5. अलङ्कारः
6. महाकवि शास्त्रकारः

<div style="margin-left:2em">
1. पाणिनि,   2.कौटिल्यः,   3. भरतमुनिः,   4. भारविः,
5. माघः,   6. भवभूतिः,   7. शङ्कराचार्यः,   8. दण्डी
</div>

<center>**पञ्चमविभागः(Unit-V)**</center>
<center>**हलन्त शब्दाः**</center>

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

Sub: Sanskrit
Model Question paper (2021-22)

Time : 3 hours.
Marks=70

<div align="center">प्रथमोभागः(50 marks)</div>

I. द्वौश्लोकोपूरयित्वाभावंलिखत !   2 x 4=08

अ) आयुः-----------------------सात्विकप्रियाः!!

आ)देवव्दिज--------------------उच्यते !!

इ) मनःप्रसाद------------------मुच्यते !!

ई) औतत्सदिति----------------विहिताःपुरा !!

II. चतुर्णांससन्दर्भंभावंचलिखत !   4 x 3=12

अ) व्दिजोत्तमाःपूज्यतमा-पृथिव्याम् !

आ) पतिमात्रधर्मिणीपतिव्रतेतिनाम !

इ) **जात्याराक्षसी**। न**समुदाच**रेण !

ई) दण्डंयथार्थमिहधारयितुंसमर्थाः !

उ) मातृदेवोभव !

ऊ) **श्रद्धायादेयम्** ! अश्रध्या ऽ**देम्**!

ए) एषआदेशः!एषः उपदेशः!एतदनुशासनम् !

ऐ)दमंदानंदयामिति!

III.एकस्यसम्पूर्णतयासमाधानंलिखित !   1 x 8=8

अ) भीमधटोत्कचयोःशीलंलिखित !

आ)मध्यमव्यायोगरुपकस्यकथासारंलिखित!

Iv.**एकस्य सम्पूर्णतया** समाधानं**लिखित** !   1 x 8=8

अ) गान्धिमहाशयस्यआदर्शः गुणान् पाठयभागानुसारंविशदयत !

आ) संकल्पबलमूपकस्यकथासारं लिखित !

V.**एकस्य सम्पूर्णतया** समाधानं**लिखित**!   1 x 8=8

अ) गुरुःशिष्यन्किम्अनुशास्ति?

आ)बृहदारण्यकोपनिषदिवर्णितानुसारंदकारकथस्य वैशिष्ट्यंविचारयत !

VI. **ष**ण्णांलघुसमाधानानिलिखित!   1 x 6=6

अ) मध्यमव्यायोगस्यकर्ताकः?

आ) पाण्डवाःकीर्दशाः ?

इ) मांसभक्षणेकिंमलिनंभवति ?

ई) श्ऺरुतिवचनंकिम् ?

उ) प्रजापतेःकतिपुत्राःसन्ति?

ऊ) प्रजापतिःदेवान्उद्दिश्य किंउपदिदेश ?

ए) उपनिषद्इतिशब्दस्यअर्थःकः?

ऐ) कस्यांनप्रमदितव्यम् ?

क) त्रिविधश्रद्धाका ?

ख) त्रयःआहाराःके ?

व्दितीयभागः(20Marks)

VII. व्दयोःशब्दरुपानिसम्पूर्णतयालिखित !   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. व्दयोःलघुविवरणंकुरूत !   2x 4=8

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

SRI RAMAKRISHNA DEGREE(AUTONOMOUS) COLLEGE: NANDYAL
B.Sc. SECOND YEAR MATHEMATICS SYLLABUS (2021-2022)
SEMESTER-III PAPER-3
ABSTRACT ALGEBRA-PAPER-3

Course Outcomes:

After successful completion of this course, the student will be able to;

1. acquire the basic knowledge and structure of groups, subgroups and cyclic groups.

2. get the significance of the notation of a normal subgroups.

3. get the behavior of permutations and operations on them.

4. study the homomorphisms and isomorphisms with applications.

5. understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.

6. understand the applications of ring theory in various fields.

Course Syllabus:

UNIT – I (12 Hours)

GROUPS :

Binary Operation – Algebraic structure – semi group- monoid – Group definition and elementary properties Finite and Infinite groups – examples – order of a group, Composition tables with examples.

UNIT – II (12 Hours)

SUB - GROUPS :

Complex Definition – Multiplication of two complexes Inverse of a complex-Subgroup definition- examples-criterion for a complex to be a subgroups. Criterion for the product of two subgroups to be a subgroup-union and Intersection of subgroups.

Co-sets and Lagrange's Theorem :

Cosets Definition – properties of Cosets–Index of a subgroups of a finite groups–Lagrange's Theorem.

UNIT –III (12 Hours)

NORMAL SUBGROUPS :

Definition of normal subgroup – proper and improper normal subgroup–Hamilton group – criterion for a subgroup to be a normal subgroup – intersection of two normal subgroups – Sub group of index 2 is a normal sub group –quotient group – criteria for the existence of a quotient group.

HOMOMORPHISM :

Definition of homomorphism – Image of homomorphism elementary properties of homomorphism – Isomorphism – automorphism definitions and elementary properties–

kernel of a homomorphism – fundamental theorem on Homomorphism and applications

UNIT – IV (12 Hours)
PERMUTATIONS AND CYCLIC GROUPS :

Definition of permutation – permutation multiplication – Inverse of a permutation – cyclic permutations – transposition – even and odd permutations – Cayley's theorem.

Cyclic Groups :- Definition of cyclic group – elementary properties – classification of cyclic groups.

UNIT V (12 Hours)
RINGS :

Definition of Ring and basic properties, Boolean Rings, divisors of zero and cancellation laws Rings, Integral Domains, Division Ring and Fields, The characteristic of a ring - The characteristic of an Integral Domain, The characteristic of a Field. Sub Rings, Ideals

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Group theory and its applications / Problem Solving.

Text Book :

A text book of Mathematics for B.A. / B.Sc. by B.V.S.S. SARMA and others, published by S.Chand & Company, New Delhi.

Reference Books :

1. Abstract Algebra by J.B. Fraleigh, Published by Narosa publishing house.
2. Modern Algebra by M.L. Khanna.

SRI RAMAKRISHNA DEGREE (AUTONOMOUS)COLLEGE:NANDYAL
II B.Sc MATHEMATICS PAPER-3
MODEL PAPER- (For the Academic Year 2020 onwards)
III SEMESTER- ABSTRACT ALGEBRA   Max.MARKS:70M

PART-A

Answer Any FIVE of the following   **5x4=20M**

1. Prove that in a group G, If $a \in G$ then $O(a) = O(a^{-1})$.
2. Show that in a Group G for $a, b \in G, (ab)^2 = a^2 b^2$ if and only If G is abelian.
3. Prove that the intersection of two Sub groups is again Sub group
4. Prove that any two right or left Co-sets of Subgroup are either identical or disjoint
5. Prove that a subgroup H of a group G is Normal, If $xHx^{-1} = H \ for \ all \ x \in G$
6. Find the regular permutation group Isomorphic to the multiplication group $G = \{1, -1, i, -i\}$
7. Show that every cyclic group is an abelian
8. Prove that every Boolean ring is Commutative under multiplication.

PART-B

Answer Any FIVE of the following   **5x10=50M**

9a). Prove that the set -Z of all integers form an abelian group with respect to the Operation defined by $a * b = a + b + 2 \ for \ all \ a, b \in Z$

OR

b). Let G to be a group and H is a complex of G .The necessary and Sufficient condition for H to be a sub group of G is $a, b \in H \Rightarrow ab^{-1} \in H$

10 a). State and prove Lagrange's theorem on finite groups

OR

B .Prove that a subgroup H of a group G is a normal subgroup of G If and only if the product of two right(left) co sets of H in G is again a right(left) co-set of H in G

11a). State and Prove Fundamental theorem of Homomorphism on Groups

OR

b). State and prove Cayley's theorem on finite groups

12 a). Show that every Isomorphic images of a Cyclic group is Cyclic

OR

b) Every Sub group of Cyclic Group is Cyclic.

13a) .Prove that a ring has R has no zero divisors If and only if the Cancellation laws hold in R

OR

Prove that $Q[\sqrt{2}] = \{a + b\sqrt{2}\ \ a, b \in Q\}$ is a Field with respect to addition and multiplication of numbers.

SECTION – A

Answer any **FIVE** of the following questions.   **5×4=20M**

1.   Derive equation for the diffusion of gases on the basis of kinetic theory of gases.
2. State and explain carnot's theorem.
3. State and explain joule- kelvin effect.
4.   Write a short note on refrigerator.
5. Describe Fery's black body.
6. Derive clausius – clayperon equation.
7. Explain joule – Thomson cooling and derive it's equation.
8. What is solar constant? How it is determined?

SECTION – B

Answer **ALL** the following questions.   5x10=50 M

9. A) on the basis of kinetic theory of gases derive expression for viscosity and thermal conductivity of gases.

(Or)

B) Explain the thermal conductivity of gas on the basis of kinetic theory of gases.
10. A) what are isothermal and adiabatic processes? Derive an expression for the work done in isothermal and adiabatic process.

(Or)

B) calculate the work done in carnot cycle and derive an expression for it's efficiency.
11. A) write Maxwell's thermodynamic relation. Explain two specific heats of a gas and obtain an expression for the difference between two molar specific heats.

(Or)

B) Define the four thermodynamic potentials. Using these thermodynamic potentials obtain Maxwell's thermodynamic equations.
12. A) Describe joule – Thomson porous plug experiment and indicate the results.

(Or)

B) Explain with theory the adiabatic demagnetisation for producing a very low temperature.
13. A) Deduce wien's displacement law and Rayleigh – jeans law from plank's radiation law.

(Or)

B) what is a pyrometer ? Describe the construction and working of disappearing filament optical pyrometer.

B.Sc. PHYSICS SYLLABUS UNDER CBCS
For Mathematics Combinations
II Year B.Sc.-Physics: III Semester
Course-III: HEAT AND THERMODYNAMICS

UNIT-I: Kinetic Theory of gases:

Kinetic Theory of gases-Introduction, Maxwell's law of distribution of molecular velocities (qualitative treatment only) and its experimental verification, Mean free path, Degrees of freedom, Principle of equipartition of energy (Qualitative ideas only), Transport phenomenon in ideal gases: viscosity, Thermal conductivity and diffusion of gases.

UNIT-II: Thermodynamics:

Introduction- Isothermal and Adiabatic processes, Reversible and irreversible processes, Carnot's engine and its efficiency, Carnot's theorem, Thermodynamic scale of temperature

and its identity with perfect gas scale, Second law of thermodynamics: Kelvin's and Clausius statements**,** -, Entropy, Physical significance, Change in entropy in reversible and irreversible processes; Entropy and disorder-Entropy of Universe; Temperature-Entropy (T-S) diagram and its uses ; change of entropy when ice changes into steam.

UNIT-III: Thermodynamic Potentials and Maxwell's equations:

Thermodynamic potentials-Internal Energy, Enthalpy, Helmholtz Free Energy, Gibb's FreeEnergy and their significance, Derivation of Maxwell's thermodynamic relations from thermodynamic potentials, Applications to (i) Clausius-Clayperon's equation (ii) Value of C_P-C_V (iii) Value of C_P/C_V (iv) Joule-Kelvin coefficient for ideal and Van der Waals' gases

UNIT-IV: Low temperature Physics:

Methods for producing very low temperatures, Joule Kelvin effect, Porous plug experiment ,Joule expansion, Distinction between adiabatic and Joule Thomson expansion, Expression forJoule Thomson cooling, Liquefaction of air by Linde's method, Production of low temperatures by adiabatic demagnetization (qualitative), Principle of refrigeration, vapour compression type regrigerator, working of regrigerator. Practical applications of substancesat low temperatures.

UNIT-V: Quantum theory of radiation:

Blackbody and its spectral energy distribution of black body radiation, Kirchoff's law, Wein's displacement law, Stefan-Boltzmann's law and Rayleigh-Jean's law (No derivations), Planck's law of black body radiation-Derivation, Deduction of Wein's law and Rayleigh-Jean's law from Planck's law, Measurement of radiation-types of pyrometers-Disappering filament optical pyrometer-Experimental determination-Angstrom pyroheliometer- Solar constant and its determination using Angstrom pyroheliometer, Estimation of surface temperature of Sun.

II B.Sc III SEMESTER SYLLABUS
Paper III: DATABASE MANAGEMENT SYSTEMS

Semester	Course Code	Course Title	Hours	Credits
III	**C3**	**DATABASE MANAGEMENT SYSTEMS**	**60**	**3**

UNIT I
Overview of Database Management System: Introduction to data, information, database, database management systems, file-based system, Drawbacks of file-Based System, database approach, Classification of Database Management Systems, advantages of database approach, Various Data Models, Components of Database Management System, three schema architecture of data base, costs and risks of database approach.

UNIT II
Entity-Relationship Model: Introduction, the building blocks of an entity relationship diagram, classification of entity sets, attribute classification, relationship degree, relationship classification, reducing ER diagram to tables, enhanced entity-relationship model (EER

model), generalization and specialization, **IS A** relationship and attribute inheritance, multiple inheritance, constraints on specialization and generalization, advantages of ER modeling.

UNIT III
Relational Model: Introduction, CODD Rules, relational data model, concept of key, relational integrity, relational algebra, relational algebra operations, advantages of relational algebra, limitations of relational algebra, relational calculus, tuple relational calculus, domain relational Calculus (DRC), Functional dependencies and normal forms upto 3rd normal form.

UNIT IV
Structured Query Language: Introduction, History of SQL Standard, Commands in SQL, Data Types in SQL, Data Definition Language, Selection Operation, Projection Operation, Aggregate functions, Data Manipulation Language, Table Modification Commands, JoinOperation, Set Operations, View, Sub Query. **Joins Concept for SQL Lab Programs**

UNIT V
PL/SQL: Introduction, Shortcomings of SQL, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Operators Precedence, Control Structure, Steps to Create a PL/SQL, Program, Iterative Control, Procedure, Function, Database Triggers, Types of Triggers.   **PL/SQL Programs for LAB**

BOOKS:
1. Database System Concepts by Abraham Silberschatz, Henry Korth, and S. Sudarshan,McGrawhill
2. Database Management Systems by Raghu Ramakrishnan, McGrawhill
3. Principles of Database Systems by J. D. Ullman
4. Fundamentals of Database Systems by R. Elmasri and S. Navathe
5. SQL: The Ultimate Beginners Guide by Steve Tale.

Time : 3 Hrs   Max. Marks: 70   Pass Marks:28M

PART A
Answer any five of the following questions   5x4 = 20m
1. Explain about components of DBMS
2. Write a short note on data models
3. Explain about level of abstraction in DBMS
4. What is a key and explain about types of key
5. Explain about Generalization and Specialization
6. Explain about data types in SQL
7. What is Relation? Explain about types of relations?
8. What are advantages of PL/SQL

PART B
Answer any five of the following questions   5x10 = 50m
9. What is DBMS? What are the objectives of DBMS
                    Or
    Explain about classification of DBMS
10. Explain about Entity and attributes? Write about types of attributes
                    Or
        Explain building blocks of entity-relationship diagram
11. Write a note on E.F codd's 12 rules
                    Or
    What is normal form? Explain about 3 normal forms in DBMS

12. What is SQL? What are different sub-languages in SQL
                    Or
    Explain joins concept in detail
13. Explain looping statements in PL/SQL with example
                    Or
    What is trigger? Explain about types of triggers