jkpha;Tj;Ji w> Njrpaf;fy;Y}up (jddhlrp)> jpUrrphggssp – 1.

Kjw; gUtk;

jhs; nkhopgghlk;- 1   nraAs;(, f;fhyk)> ciueil> rpWfij>, yf;fpatuyhW

U16T1

fwgpfFk; fhyk; 6 kzp   jugGssppfs; 3

myF 1:   ghujpahu;   - guknghUs; thoj;J

ghuj jhrd;   - epqfNs nrhyhyYqpfs;

ftpkzp   - Nfhtpy; topghL

glLfNfhl;i lahu;- xz z hapUffZ k; mz z hrrp

ehkf;fyyhu;   - Rjejpuk; ahJ?

myF 2:   fzz jhrd;   - Ntz;Lk; Ntz;Lk;

thyp   - Gddif kddd;

ituKj;J   - ghuj epi df;fggLfpwhd;

K.Nkjjh   - RtUk; ge;Jk;

mgJy; uFkhd; - jtwhd vz;

myF 3:   ciueil:

1. gukgi uf;Fz k;   - c.Nt.rh
2. fy;tp   - ahogghz k; nghddkgyggpsi s
3. , yffpaKk; r%fKk;   - v];i tahGupggpsi s
4. fi yAk; fwgi dAk;- uh.gpNrJggpsi s
5. Fws; fhl;Lk; newp - fp.M.ng.tpRtehjk;
6. , awi ff; fhl rpfs; - fp.th.[feehjd;
7. rka , yffpaqfspy; mwnewp   - FdwfFb mbfshu;

myF 4: rpWfij:

1. jei j Ak; kfDk;   - fyfp

2. fl TS k; fej rhkpggpsi sAk; - GJi kggpjj d;
3. eJpgj p tfflyhdhu;   - mz z hJi u
4. Kj ygpby;   - e.gprr%uj j p
5. fhfpj c wT   - R.rKj jpuk;
6. kNdhghtk;   - tyypfz z d;
7. kdpj aej puk;   - tpej d;
8. grj rffdT   - yh.r. uhkhkpuj k;

myF 5: tyypdk; kpFk; , lqfs> tyypdk; kpfh , lqfs;

        , yffpa tuyhW   (trdftpi j> GJfftpi j> c i uei l> rpWfi j klLk)

ghl E}y; j kpo; - Kj wgUtk; - Nj rpaffyY}up ntspal

        , yffpatuyhW - Nj rpaffyY}up ntspal

jkpha;Tj;Ji w> Njrpaf;fy;Y}up (jd;dhl;rp)> jpUrphgggss;p – 1.

, uz ;l hk; gUtk;

jhs; nkhopghlk; - 2 nraAs; (gfjp; mw , yfpaq;fs)> Gjpdk;> , yfpa tuyhW.

U16T2

fwgpfFk; fhyk; 6 kz p   jug;ss;pfs; 3

myF 1: jpUQhdrkgeju; - jpUthi df;fh gjpfk; - ki oahu; kpl whkO thSi l aha;.

jpUehTf;furu;   - tpl k; jLjj gjpfk; - xdW nfhyhk; mtu; npei j Aau;ti u

ngupaho;thu; - jpUtuqfk; ghRuk; 2 - kutbi aj; jkgpfF

FyNrfuu; - tpj J tf; Nfhl ;L mkkhi d Ntz b epwwy; - jUJ auk;....10

myF 2: tssyhu; - jpUtUlgh - ngwhgNgW - Mth vdwi d MI nfhz ;l Usp.10

jhAkhdtu; - gdkhi y - gdkhi y jpUspUf;f...9

, NaRfhtpak; - c ti k top nrajp - fl Nyhuk; xUehs; VR epdwhu;.

Fz qFb k] jhd; - epuhkaf;fz z p – 1-25 fz z pfs;

myF 3: ehdkz pfpfbi f: (ghl y; vz ;fs; 6> 10> 12> 16> 31> 38> 45> 56> 69> 75)

ehybahu; (ghl y; vz ;fs; 2> 29> 35> 77> 95> 109> 114> 172> 248> 269)

rpWgQr%yk: (ghl y; vz ;fs; 9> 12> 16> 26> 32> 39> 63> 82> 85> 90)

, dpai t ehwgJ: Kj y; gj;J ghl y;fs;

myF 4: Gjpdk; - fddpfh - uFehjd; Ji w ntspal;

myF 5: , yf;fpa tuyhW (i rtk;i tz tk;rkz k;ngsjj k;fpwj;Jtk> Kfkjpak;

kwWk; Gjpdk; gwwpad kl ;Lk)

ghl E}y; jkpo; - , uz ;l hkgUtk; - Njrpaffy;Y}up ntspal.

fddpfh - nlj gjggf ntspal> nrdi d.

, yffpatuyhW - Njrpaffy;Y}up ntspal.

jkpha;Tj;Ji w> Njrpaf;fy;Y}up (jdhlrp)> jpUrrpuhggsssp – 1.

%dwhk; gUtk;

jhs; nkhopghlk; - 3 nraAs; (fhggpak)> ehlfk> , yf;fpatuyhW

U16T3

fwgpfFk; fhyk; 6 kzp   **jugGssspfs; 3**

myF 1: rpyggjpfhuk; - eUggi l fhi j

       kz pNkfi y - ghjjpuk; ngww fhi j

myF 2: fkguhkhaz k; - Ajj fhz lk; - , ejpurpj:J ti j gglyk;

       ngupaGuhz k; -   fz z gg ehadhu; Guhz k;

myF 3: Njkghtz p - tsd; rdpjj glyk;

       rWhgGuhz k; - khDf;Fg; gpi z epdw glyk;

       ghQrhyp rgj k; - #jhl;l r; rUf;fk;

myF 4: ehlfk; xjjpi f – m. , uhkrhkp (vdrpgpvr; ntspaL)

myF 5: , yf;fpa tuyhW (fhggpak> Guhz k> ehlfk; gwwpad klLk)

ghl E}y;   jkpo; - %dwhkgUtk; - Njrpaffy;Y}up ntspaL.

       xjjpi f – m. , uhkrhkp (vdrpgpvr; ntspaL)

       , yf;fpatuyhW - Njrpaffy;Y}up ntspaL.

jkpha;Tj;Ji w> Njrpaf;fy;Y}up (jdhlrp)> jUrrphggssp – 1.

ehd;fhk; gUtk;

jhs; nkhpgghlk; - 4 nraAs; (gz ila , yf;fpak> , yf;fpatuyhW> nkhpngaugG)

U16T4

myF 1:

ewwpi z :   1. Ntu; gpz p ntjpuj;J – ghi y - , sqpfPudhu;

2. rpyUk; gyUk; fil lf;fz ; - neaj y; - c Nyhrrdhu;

3. muppfhy; khwpa mk; fz ; - kUjk; kpi sf;fpohdeyNtl;l dhu;

4. , i y , y gpl tk;Kyi y - tppf;flNgi jg; ngUq;fz z dhu;

5. Gj y;td; <dw G-qpfz ; - FwpQrp

FWenjhi f : 1. nfhqpF Nju; thofi f - FwpQrp - , i wadhu;

2. , bf;Fq; Nfspu; - FwpQrp - ntsspt}ppahu;

3. ahuz q;Fwwi d flNy - neaj y; - mk%tdhu;

4. khpp ahkgydd - neaj y; - Fdwppadhu;

5. c kz u; NrueJ fopej kUqpfpd; - ghi y - ngUqpfLqNfh

6. Mli k Gi uAk; - ghi y - XNuUotdhu;

7. Kspj apu; gpi rej - Kyi y - $lY}u; fpohu;

8. , si k ghuhu; - Kyi y - xf;$u; khrhjjppahu;

9. Ntkgpd; i gqpfha; - kUj k; - kpi sf;fpej dhu;

myF 2:

mfehD}W: 1. gi djjpus; mdd - FwpQrp - guz u;

2. gi rgL grpi r - Kyi y - kJi u kssdhu;

3. , kpi k c yfj;J , i rnahLk; - kUj k; - nry;Y}ufNfhrpa;

4. jpi uc oeJ mi r, a - neaj y; - c Nyhrrdhu;

5. mspepi y nghwhmJ mkupa – ghi y - ngUqpfLqNfh

fyᵽjⁿjhi f: 1. RlujⁿjhB, Nfˢha; - FwᵱQᵣᵱ

                      2. fhu; Mug; ngaj fb nfhs; - K yⁱi y

                      3. tᵇᵩF elᵤ; mtᵽo; eᵞyk; gfuᵢtu; - kUjk;

                      4. khkyu; Kz ᵢlfk; - neaj y;

                      5. muᵱjha mwndajᵱ - ghⁱ y

myF 3:

GwehD}W :   1. xUehl; nryyyk; - ghlhz ; - xsⁱ tahu;

                      2. gi lgGggy gi lj;J - nghJtᵢᵽay; - mwᵱTi lekgᵱ

                      3. , i sNahu; #lhu; - nghJtᵢᵽay; - Fl thaᵱy; fᵇljj dhu;

                      4. gyᵢrhdwᴺNu - nghJtᵢᵽay; - euᵱnt&cj; ji yahu;

                      5. fhaᵢney; mWj;Jf;ftsq; nfhsᵱNd - ghlhz ; - gᵱᵣᵱuheᵢ jahu;

jᵱUf;Fws;   1. mwd; tyᵱAWjjy> 2.gz Gi li k> 3. xOf;fK i li k>

                      4. thaᵢi k> 5. Co> 6.nrhy;tdi k

myF 4:   K yⁱi ygghlᵢL   KOi kAk;
myF 5:   , yf;fᵱatuyhW (gjᵱndz ; Nkwᵢfz f;F> fbf;fz f;F)> nkhoᵱngaugG>
             nghJf;flᵢLi u
ghⁱ E}y;   1. jkᵱo; - ehdᵢfhkgUtk; - Njᵢrᵱaf;fyᵢY}uᵱ ntsᵱalᴸ.

                      2. , yf;fᵱatuyhW - Njᵢrᵱaf;fyᵢY}uᵱ ntsᵱalᴸ.

Semester – I

PAPER 1 – PROSE, SHORT STORY AND GRAMMAR

PROSE

Prescribed Text Book

INDI GADYA PRABHAKAR, Ed. Dr. Hiranma Shiksha Bharathi, shmiri Gate, Delhi-06.

Prescribed Lessons

1. Bharat Eke hay		By	Ramdhari Singh Dinkar
2. Japan Mein kaya dekka	By	Premchand	
3.Jeevan ke theen pradhan baathey	By	Aacharya Vinobabavey	

SHORT STORY

Prescribed Text Book

KAHANI VIVDHA, V. Mahadeven, Trichy.

Prescribed Lessons

1. Idhaah	By	Premchand
2. Usne kaha tha	By	chandradhar Sharma guleri

GRAMMER

Prescribed Portion

1. Noun

2. Verb

3. Gender (Change the gender only)

4. Number (Change the number only)

5. Aarth and Ultey Sabdh Likeye

Reference Book

VYAKARANPRADEEP   By Ramdev, Saraswathi Prakashan, Varansi

UNITISED SYLLABUS

PAPER 1 – PROSE, SHORT STORY AND GRAMMAR

Semester – I

Time 3 Hrs   Max Marks 75

UNIT- 1

1.Noun
2.Bharath Eke Hai
3.Gender

UNIT- 2

1.Gender
2.Idhgaah
3.Jaapan mein kya dheka

UNIT- 3

1.Jeevan ke theyeen pradhan bhathey
2.Idhgaah
3. Number

UNIT-4

1.Ling Badhaliye,Vachan Badhaliye
2.Verb
3.Aarth (Meanings) Likeye

UNIT-5

1.Aarth (Meanings) Likeye
2.Ultey Sabdh (opposite) Likeye

QUESTION PAPER PATTERN

SECTION- A (20 Marks)

I 1. Change the Gender   (Ling)   **10/12**   (10Marks)

  2. Change the Number (Vachen)   **10/12**

SECTION- B (25 Marks)

II. One Question from each unit (either or)

1.	From Prose	(1 out of 2)	5 Marks
2.	From Short story	(1 out of 2)	5 Marks
3.	From Grammar	(1 out of 2)	5 Marks
4.	Meanings 5 nos	(Either or)	5 Marks
5.	Opposites 5 nos	(Either or)	5 Marks

SECTION- C (3x10=30 Marks)

III. One Question from each unit **(Three out of five)**

1.   **From Prose**
2.   From Prose
3.   From Short Story
4.   From Grammar
5.   From Grammar

U16H2

Semester – II

PAPER II – COMPREHENSION, DRAMA, GRAMMAR-II,GENERAL ESSAY AND TRANSLATION – I

COMPREHENSION   :   General Paragraph from Anuvadh

                                         Abyas Bah – 3, Dakshina Bharath Hindi

                                         Prachar Sabha, Chennai – 17.

DRAMA

                                         :

     Prescribed Text Book   :   Subodh Hindi patamala – 2

                                         Dakshina Bharath Hindi

                                         Prachar Sabha, Chennai – 17.

     Prescribed Portion   :   APPOORVA THYAG

                                         By Balashori Reddy

GRAMMAR – II

     Prescribed Portion   :   1. Pronoun

                                         2. Adjectives

                                         3. Adverb

                                         4. Case Endings

                                         (Definition and Name of   types only)

5. Paryaivachaye Sabdh

Reference Book   :   VYAKARANPRADEEP

                              By Ramdev, Saraswathi Prakashan, Varansi

GENERAL ESSAY

          Prescribed Book   :   Subodh Hindi Rachna – 2

                              Dakshina Bharath Hindi

                              Prachar Sabha, Chennai – 17

     Prescribed Portions   :   1. Priya Theohar

                              2. Gaayi

                              3. Samachar pathra

TRANSLATION -1

     Prescribed Book   :   Anuvadh Abyas Bah – 1,1 to 10 lessons

                              Dakshina Bharath Hindi

                              Prachar Sabha, Chennai – 17

     Prescribed Portions :   1 to 10 Lessons

UNITISED SYLLABUS

PAPER II – COMPREHENSION, DRAMA, GRAMMAR-II,GENERAL ESSAY AND

TRANSLATION – I

Semester – II

Time 3 Hrs   Max Marks 75

UNIT- 1

Comprehension
Aproova Thyag
Pronoun
Translation 1,2
UNIT- 2

Comprehension
Aproova Thyag
Adjectives
Translation 3,4
UNIT- 3

Comprehension
Priya Theohar
Adverb
Translation 5,6
UNIT-4

Comprehension
Gaayi
Case Endings
Translation 7,8
UNIT-5

Comprehension
Samachar pathra
Paryaivachaye Sabdh
Translation 9,10

QUESTION PAPER PATTERN

SECTION- A (20 Marks)

I . Answer all the Questions:

Write Same meaning (Paryavachi)   10 x 1 = 10

    (Each word two meaning must) – 10/12

(a)   Answer in one sentence   (Any 5)   5 x 2 = 10

SECTION- B (25 Marks)

II. One Question from each unit (either or)

1. From Drama   (1 out of 2)   5 Marks
2. From Grammar   (1 out of 2)   5 Marks
3. From Grammar   (1 out of 2)   5 Marks
4. Translation (Hindi to English)   (Either or)   5 Marks
5. Translation (English to Hindi)   (Either or)   5 Marks

SECTION- C (3x10=30 Marks)

III. One Question from each unit (Three out of five)

   From General Essay

1. From General Essay
2. From Grammar
3. From Grammar
4. Comprenhension

U16H3

SEMESTER – III

PAPER III – MODERN AND MEDIEVAL POETRY, DIOLOGUE WRITING AND TRANSLATION – II

1. POETRY

Book Name	:	1. KAVYA SAURABH
		2. SUBODH HINDI – 2
		Pub. Dakshina B. Hindi P.Sabha
		Chennai.
Prescribed Lessons	:	1. Samaya
		2. Chhah

1.Kabir key Dhohay 1to 5

2.Thulsi key Dhohay 1to 5

3.Rahim key Dhohay 1 to 5

2. DIALOGUE WRITING :   1. Doctor Aur Marij

2. Kithab key Dhukhan

3.Pariksha key Bharey Mein

3. TRANSLATION - II

Prescribed Book :   Anuvadh Abyas Bah – 1,

Dakshina Bharath Hindi

Prachar Sabha, Chennai – 17

Prescribed Portions   :   11 to 20 Lessons

UNITISED SYLLABUS

PAPER III – MODERN AND MEDIEVAL POETRY, DIOLOGUE WRITING AND TRANSLATION – II

Semester – III

Time 3 Hrs   Max Marks 75

UNIT- 1

Samya
Kabir key Dhohay
Translation 11, 12

UNIT- 2

Chhah
Thulsi key Dhohay
Translation 13, 14

UNIT- 3

Rahim key Dhohay
Dialogue – Doctor Aur Marij
Translation 15, 16

UNIT-4

Dialogue – Kithab key Dhukan
Poetry Review
Translation 17, 18

UNIT-5

Dialogue – Parisha key Bharey mein
Translation 19,20

QUESTION PAPER PATTERN

SECTION- A (20 Marks)

I . Answer in one sentence   10 x 2 = 20 Marks

SECTION- B (25 Marks)

II. One Question from each unit (either or)

1. Annotation from modern poetry   (1 out of 2)   5 Marks
2. Annotation from modern poetry   (1 out of 2)   5 Marks
3. Short Notes from Poetry   (1 out of 2)   5 Marks
4. Translation (Hindi to English)   (Either or)   5 Marks
5. Translation (English to Hindi)   (Either or)   5 Marks

SECTION- C (3x10=30 Marks)

III. One Question from each unit (Three out of five)

Summary of Modern Poetry

1. Summary of Medieval Poetry
2. Summary of Medieval Poetry
3. Dialogue Writing
4. Dialogue Writing

SEMESTER - IV

PAPER IV – FUNCTIONAL HINDI, GENERAL ESSAY, GRAMMAR – III AND TRANSLATION – III

1. LETTER WRITING

     Prescribed Book   :   **Abinav Patralekhan**

                                           Hindi Parchar Sabha

                                           Chennai.

     Presribed Portion   :   **1. Leave Letter**

                                           2. Placing Order for Books

                                         3. Complaints Letter

                                         4. Permission Letter for Tour

2. TECHNICAL TERMS

     Prescribed Book   :   **Hindi Vatayan, by Dr.Chandra Mohan**

                                           Vishavidyalay Prakashan, Varansi.

     Prescribed Portion   :   **Annexure enclosed**

3. GENERAL ESSAY

     Prescribed Book   :   **Nibandh Praveshika, Dakshina Bharath Hindi**

                                           Prachar Sabha, Chennai – 17

     Prescribed Portions   :   **1. Pushthakalaya**

                                           2. Pradhusan

                                         3. Vidhyarthi Jeevan

4. GRAMMAR – II

Prescribed Portions	:	1. Tense (Kal parivarthan)
		2. Correct the Sentence (Sudha Keyjiye)
Reference Book	:	Vyakaranpradeep, by Ramdev, Saraswathi
		Prakashan, Varansi.

5. TRANSLATION – III

Prescribed Book	:	Anuvadh Abyas Bah – 2,
		Dakshina Bharath Hindi
		Prachar Sabha, Chennai – 17
Prescribed Portions :		1 to 10 Lessons

UNITISED SYLLABUS

PAPER IV – FUNCTIONAL HINDI, GENERAL ESSAY, GRAMMAR – III AND TRANSLATION – III

Semester – IV

Time 3 Hrs   Max Marks 75

UNIT- 1

Leave Letter
Technical Terms
Pushthakalaya
Translation 1,2
UNIT- 2

Placing Order for Books
Technical Terms
Pradhusan
Translation 3,4
UNIT- 3

Compliant Letter
Vidhyarthi Jeevan
Technical Pharses
Translation 5,6
UNIT-4

Permission Letter for Tour
Technical Pharses
Kal Parivarthan (Change the Tense)
Translation 7,8
UNIT-5

Kal Parivarthan (Change the Tense)
Sudha Keyjiye (Correct the Sentence)
Translation 9,10

QUESTION PAPER PATTERN

SECTION- A (20 Marks)

I . Answer all the Questions: **10x2 = 20 Marks**

Write 10 Technical Terms in Hindi 10/12   (Only Designation)

SECTION- B (25 Marks)

II. One Question from each unit (either or)

1. Change the Tense	(5 out of 7)	5 Marks
2. Correct the Sentence	(5 out of 7)	5 Marks
3. Technical Pharses (English to Hindi) 5 nos	(Either or)	5 Marks
4. Technical Pharses (Hindi to English) 5 nos	(Either or)	5 Marks
5. Translation (Hindi to English)	(Either or)	5 Marks

SECTION- C (3x10=30 Marks)

III. One Question from each unit (Three out of five)

From General Essay

1. From General Essay
2. From Letter Writing
3. From Letter writing
4. Translation (10nos) English to Hindi

National College (Autonomous) Tiruchirapalli
Language Programme Part I Sanskrit Semester I
Paper I - Sanskrit - I
(For the students admitted from the the academic year June 2016 onwards)

Time: 3 Hours   Maximum Marks: 75

Unit I

देवनागरी लिपिः - परिचयः

१। स्वराः (१५)
२। व्यञ्जनानि (३३)
३। संयुक्ताक्षराणि
४। संयुक्ताक्षराणां लेखनप्रकारः
५। विसर्गस्य प्रयोगः तस्य उच्चारणप्रकारश्च।

Unit II

कर्तृपदानि - परिचयः

१। अकारान्त-शब्दाः (पुंलिङ्गः)
    देवः
२। अकारान्त-शब्दाः (नपुंसकलिङ्गः)
    फलम्
३। लिङ्गाः - सामान्यविधिः
    अ। पुंलिङ्गः
    आ। स्त्रीलिङ्गः
    इ। नपुंसकलिङ्गः
४। लिङ्गः वचनम् विभक्तिः च
    केवलम् एकवचनम् बहुवचनम् च
५। अनुवाद-अभ्यासः -
    अ। आङ्गल/तमिल् भाषातः संस्कृते
    आ। संस्कृतात् आङ्गल/तमिल् भाषायाम्

Unit III

१। क्रियापदानि (परिचयः)

१। वर्तमानकाले परस्मैपदिनः धातवः
    अ। अन्यपुरुषः/प्रथमपुरुषः
    आ। मध्यमपुरुषः
    इ। उत्तमपुरुषः
    ई। एकवचनम्
    उ। बहुवचनम्।

Unit III (continued)

२। क्रियापदानि - धातवः -
एकवचन-बहुवचन-मात्रम्
अ। गम् (गच्छ)
आ। पठ्
इ। क्रीड्
ई। वद्

३। अव्ययाः

तत्र, अत्र, कुत्र, यत्र, तदा, यदा, कदा, इदानीम्, शीघ्रम्, अपि , सह, एव, तु, किम्, च (१५)

४। अन्ये अकारान्त-कर्तृपदानि

अश्वः, बालकः, सूर्यः, मनुष्यः, हस्तः, अध्यापकः, इत्यादीनि (१०)

५। अनुवाद-अभ्यासः

अ। आङ्गल/तमिल् भाषायाः संस्कृते
आ। संस्कृतात् आङ्गल/तमिल् भाषायाम्

Unit IV

१। विभक्ति-अन्त प्रत्ययानां आदेशाः

अ। चतुर्थी विभक्ति-प्रत्ययस्य - अर्थम् इति आदेशः
आ। पञ्चमी विभक्ति-प्रत्ययस्य - तः इति आदेशः

२। तृतीया विभक्तिः

अ। सह सार्धम् साकं इति अव्ययानां उपयोगः

३। प्रश्न-निर्माण-पदानि

किम्, कुत्र, कथं, किमर्थ, कुतः, कदा

४। क्रियापदानि - (द्वितीय-स्तरः)

वर्तमानकाले परस्मैपदिनः धातवः
भू (भव्), कृ (कर), अस् , धाव् , पत्, आ-गच्छ
केवलम् एकवचनम् बहुवचनम् च

५। अनुवाद-अभ्यासः

अ। आङ्गल/तमिल् भाषायाः संस्कृते
आ। संस्कृतात् आङ्गल/तमिल् भाषायाम्

Unit V

१। विशेषण-विशेष्यौ

अ। शुक्ल - नील - पीत - रक्त - हरित - कपिश - कृष्ण वर्णाः।

आ। संख्या-वाचक-पदानि (० तः ९ पर्यन्तम् मात्रम्)

इ। सुन्दरः - सुन्दरी - सुन्दरम् ,
मधुरः - मधुरा - मधुरम् इत्यादयः।

२। विभक्तीनां पुनः परिचयः (द्वितीयस्तरः)
अकारान्त-शब्दः पुंलिङ्गः/नपुंसकलिङ्गः

१। प्रथमा विभक्तिः
२। द्वितीया विभक्तिः
३। तृतीया विभक्तिः
४। चतुर्थी विभक्तिः

३। विभक्तीनां पुनः परिचयः (तृतीयस्तरः)
अकारान्त-शब्दः पुंलिङ्गः/नपुंसकलिङ्गः

५। पञ्चमी विभक्तिः
६। षष्ठी विभक्तिः
७। सप्तमी विभक्तिः
८। सम्बोधन-प्रथमा विभक्तिः

४। सर्वनाम-पदानि (अन्यपुरुषः/प्रथमपुरुषः)

१। सः - एषः
२। सा - एषा
३। तत् - एतत्
प्रथमा विभक्तिः एकवचन-बहुवचन-मात्रम्

५। सर्वनामपदानि (उत्तमपुरुषः)
(मध्यमपुरुषः)

४। अस्मद्
प्रथमा विभक्तिः, षष्ठी विभक्तिः च
एकवचन-बहुवचन-मात्रम्।

६। अनुवाद-अभ्यासः

अ। आङ्गल/तमिल् भाषायाः संस्कृते
आ। संस्कृतात् आङ्गल/तमिल् भाषायाम्

Subject Code:U16S2

National College(Autonomous) Tiruchirapalli

Language Programme Part I Sanskrit Semester II

Syllabus - Paper II - Sanskrit - II

(For the students admitted from the academic year, June 2016 onwards)

Time: 3 Hours   Maximum Marks: 75

Unit I

क्रियापदानि

१। पुनश्चर्या

लट् लकारे (वर्तमानकाले)
पूर्वस्मिन् षाण्मासे अभ्यस्तानां
क्रियापदानां द्विवचनेन साकं
पुनश्चर्या
द्विवचन-परिचयः – उपयोगः च

२। लृट् लकारः – भविष्यत्कालः

१। गम् (गच्छ)
२। पठ्
३। यद्

३। लृट् लकारः – भविष्यत्कालः (अधिकम्)

४। पत्
५। लिख् (लेख)
६। क्रीड्

४। लृट् लकारः – भविष्यत्कालः (अधिकम्)

७। आ - गम् (गच्छ)
८। भू - भव
९। धाव्

५। लृट् लकारः – भविष्यत्कालः (अधिकम्)

१०। पा - पिब्
११। दृश् - पश्
१२। कृ - कर्

Unit II

१। लृट् लकारे अभ्यस्तानां
धातुरूपाणाम् अभ्यासः
वाक्येषु उपयोगः
अनुवाद-अभ्यासः च
(संस्कृत-आङ्गल/तमिल्-संस्कृतेषु)

२। सर्वनामशब्दाः

१। अस्मद् शब्दः - पुनश्चर्या
(त्रिषु वचनेषु)

२। युष्मद् शब्दः
(त्रिषु वचनेषु)

३। युष्मद्-शब्द-आधारित-
वाक्येषु लृट् लकार-क्रियापदानां
उपयोगः अनुवाद-अभ्यासः च
(संस्कृत-आङ्गल/तमिल्-संस्कृतेषु)

४। तद् शब्दः - त्रिषु वचनेषु
पुंलिङ्ग-मात्रम्।

५। सर्वनाम-शब्दान् (युष्मद्-तद्)
आहत्य वाक्येषु उपयोगः
अनुवाद-अभ्यासः।
(संस्कृत-आङ्गल/तमिल्-संस्कृतेषु)

धान्य-नामानि -
चणकः, मुद्गः, माषः, तण्डुलः,
जीरकम्, मरिचम्, लशुनम्

फल-नामानि -
जम्बीरम्, आमलकम्, दाडिमम्,
नारङ्गः, बदरम्, जम्बूफलम्, कदलीफलम्

शलाटुका-नामानि
आलुकम्, आर्द्रकम्, कन्दर्पः,

भोज्यपदार्थ-नामानि
ओदनम्, रोटिका, पोलिका
दुग्धम्, दधि, तक्रम्, नवनीतम्, घृतम्,
एतावता अभ्यस्त-शब्दानां वाक्येषु
उपयोगः - अनुवाद-अभ्यासः
(संस्कृत-आङ्गल/तमिल्-संस्कृतेषु)

गतः गता गतम्
पीतः पीता पीतम्
पठितः पठिता पठितम्
क्रीडितः क्रीडिता क्रीडितम्
धावितः धाविता धावितम्
पतितः पतिता पतितम्

Unit III १। भोज्य-पदार्थ-नामानि

२। वार्तालापः

३। क्त-प्रत्यय-धातवः

क्त-प्रत्यय-धातवः

| | आगतः आगता आगतम् |

आगतः आगता आगतम्
लिखितः लिखिता लिखितम्
खादितः, खादिता, खादितम्

३। क्रियापदानि

लट् लकारे एव –
भक्ष्, खेल्, पाल्, तुल्,
मार्, गण्, कथ्, क्षाल्,

४। तुमुन्नत-अव्ययाः

गन्तुम्, पातुम्, पठितुम्, क्रीडितुम्,
धावितुम्, पतितुम्, लेखितुम्, भवितुम्,
अर्चितुम्, खेलितुम्, चलितुम्, क्षालयितुम्,
तुलयितुम्, मारयितुम्, गणयितुम्

५। अनुवाद-अभ्यासः

संस्कृतात् आङ्गले/तमिल् भाषायाम्,
आङ्गलात् संस्कृते

Unit IV

१। कृषि-क्षेत्र-सम्बन्धीनि नामानि

कृषकः, कृषीवलः, बलीवर्दः, वृषभः
सस्यम्, धान्यम्, तृणम्, क्षेत्रम्, हलः
बीजम्, आलवालम्, मेघः, जलदः,
खेटः, ग्रामः, क्रयः, विक्रयः, हट्टः,
आपणः, आपणिकः, व्यवसायः- इत्यादीनि

२। काल-संबन्धीनि पदानि
संख्यावाचकपदानि च

a. प्रातः, मध्याह्नः, सायम्, रात्रिः
b. समयलेखनम् – सपाद-सार्ध-पादोन-
   पदानाम् उपयोगः
c. ऋतु(काल) नामानि
   वसन्तः,ग्रीष्मः,वर्षाः,शरद्, हेमन्तः,शिशिर
d. संख्यावाचकपदानि – १ तः २५ पर्यन्तम्

३। क्रियापदानि

लट् लकारे –
क्री, वि-क्री, रुह् (रोह्), वर्ष्, वप्
रच्, कृष् (कर्ष), वस्, अर्च्

४। नपुंसकलिङ्ग-कर्तृ-पदानि

सस्यम्, धान्यम्, तृणम्, क्षेत्रम्, बीजम्,
आलवालम्।

५। अनुवाद-अभ्यासः

संस्कृतात् आङ्गले/तमिल् भाषायाम्,
आङ्गलात् संस्कृते

Unit V

१। आकारान्त-स्त्रीलिङ्ग-पदानि

a। माला शब्दः

(एकवचन - बहुवचनमात्रम्)

b। अन्यानि स्त्रीलिङ्गपदानि

रमा, शाला, पेटिका, शिखा,

निशा, दिशा, बाला, सभा,

भार्या, स्वसा, नासिका

२। क्त्वा प्रत्यय-अन्त-अव्ययाः

गत्वा, पठित्वा, क्रीडित्वा, पीत्वा, धावित्वा,

लिखित्वा, भक्षयित्वा, खेलित्वा, धारयित्वा,

पतित्वा, कृत्वा, चलित्वा, क्षालयित्वा,

पालयित्वा, अर्चयित्वा

३। क्रियापदानि

लृट् लकारे (एकवचन-बहुवचन-मात्रम्)

धार्, कथ्, क्षाल्, पाल्, तोल्

४। सन्धि-प्रकरणम्

a. स्वरसन्धिः

b. गुणसन्धिः

c. वृद्धि-सन्धिः

पाठ्य-पुस्तके दत्तानां पदानां परिचयः

५। अनुवाद-अभ्यासः

संस्कृतात् आङ्गले/तमिल् भाषायां तथा

आङ्गलात् संस्कृते

Prescribed book:

. Saral Sanskrit Sikshak Part I, Bharatiya Vidya Bhavan (lessons 6 to 9, and 1) Mumbai 400007.

Reference:

Sanskrit for beginners, Dr Narasimhachari, M, and Dr Ramaratnam, S, N & R Publications, Chennai 600004.

Subject Code: U16S3

National College (Autonomous) Tiruchirapalli
Language Course Part I Sanskrit Semester III
Paper III - Sanskrit III

(For the candidates admitted from the academic year June 2016 onwards)

Syllabus

Time: 3 Hours   Maximum Marks: 75

Unit I

1. क्रियापदानि कर्तृपदानि च - पुनश्चर्या

लट् लकारे लृट् लकारे च पठितानां
पूर्वस्मिन् षाण्मासद्वये अभयस्तानां
क्रियापदानां, कर्तृपदानां च पुनश्चर्या

2. शब्दाः(कर्तृपदानां परिचयः)

१। इकारान्तः पुल्लिङ्गः कवि शब्दः
तस्य केचन समानान्तशब्दाः च।
एकवचनं तथा बहुवचनम् एव।
हरिः, रविः, अरिः ऋषिः, पतिः,यतिः इत्यादयः।:
२। सर्वनामशब्दः
दकारान्तः स्त्रीलिङ्गः तद् शब्दः
एकवचनं तथा बहुवचनम् एव।
३। इकारान्तः स्त्रीलिङ्गः: मति शब्दः
तस्य एकवचनं तथा बहुवचनम् एव।
तस्य केचन समानान्तशब्दाः - रुचिः, शान्तिः
कीर्तिः, बुद्धिः, मुक्तिः इत्यादयः
४। उपर्युक्त-शब्दानां वाक्येषु उपयोगः
अनुवाद-अभ्यासः च (संस्कृत-तमिल/संस्कृत-
आङ्गल/आङ्गल-संस्कृतेषु)

Unit II

क्रियापदानि
१। लट् लकारः (वर्तमानकालः)

२। लट् लकारः (वर्तमान्कालः) - अधिकम्

३। लट् लकारः (वर्तमानकालः) -अधिकम्

१। जप्
२। चर्
३। रक्ष्
४। हस्
५। वम्
६। नम्
७। दह्
८। तप्

९। वस्

१०। इच्छ्

५। क्रियापदानां वाक्येषु उपयोगः अनुवाद-अभ्यासः च – संस्कृतात् आङ्गले/तमिल् भाषायां अथवा आङ्गलात् संस्कृते वा।

Unit III

१। क्रियापदानि

उपर्युक्त-क्रियापदानां वाक्येषु प्रयोगः संस्कृतात् आङ्गले/तमिल् भाषायां अथवा आङ्गलात् संस्कृते वा।

२। नूतन-शब्दानां परिचयः

अकारान्त-आकारान्त-इकारान्त कर्तृपदानि क्रियापदानि च

मिश्रित्य वाक्येषु उपयोगः अनुवाद-अभ्यासः च

३। वार्तालाप-परिचयः

उपर्युक्त-कर्तृपद-क्रियापदानि उपयुज्य छात्रेषु वार्तालाप-अभ्यासः

४। लृट् लकारः (भविष्यत्कालः) नूतन-क्रियापदानि

१। अर्ज्

२। दण्ड्

३। चिन्त्

४। ज्वल्

५। लृट् लकारः (भविष्यत्कालः) नूतन-क्रियापदानि (अधिकम्)

५। तर्ज्

६। तर्कु

७। तप्

८। नट्

Unit IV

१। लङ् लकार-परिचयः (भूतकालः)

१। भूतकालः नाम किम्? भूतकालिक-क्रियापदानां परिचयः।

१। गम् (गच्छ)

२। पा (पिब)

४। पश्य्

२। लङ् लकार-परिचयः (भूतकालः) (अधिकम्)

५। वस्

६। पठ्

७। वद्

८। पत्

३। बन्धु-वर्ग-नामानि

माता, जननी, पिता, जनकः, स्वसा
भगिनी, सहोदरः, भ्राता, अनुजः, अग्रजः,
अनुजा, अग्रजा, मातुलः, मातुलानी,
जामाता, वधूः, वरः, मातामहः, मातामही,
पितामहः, पितामही, पुत्रः, पुत्री, पौत्रः, पौत्री

४। वाक्येषु उपयोगः

उपर्युक्त-पदानां वाक्येषु प्रयोगः
अनुवाद-अभ्यासः(संस्कृतात् आङ्गले/तमिल्
भाषायाम् , आङ्गलात् संस्कृते वा)

Unit V

१।. गृहे उपयुक्तानां उपकरणानां
नामानि

पर्यङ्कः, मञ्जूषा, तालकम्, कुञ्जिका,
अङ्कनी, लेखनी, उत्पीठिका, आसनम्,
गणकयन्त्रम्, दूरदर्शनम्, आकाशवाणी,
दूरभाषणी, दीपः, विद्युत्, विद्युत्व्यजनम्,
शीतकयन्त्रम्, शीतकपेटिका, अग्निपेटिका,
वस्त्रम्।(अन्यानि मुख्यानि च)

२। वासरनामानि

सोमवासरः, मङ्गलवासरः, बुधवासरः,
गुरुवासरः, शुक्रवासरः, शनिवासरः,
भानुवासरः

३। पक्षनामानि

शुक्लपक्षः, कृष्णपक्षः

४। मास-नामानि

चैत्रः, वैशाखः, ज्येष्ठः, आषाढः,श्रावणः,
भाद्रपदः, आश्वीनः, कार्तीकः, आग्रहायणः, पौषः,
माघः, फाल्गुनः अथवा
मेषः, ऋषभः, मिथुनः, कटकः, सिंहः,
कन्या, तुला, वृश्चिकः, धनुः, मकरः, कुम्भः,
मीनः ।

५। तिथिनामानि

प्रथमा, द्वितीया, तृतीया, चतुर्थी,पञ्चमी,
षष्टी, सप्तमी, अष्टमी, नवमी, दशमी,
एकादशी, द्वादशी, त्रयोदशी, चतुर्दशी,
अमावास्या (अमाः), पूर्णीमा (पौर्णमी)

७। नवग्रहनामानि

सूर्य, चन्द्रः, कुजः, बुधः, गुरुः, शुक्रः, शनैश्चरः, राहुः, केतुः

८। संख्या-वाचकपदानि

षड्विंशतिः आरभ्य पञ्चाशत् पर्यन्तम्।(२६-५०)

Prescribed Book:

सरलसंस्कृतशिक्षकः भागः २, भारतीयविद्याभवनम्, कुलपतिःमुन्शी मार्गः, मुम्बई, ४००००७

Reference:

1. Samskrt for Beginners, Dr M. Narasimhachari & Dr S. Ramaratnam, N&R Publications, Mylapore, Chennai 60004.
2. संस्कृत-व्यवहारसाहस्त्री, संस्कृत-भारती, माता मन्दिर् गली, झन्डेवाला, नव देहली ११००५५।

National College (Autonomous) Tiruchirapalli
Language Course Part I Sanskrit Semester III
Paper IV - Sanskrit IV
(For the candidates admitted from the academic year June 2016 onwards)
Syllabus

Time: 3 Hours   Maximum Marks: 75

Unit I

१। कर्तृपदानि, क्रियापदानि च
पुनश्चर्या

२। शब्दाः (कर्तृपद-परिचयः)

लट् लकारे, लृट् लकारे, लङ् लकारे च
पूर्वस्मिन् षाण्मासत्रये अभ्यस्तानां कर्तृपदानां
क्रियापदानां च पुनश्चर्या।

१। उकारान्तः पुल्लिङ्गः गुरु शब्दः
केचन समानान्त-शब्दाः च।
एकवचनम् तथा बहुवचनम् केवलम्।
पशुः, मनुः, साधुः, शिशुः, प्रभुः इत्यदि शब्दाः
२। उकारान्तः स्त्रीलिङ्गः धेनु शब्दः
एकवचनम्, तथा बहुवचनम् केवलम्।
३। सर्वनामशब्दः -
दकारान्तः नपुंसकलिङ्गः तद् शब्दः
दकारान्तः पुल्लिङ्गः एतद् शब्दः
एकवचनम्, तथा बहुवचनम् केवलम्।
४। उपर्युक्त-कर्तृपदानां कर्मपदानां च वाक्येषु
उपयोगः
५। अनुवाद-अभ्यासः (संस्कृतात् आङ्गले/तमिल्
भाषायाम्, तथा आङ्गलात् संस्कृते च)

Unit II

क्रियापदानि
१। लट्/लृट् लकारौ
नूतनक्रियापदानि

२। लट्/लृट् लकारौ
नूतनक्रियापदानि

१। अञ्च्
२। दल्
३। नन्द्
४। यच्छ
५। धृ (धरति)
६। धृ (धारयति)
७। नद् (नदति)
८। तृ (तर)

३। लट्/लृट् लकारौ नूतनक्रियापदानि

९। नश्
१०। निन्द्
११। पीड्
१२। पोष्

४। शरीर-अङ्ग-नामानि

शिरः, केशः, कर्णः, नासिका, नयनम्, मुखम्, दन्तः, ग्रीवा, कण्ठः, उरः, स्कन्धः, करः, बाहुः, हस्तः, अङ्गुली, नखः, स्मश्रुः, शिखा, उदरः, कटिः, जानुः, पादौ, अस्थि, मांसं, रुधिरः, मेघः।

५। प्रतिदिनं-उपयुक्तानि वस्तु नामानि

वस्त्रम्, निचोलः, ऊरुकम्, उष्णीषः, उपनेत्रम्, दण्डः, पादरक्षा, घटी, द्विचक्रिका, त्रिचक्रिका, कार्-यानम्, लोकयानम्, आकाशविमानम्, रेल्-यानम्

Unit III

१। पर्यटन-स्थल-नामानि

१। धर्म-सम्बन्धीनि स्थलानि
२। आह्लादकर-संबन्धीनि स्थलानि
३। देशस्य चरित्र-चारित्र-संबन्धीनि स्थलानि
४। अन्वेषण-संबन्धीनि स्थलानि
५। विदेश-यात्रा

२। प्रतिदिनं गमनीयानि स्थलानि

देवालयः, कार्यालयः, विद्यालयः, धनकोषः, पुस्तकालयः, आपणः, चलनचित्रशाला, नाट्यशाला, महाविद्यालयः, विश्वविद्यालयः, मित्रगृहम्, स्नानगृहम्, शौचालयः, सुविधालयः,

Unit IV

१। रचनालेखनम्

रचना-लेखन-प्रकारः
उपोद्घातः, रचना, समापनम् - विधयः
दश-वाक्येषु पर्यटनस्थानमेकमधिकृत्य लेखनम्

२। पत्रलेखनम्

पत्रम् नाम किम्?
पत्रलेखन-प्रकारः
पत्रलेखने उपयुक्ताः रीतयः
पत्र-आरम्भः, शरीरम्, समापनम्

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३। पत्रलेखनम् (वैचित्र्यम्)

१। मित्राय पत्रम्।

२। विद्यालयाय विरामपत्रम्।

३। जनकाय पत्रम्।

४। अनुच्छेद-अभ्यासः

१। कथा-युक्तम् अनुच्छेदं पठित्वा उत्तर-लेखनम्।

२। वार्ता-संबन्धि-लेख-युक्तम् अनुच्छेदं पठित्वा उत्तर-लेखनम्।

Unit V

१। नूतन-कर्तृपदानि

मृगवर्गः - सिंहः, व्याघ्रः, भल्लूकः, शृगालः, मूषकः, आखुः, सारमेयः, कुक्कुरः, बिडालः, वानरः, उष्ट्रः, अश्वः, गजः, वृषभः, अजः, मेषः, वराहः, धेनुः, गौः, महिषः, वत्सः, हरिणः, शशकः

पक्षिवर्गः - काकः, कुक्कुटः, मयूरः, टिट्टिभः, गरुढः, शुकः, कपोतः,

जलचराः - मीनः, मत्स्यः, कूर्मः, तिमिङ्गिलः,

२। व्यवहार-पदानि/वाक्यानि

शिष्टाचारः, मित्राणि, प्रयाणम्, छात्राः, परीक्षा, शिक्षकः, महिला, वेश-भूषा, कार्यालयः, आरोग्यम्, वाणिज्यम्, वातावरणम्, भोजनम्, शुभाशयाः, संकीर्ण-पदानि।

३। कर्मकाराः

घटकारः, कुविन्दः/तन्तुवायः, अयस्कारः, सुवर्णकारः, रजकः, आपणिकः, वणिजः, चर्मकारः, नापितः, संवाहकः, शाकटिकः, आरक्षकः गोपालकः, अश्वपालकः, अजपालकः, पुरोहितः,

३। व्याकरणम्

सन्धिप्रकरणम् -

प्रभेदाः - स्वरसन्धिः, व्यञ्जन-सन्धिः विसर्गसन्धिः

स्वरे - सवर्णदीर्घः, गुणः, यण्, वृद्धिः, अयवायावः, प्रकृतिभावः

Prescribed Books:

1. सरलसंस्कृतशिक्षकः, भागः २, भारतीयविद्याभवनम्, कुलपति मुन्शी मार्गः, मुम्बई ४०००००७।
2. संस्कृत-व्यवहार-साहस्री 3. सन्देशसंस्कृतम्, -संस्कृतभारती, माता मन्दिर् गली, झण्डेवाला, नव देहली ११००५५
Reference:

1. Samskrt for Beginners, Dr M. Narasimhachari and Dr S. Ramaratnam, N & R Publications, Mylapore, Chennai 600004.

ENGLISH FOR COMMUNICATION – U16E1

Semester: I   **English Language Course I**

Instruction Hours/Week: 6   **Credit: 3**

UNIT I: 1. At the College

                2. On the Campus

                3. Outside the Class

                4. At the Post office

                5. For Business and Pleasure

                6. Review

UNIT II: 7. Are you Smart ?

                8. Are You Creative?

                9. Is it too hard to improve?

                10. How to win ?

                11. View Points

                12. Snakes and Ladders

                13. Yourself

UNIT III: 1. Birbal story- The loyal gardener

                2. Hindu mythological story- The origin of coconut tree

                3. Achinese story: The generous student

                4. An Africal Story ; The Three Runners

UNIT IV:

                5. The Golden place

6. The one – hundreth prince

7. The mouse Merchand

UNIT V: 8. When wishes come true – Rabindranath Tagore

9. The World and after

10. Julius caesar

Text Books: 1. Crystal Streams – A Prose collection by D.E. Benet. Published by New Century Book House (P) Ltd.

2. Creative English for Communication (2nd edition) by Krishnasamy and Sriraman. Published by Macmillan

ENGLISH THROUGH EXTENSIVE READING – U16E2

SEMESTER : II   **ENGLISH LANGUAGE COURSE : II**

INSTRUCTION HOURS/WEEK : 4   **CREDIT : 2**

UNIT I

Excitement   :   Mack R. Douglas

Tight Corners   :   E.V. Lucas

UNIT II

Water – The Elixir of Life   :   C.V. Raman

Tree Speaks   :   C. Rajagopalachari

UNIT III

The Art of Telling Tales   :   April Hersey

A Job Well Done   :   Ruskin Bond

UNIT IV

The Panorama of India's Past   :   Jawaharlal Nehru

The Origin of Grammar   :   Margaret Bryant & Janet

UNIT V

Dangers of Drug Abuse   :   Hardin B. Jones

Crime and Punishment   :   R.K. Narayan

Text Book : Dr. Ananthan , R. Effective Communication. Ed. Chennai : Anu Chithra Pub.2010.

COMMUNICATIVE ENGLISH I – U16CE1

Semester : II   **Communicative English Course : I**

Instruction Hours/ Week : 2   **Credit : 1**

UNIT I

Writing Stories

Grammar Components : Articles, Prepositions and Tenses

UNIT II

Precis Writing

Grammar Components : Non- Finite Verbs and Phrasal Verbs

UNIT III

Writing Letters

Grammar Components : Conjuctions and Interjections and Punctuation

UNIT IV

Reporting

Grammar Components : Reported Speech and Transformation of Sentences

UNIT V

Writing an Essay

Grammar Components : Sentence structure (S/V/O/C/A) and Simple, Compound and Complex sentences

Text book : Pillai, Radhakrishna G. English Grammar & Composition Ed. Chennai : Emerald Pub.2016

ENGLISH FOR COMPETITIVE EXAMINATIONS – U16E3

SEMESTER : III   **ENGLISH LANGUAGE COURSE : III**

INSTRUCTION HOURS/WEEK : 6   **CREDIT : 3**

UNIT I:

Basics of English(Revision)

(a)Parts of speech and Articles

(b)Active and passive voice

(c)Framing Questions

(d)Tag questions

(e)Indirect speech

(f)Tenses

UNIT II:

(a)Errors and how to avoid them

(b)Spotting errors

(c)Reconstructing passages

(d)Précis writing

UNIT III:

Reading comprehension

UNIT IV:

(a)Sentence completion,

(b) Spelling

(c)Vocabulary – Words often confused or Misused, Synonyms, Antonyms.

UNIT V:

Letter writing , Report writing ,Paragraph writing, Essay writing

Text book : <u>English for Competitive Examinations</u> by R.P.Bhatnagar&Rajul Bhargava macmillanIndia ltd. Delhi.

COMMUNICATIVE ENGLISH II – U16CE2

SEMESTER : IV   COMMUNICATIVE ENGLISH COURSE : II

INSTRUCTION HOURS/WEEK : 2   CREDIT : 1

UNIT I:

Enriching Vocabulary – Register Development; who is who; Synonyms, Proverbs

UNIT II:

Tense Forms with emphasis on differences between Present and Present Continuous; Past and Present Perfect , Framing questions, Auxiliaries, if clauses; conjunctions and linkers; Prepositions

UNIT III

Pronunciation, Good Pronunciation habits, Phonetic Transcription, Greetings, Farewells commands etc.,

UNIT IV:

Conversational Skills – Affirmative or Negative Language – idiomatic expressions, Phrases, Dialogue Writing,

UNIT V:

- Writing Skills – Note- taking, note- making, e-mail, Describing an object, narrating a story.
- Circulars
- Notes - reminders, warnings, farewells, apology.
- Draft invitations – marriage, annual day, inaugural functions of associations, valediction, seminar, workshop.
- Draft Short messages- compliments, birthday wishes, notifications
- Draft Posters- Slogans, Announcements
- Draft Advertisements
- Dialogue writing

Text Book

1. Communicative English by Department of English, National College(Autonomous), Trichy

READING POETRY AND DRAMA – U16E4

SEMESTER : IV   **ENGLISH LANGUAGE COURSE : IV**

INSTRUCTION HOURS/WEEK : 6   **CREDIT : 2**

<u>**POETRY:**</u>

UNIT I : John Milton   : On His Blindness

Oliver Goldsmith   : The Village School Master

William Wordsworth   : The Solitary Reaper

UNIT II : P.B.Shelly   : Ozymandias

John Keats   : La Belle Dame Sans Merci

Robert Browning   : Incident of the French camp

UNIT III : John Masefield   : Laugh and Be Merry

Robert Frost   : Stopping by Woods On a Snowy
Evening

John Drinkwater   : The Vagabond

<u>**DRAMA:**</u>

UNIT IV: Anton Chekov   : A Marriage Proposal

Lady Gregory   : The Rising of the Moon

UNIT V: W.St. John Tayleur   : Reunion

William Shakespeare   : Othello, The Moor of Venice – Act V

Text Books :   1)**An Introduction to Poetry** edited by A.G.Xavier; [Macmillan]

2)**A Book Plays**: A Group of Editors, Published by Orient Blackswan

DIFFERENTIAL CALCULUS AND TRIGONOMETRY – U16MS1

Semester: I   **Core Course: I**
Instruction Hours/Week: 5   **Credit: 5**

UNIT I
n^{th} derivative of standard functions – Leibnitz's Theorem - Related problems - Maxima and Minima of function of two Variables –Lagrange multipliers (Related problems only).

UNIT II
Curvature – Radius of curvature in Cartesian and in Polar Coordinates – Centre of curvature –Evolutes & Involutes.

UNIT III
Expansions of $\sin n\theta, \cos n\theta, \tan n\theta$, – Expansions of $\sin^n \theta, \cos^n \theta, \sin^n \theta \cos^m \theta$ –Expansions of $\sin\theta, \cos\theta, \tan\theta$ in powers of θ .

UNIT IV
Hyperbolic functions – Relation between hyperbolic & Circular functions-Inverse hyperbolic functions.

UNIT V
Logarithm of a complex number –Summation of Trigonometric series –Difference method-Angles in arithmetic progression method –Gregory's Series.

TEXT BOOK(S)
1. T.K.Manickavasagam Pillai & others, Differential Calculus, S.V.Publications, Chennai – 1985 Revised Edition. (Units I & II)
2. S.Arumugam & others, Trigonometry, New Gamma Publications -1985 Revised Edition. (Units III, IV & V).

REFERENCE BOOK(S)
1. Arumugam and Isaac, Calculus, Volume1, New Gamma Publishing House, 1991.
2. S. Narayanan, T.K. Manichavasagam Pillai, Trigonometry, S.Viswanathan Pvt Limited, and Vijay Nicole Imprints Pvt Ltd, 2004.
3. P.Duraipandiyan, Laxmi Duraipandiyan and Jayamala Paramasivam, Trigonometry, Emerald Publishers, Chennai, Reprint 1999.

INTEGRAL CALCULUS AND FOURIER SERIES– U16MS2

Semester: I & II   **Core Course: II**
Instruction Hours/Week: 3&3   **Credit: 6**

UNIT I
Definite integrals - Integration by parts – reduction formula – related problems.

UNIT II
Double integral in Cartesian and polar coordinates –changing the order of integration – Triple Integral .

UNIT III
Beta and Gamma functions - relations between them –Evaluation of Integrals using Beta and Gamma functions.

UNIT IV
Fourier series- definition - Fourier Series expansion of periodic functions with Period 2π – Use of odd & even functions in finding Fourier Series- Half-range Fourier Series- Development in sine, cosine series

UNIT V
Change of interval- Fourier Series Expansion of periodic functions with period 2l-Half-range Fourier Series – definition- Combination of series.

TEXT BOOK(S)
1. S.Narayanan and T.K.Manickavasagam Pillai, Calculus Volume II, S.V Publications, Reprint 2003. (Unit I, II & III).
2. S. Narayanan, T.K. Manicavachagam Pillai, Calculus, Vol. III, S. ViswanathanPvt Limited, and Vijay Nicole Imprints Pvt Ltd, 2004. (Unit IV & V)

REFERENCE BOOK(S)
1. Shanthi Narayanan, Integral Calculus, S.Chand & Co., 2000.
2. S.Sudha, Calculus, Emerald Publishers, Chennai, 1998 –First Edition.

Unit-1: Chapter-I: Sections- 11,12,13.
Unit-2: Chapter-5: Sections- 1 to 6.
Unit-3: Chapter-7.
Unit-4: Chapter-6:Sections- 1 to 5.
Unit-5: Chapter-6:Sections- 6 & 7.

ANALYTICAL GEOMETRY (3D) & VECTOR CALCULUS– U16MS3

Semester : II   **Core Course: III**
Instruction Hours/Week: 5   **Credit: 5**

UNIT I
Skew lines - shortest distance between two skew lines - Equation of the line of shortest distance - Sphere – section of a sphere by a plane - intersection of two spheres – Tangent plane.

UNIT II
Cone – right circular cone – condition for a plane to touch the quadratic cone – cylinder – right circular cylinder.

UNIT III
Vector differentiation –velocity and acceleration-Vector and scalar fields –gradient - directional derivative – divergence & curl– Laplacian operator –related problems.

UNIT IV
Vector integration –Line integral – conservative force field – scalar potential- work done by a force - surface integral- Volume integral – simple problem.]

UNIT V
Gauss Divergence Theorem – Stoke's Theorem- Green's Theorem (statement only) – simple problems and verification of the theorems for simple problems.

TEXT BOOK(S)
1. T.K.Manickavasagam Pillai & T.Natarajan, A Text book of Analytical Geometry
(Part II – Three Dimension), S.Viswanathan Pvt. Ltd., Reprint 2002.(Units I & II)
2. M.L. Khanna, Vector Calculus, Jai Prakash Nath and Co., 8th Edition, 1986.(Units III, IV &V)

REFERENCE BOOK(S)
1. P.Duraipandiyan, Laxmi Duraipandiyan, D.Muhilan, Analytical Geometry Three Dimensional, Emerald Publishers, Chennai, Reprint 2003.
2. Shanthi Narayanan and Mittal P.K., Analytical Solid Geometry, 16th Edition, S.Chand & Co., New Delhi.
3. N.Saran and R.S.Gupta, Analytical Geometry of 3D, Pothishala Pvt. Ltd., Allahabad.
4. P.R.Vittal and V.Malini, Vector Analysis, Margham Publications, Chennai, 2000.
5. S. Shanthi Narayanan, A Text Book of Vector Calculus, S.Chand & Co., New delhi.
6. K.Viswanathan and S.Selvaraj, Vector Analysis, Emerald Publishers, Chennai Reprint 1999.

DIFFERENTIAL EQUATIONS– U16MS4

Semester: III   **Core Course: IV**
Instruction Hours/Week:4   **Credit: 4**

UNIT-I
Solving Differential equations of the form Mdx+Ndy=0-First order, higher degree Differential equations: solvable for x, solvable for y, solvable for dy/dx, Clairaut's form-simple problems.

UNIT-II
Particular integrals of second order Differential Equations with constant Coefficients – Linear equations with variable coefficients – simultaneous differential equations - Method of variation of Parameters (Omit third & higher order equations)

UNIT-III
Formation of Partial Differential Equation-General, Particular &Complete integrals – Solution of PDE of the standard non-linear PDE forms –Lagrange's Type -Related problems.

UNIT-IV
Homogeneous Linear partial Differential equations with constant coefficients.

UNIT-V
Partial Differential Equations of Second order - Separation of variables - Eigen values and eigen functions - one dimensional and two dimensional diffusion equations (Cartesian form).

TEXT BOOK:
1. M.D.Raisinghania, Ordinary & Partial Differential Equations, S.Chand & Co., 2001 (for Units I & IV)
2. S.Narayanan, & T.K.Manickavasagam Pillai"Differential Equations" S.Viswanathan Publishers 1996(for Units II, III & V).
UNIT I - Chapter 2: Section 2.9, 2.12 (Part I) & Chapter 6: Section 6.1 to 6.12(Part I)
UNIT II - Chapter V (Section 1 to 5), Chapter VI (Section 6) Chapter VIII (Section 4)
UNIT III - Chapter XII : Section 1 to 5.
UNIT IV - Chapter III : Section 3.1 to 3.7 (Part III)
UNIT V - Chapter XIII : Section 1,2,3 &4.
Reference:
1. Dr.S.Arumugam et al "Differential Equations & Applications"
New Gama Publications 2003.
2. M.L.Kanna "Differential Equations" Jaiprakash North 2005

CLASSICAL ALGEBRA– U16MS5

Semester: III & IV   **Core Course: V**
Instruction Hours/Week: 3&3   **Credit: 5**

UNIT I
Relation between roots and coefficients of polynomial equations-Symmetric functions-Sum of the rth powers of the roots.

UNIT II
Transformation of equations – Diminishing, Increasing and Multiplying the roots by a constant-Forming equations with the given roots-Reciprocal equations-all types-Descartes' rule of Sign (statement only)-simple problems

UNIT III
Inequalities-elementary principles-Geometric and Arithmetic means- Weierstrass inequalities-Cauchy inequality-Applications to maxima and minima.

UNIT IV
Theory of numbers-Prime and Composite numbers-Divisors of a given number N-Euler's function $\varphi(N)$ and its value-The highest power of a prime p contained in N!-Congruence-Fermat, Wilson's and Lagrange's Theorems.

UNIT V
Rank of a matrix-Consistency-Eigen values, Eigen vectors-Clayey Hamilton's Theorem (statement only)-Symmetric, Skew symmetric, Orthogonal, Hermitian, Skew Hermitian and Unitary matrices-Simple problems only.

TEXT BOOK(S)
1. TT.K.Manicavachagam pillay & others, Algebra Vol .I S.V.Publications 2008
2. T.K.Manickavasagam pillay & Others, Algebra Vol.II, S.V.Publications 2008.
Unit I - Chapter 6 Sections 11 to 14 of (1)
Unit II- Chapter 6 Sections 15 to 21 & 24 of (1)
Unit III- Chapter 4 of (2)
Unit IV – Chapter 5 of (2)
Unit V - Chapter 6 sections 1, 6,9,11 & 16 of (2).

REFERENCES
1. S.Arumugam & A.Thangapandi Issac, Modern Algebra, New Gamma Publishing House, 2003
2. H.S.Hall and S.R.Knight, Higher Algebra, Prentice Hall of India, New Delhi.

SEQUENCES AND SERIES– U16MS6

Semester : IV   **Core Course: VI**
Instruction Hours/Week:4   **Credit: 4**

UNIT I
Sequence (definition)-Bounded sequences-monotonic sequence – Convergence sequences – Divergence & Oscillation sequences – The Algebra of limits – Behavior of monotonic sequences- Simple problems.

UNIT II
Sub Sequence – Limit points – Cauchy's general principal of convergence – The upper and lower limits of Sequence – Infinite series – simple problems.

UNIT III
Comparison test – Geometric series - Harmonic series –D'Alembert's ratio test Raabe's test – Gauss's test. Simple problems based on above tests.

UNIT IV
Cauchy's condensation Test – Cauchy's root test – Alternative series – Leibnitz's test – Absolute convergence – simple problems based on above.

UNIT V
General summation of series including successive difference and recurring series.

TEXT BOOK(S)
1. Dr.S.Arumugam, Sequences & Series, New Gamma Publishers, 1999.
2. T.K.Manicavachagam Pillai, T.Natarajan, K.S.Ganapathy, Algebra, Vol I, S.Viswanathan Pvt Ltd., Chennai, 2004.
UNIT I - Chapter 3 Sections 1 to 7 of (1)
UNIT II - Chapter 3 Sections 9 to 12 of (1)
UNIT III - Chapter 4 Sections4.2, 4.3 of (1)
UNIT IV - Chapter 4 Sections 4.4 & Chapter 5 Sections 5.1, 5.2 of (1)
UNIT V - Chapter 5 Sections 2 to 7 of (2)

REFERENCE(S)
1. M.k.Singal & Asha Rani Singal, A first course in Real Analysis R.Chand & Co., 1999.

ABSTRACT ALGEBRA - – U16MS7

Semester : V   **Core Course: VII**
Instruction Hours/Week:5   **Credit: 5**

UNIT I
Groups – Subgroups – Cyclic groups – Order of an Element –Cosets and Lagrange's Theorem.

UNIT II
Normal Subgroups and Quotient groups – Isomorphism & Homomorphisms.

UNIT III
Rings-Definition and Examples –Elementary Properties of Rings- Isomorphism-Types of Rings-Characteristic of a Ring-Sub rings- Ideals-Quotient rings-Maximal & Prime Ideals-Homomorphism of Rings.

UNIT IV
Vector Spaces-Definition & Examples-Subspaces-Linear Transformation-Span of a set – Linear independence.

UNIT V
Basis & Dimension – Rank & Nullity- Matrix of a Linear Transformation.

TEXT BOOK(S)
1. S.Arumugam & A.Thangapandi Isaac, Modern Algebra, Scitech Publication (India) Pvt Limited – August 2003.
UNIT I - Chapter 3 section 305 to 3.8
UNIT II - Chapter 3 section 3.9 to 3.11
UNIT III - Chapter 4 section 4.1 to 4.9 & 4.10
UNIT IV - Chapter 5 section 5.1 to 5.5
UNIT V - Chapter 5 section 5.6 to 5.8

REFERENCE(S)
1. T.K.Manickavasagam Pillai. T.Natarajan, K.S.Ganapathy, Algebra, Vol.1, S.Viswanathan Pvt Ltd, Chennai, 2004.
2. M.L.Santiago, Modern Algebra, Arul Publication, Madras 1988.
3. M.L.Santiago, Modern Algebra, Tata McGraw Hill, 2003.

REAL ANALYSIS– U16MS8

Semester : V   **Core Course: VIII**
Instruction Hours/Week:5   **Credit: 5**

UNIT I Real Numbers

Field axioms-Order in **R**-Absolute value-Completeness-Some important subsets of **R**-Countable and uncountable sets.

UNIT II Neighbourhood and limit points

Neighbourhood -open sets-Closed sets-Limit point of a set-Closure of a set-Interior of a set-Compactness- Connectedness.

UNIT III Limits and Continuity

Limits (definitions only)-Continuous functions-Types of discontinuities-Algebra of continuous functions-Boundedness of continuous functions -Intermediate value theorem-Inverse function theorem-Uniform continuity.

UNIT IV Derivatives

Derivability and continuity- Algebra of derivatives- Inverse function theorem for derivatives-Darboux's theorem.

UNIT V Mean value theorems

Rolle's theorem-Lagrange's Mean value theorem-Cauchy's Mean value theorem-Taylor's theorem- Taylor's series- Power series expansions of some standard functions.

Text Book

M.K.Singal& Asha Rani Singal, A first Course in Real Analysis,R.Chand & Co.,2012 edition.

UNIT I: Chapter 1- Sections 1,2,4-7,10.

UNIT II: Chapter 2- Sections 1-9

UNIT III: Chapter 5- Sections 1-8.

UNIT IV: Chapter 6- Sections 1-5.

UNIT V: Chapter 8- Sections 1-6

References
1. Gold Berge, Richard R, Methods of Real Analysis, Oxford & IBHP Publishing Co., New Delhi, 1970.

STATICS – U16MS11

Semester : V   **Core Course: XI**
Instruction Hours/Week: 6   **Credit: 5**

UNIT I
Forces & Equilibrium – Forces – Resultant of two forces –Three forces related to a triangle – Equilibrium of a particle under three or more forces.

UNIT II
Forces on a rigid body-Moment-Equivalent systems of forces-Parallel forces – Varignon's Theorem-Forces along a Triangle-Couples-Resultant of several coplanar forces.

UNIT III
Friction-Laws of Friction – Coefficient of Friction, Angle & Cone of Friction-Limiting equilibrium of a particle on a rough inclined plane, Tilting of a body – Simple Problems.

UNIT IV
Virtual work-Principle of Virtual work-applied to a body or a system of bodies in equilibrium – Equation of Virtual work-Simple Problems.

UNIT V
St rings-Equilibrium of Strings under gravity-Common Catenary-Suspension bridge.

TEXT BOOK(S)
P.Duraipandiyan, Mechanics (Vector Treatment), S.Chand & Co., June 1997

UNIT I - Chapter 2 & Chapter 3 section3.1
UNIT II - Chapter 4 section 4.1, 4.3 to 4.7
UNIT III - Chapter 2 section 2.1, Chapter 3 section 3.2, Chapter 5 section 5.2
UNIT IV - Chapter 8
UNIT V - Chapter 9

REFERENCE(S)
1. M.K.Venkataraman, Statics, Agasthiyar Publications, 2002
2. A.V.Dharmapadham, Statics, S.Viswanathan Publishers Pvt Ltd, 1979
3. S.L.Lony, Elements of Statics and Dynamics, Part I, A.I.T.Publishers, 1991.

THEORY OF TRANSFORMS – U16MS12

Semester : VI   **Core Course: XII**
Instruction Hours/Week:6   **Credit: 6**

UNIT I

Laplace Transforms – properties of Laplace Transforms – $L[f(t)] - L\left[\dfrac{f(t)}{t}\right]$ Models – Problems using shifting property –Laplace Transform of periodic functions – problems.

UNIT II
Inverse Laplace Transforms - Solving ODE with constant coefficient by using Laplace Transforms.

UNIT III
Fourier integral theorem – Fourier Transform Pair-sine and cosine transforms – properties – Transforms of simple functions –convolution theorem – Parse Val's Identity.

UNIT IV
Z transforms – Definition – Z Transforms of standard functions – shifting theorems I & II – Initial value theorem – final value theorem – shift property – convolution theorem

UNIT V
Inverse Z transforms – long division method – Partial fraction method - inverse integral method & related problems – differentiation – applications to solve finite difference equations

TEXT BOOK
1. Calculus - Vol. III - S.Narayanan & T.K.Maicavachagam Pillay, S.Viswanathan Publishers, Delhi-2010.
2. Dr.P.Kandasamy & Dr. K. Thilagavathy – Engineering Mathematics –volume III, S.Chand & Co.,2008.

UNIT I : Chapter 5 section 1 to 5 of [1]
UNIT II : Chapter 5 section 6 to 10 of [1]
UNIT III : Chapter 4 of [2](page 273 to 305)
UNIT IV : Chapter 5 of [2](page 371 to 397)
UNIT V : Chapter 5 of [2](page 398 to 411)

References:
1. Integral Transforms by A.R.Vasishtha and Dr.R.K.Gupta –KRISHNA Prakashan MEDIA (p) Ltd.,
2. Grewel B.S., 'Higher Engineering Mathematics" 40th edition,Khanna Publishers, Delhi-2007.
3. M.K.Venkataraman"Engineering Mathematics" ,S.V.Publication Volume 3 Revised Edn.

COMPLEX ANALYSIS– U16MS13

Semester : VI   **Core Course: XIII**
Instruction Hours/Week: 6   **Credit: 6**

UNIT I
Functions of a Complex variable – Limits-Theorems on Limits- Continuous functions-Differentiability-Cauchy-Riemann equations- Analytic functions-Harmonic functions.

UNIT II
Elementary transformations-Bilinear transformations-Cross ratio-fixed points of Bilinear Transformation-Some special bilinear transformations.

UNIT III
Complex integration-definite integral-Cauchy's Theorem- Cauchy's integral formula-Higher derivatives.

UNIT IV
Series expansions-Taylor's series-Laurent's Series –Zeroes of analytic functions Singularities.

UNIT V
Residues-Cauchy's Residue Theorem-Evaluation of definite integrals (Type 1 only)

TEXT BOOK(S)
S.Arumugam, A.Thangapandi Isaac & A.Somasundaram, Complex Analysis, New Scitech Publications (India) Pvt Ltd, 2003.

UNIT I - Section 2.1 to 2.8
UNIT II - Section 3.1 to 3.5
UNIT III - Section 6.1 to 6.4
UNIT IV - Section 7.1 to 7.4
UNIT V - Section 8.1 to 8.3 (In 8.3, type 1 only)

REFERENCE(S)
1.P.P.Gupta-Kedarnath & Ramnath, Complex Variables, Meerut Delhi
2.J.N.Sharma, Functions of a complex variable, Krishna Prakasan Media (P) Ltd, 13th Edition, 1996-97.
3. T.K.Manickavachaagam Pillai, Complex Analysis, S.Viswanathan Publishers Pvt Ltd., 1994.

DYNAMICS– U16MS14

Semester : VI　　　　　　　　　　　　　　　　　　　　**Core Course: XIV**
Instruction Hours/Week: 6　　　　　　　　　　　　　　　　**Credit: 6**

UNIT I
Kinematics Velocity – Relative Velocity - Acceleration – Coplanar Motion -components of Velocity & Acceleration – Newton's Laws of Motion.

UNIT II
Projectile – Maximum height reached, range, time of flight –Projectile up / down an inclined plane .

UNIT III
Impulsive force – conversion of linear momentum – Impact of a sphere & a plane - Direct & Oblique Impact of two smooth spheres –Kinetic energy and Impulse.

UNIT IV
Central Orbit – Central force – Differential equation to a central orbit in polar &
pedal coordinates - Given the central orbit , to find the law of force–Kepler's Laws of Planetary motions .

UNIT V
Moment of Inertia of simple bodies –Theorems of Parallel and Perpendicular axes.

TEXT BOOK(S)
[1] P.Duraipandiyan,Vector Treatment as in Mechanics, S.Chand & Co. -June
　2009 Edition .
UNIT – I -Chapter 1 & Chapter 2 Sections 2.1, 2.1.1
UNIT – II -Chapter13
UNIT – III -Chapter 14
UNIT –IV -Chapter 16
UNIT – V -Chapter 17

REFERENCE(S)
[1] M.K.Venkataraman, Dynamics, Agasthiar Book Depot, 1990.
[2] A.V.Dharmapadam, Dynamics, S. Viswanathan Publishers, 1981

NUMERICAL METHODS - U16MS15

Semester : VI   **Core Course: XV**
Instruction Hours/Week: 6   **Credit: 6**

UNIT I
Different methods to find the solutions of algebraic and transcendental equations-The Bisection method – The Iteration method – The method of False Posit ion – Newton-Raphson method – Generalized Newton's method.

UNIT II
Finite Differences – Forward differences – Backward differences – central differences – symbolic relations and separation of symbols – Newton's forward and backward difference formula – Lagrange's interpolation formula – Newton's interpolation divided difference formula.

UNIT III
Numerical Differentiation: Newton's forward and backward difference formula – Numerical Integration: Trapezoidal rule – Simpson's rule (1/3 and 3/8).

UNIT IV
Solutions to linear systems-direct methods and indirect methods-Gaussian Elimination method-Gauss Method to find the Inverse-Method of factorisation-Iterative Methods.

UNIT V
Numerical solution of ordinary differential equations-Taylor series method-Picard's method-Euler's method - Euler's modified method – Runge – Kutta method-Adams-Moulton method-Milne's method(Only Problems).

TEXT BOOK:
S.S.Sastry, Introductory Methods of Numerical Analysis, Prentice Hall of India Private Limited,2010.
UNIT I - Chapter 2: Section 2.1,2.2,2.3-2.3.1, 2.4, 2.5 – 2.5.1
UNIT II - Chapter3: Section 3.3-3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.6, 3.10 - 3.10.1
UNIT III – Chapter 5:Section 5.1,5.2, 5.4-5.4.1, 5.4.2,5.4.3
UNIT IV – Chapter 6: Section 6.3-6.3.2, 6.3.3, 6.3.4, 6.4, 6.5
UNIT V - Chapter 7: Section 7.1,7.2,7.3, 7.4-7.4.2, 7.5,7.6-7.6.1, 7.6.2

REFERENCES:
1. S.Narayanan & Others, Numerical Analysis, S.Viswanathan Publishers, 1994.
2. A.Singaravelu, Numerical Methods, Meenachi Agency, June 2000.

MATHEMATICAL STATISTICS – I – U16AST1

Semester : III   **Second Allied Course: I**
Instruction Hours/Week: 4   **Credit: 3**

UNIT I
Measures of Dispersion: Range –Quartile Deviation –Mean Deviation- Standard Deviation-
Coefficients of Dispersion –Coefficients of Skewness and Kurtosis –Problems.

UNIT II
Theory of Probability-Definition of Probability-Sample Space – Probability of an event –
Independence of events –Theorems on Probability-Conditional Probability –Baye's
Theorem.

UNIT III
Tchebychev's inequality and weak law of large numbers – Simple form of Central limit
theorem for i.i.d random variables.

UNIT IV
Random variables –Distribution function –Discrete and continuous Random variables –
Probability mass and density functions –Joint Probability Distribution function –Moments –
Expectation –Variance – Covariance –Moment Generating function –Theorems on moment
generating function.

UNIT V
Theoretical Distributions: Binomial , Poisson and Geometric Distributions –MGF of these
Distributions –Additive properties – Recurrence relations for the moments about origin
and mean –Relation between Binomial and Poisson Distributions – Fitting of Binomial and
Poisson Distributions.

TEXTBOOK(S)
Gupta S.C and Kapoor V.K, Fundamentals of Mathematical Statistics, Sulthan Chand and
Sons, New Delhi – 2002 edition.
UNIT I - Chapter 2 sections 2.12 to 2.16 (except 2.15)
UNIT II - Chapter 3 sections 3.3 to 3.5, 3.8 to 3.15, Chapter 4 section 4.2
UNIT III - Chapter 7sections 7.5 to 7.7, Chapter 9 section 9.13
UNIT IV - Chapter 5 sections 5.1 to 5.5, Chapter 6 sections 6.2 to 6.6, Chapter 7 section7.1
UNIT V - Chapter 8 sections 8.4 ,8.5,8.7

MATHEMATICAL STATISTICS II – U16AST2P

Semester : III & IV   **Second Allied Course: II**
Instruction Hours/Week:3&3   **Credit: 3**

UNIT I
Quartile deviation, Mean Deviation, Standard deviation and co-efficient of variation. Calculation of moments. and Pearson's and Bowley's co-efficient of Skewness.

UNIT II
Calculation of mean deviation, standard deviation for discrete probability distributions, marginal and conditional expectations, covariance and correlation for bivariate discrete probability distributions.

UNIT III
Fitting of binomial, Poission and normal distributions (Area method only).

UNIT IV
Curve fitting: Linear, quadratic and exponential; correlation and regression lines.

UNIT V
Internal estimation and tests of significance based on normal and 't' distributions for mean, correlation and proportion, tests of significance based on chisquare and F distribution of variance. Tests for goodness of fit and independence of attributes.

Text Book
Fundamental of Mathematical Statistics-S.C.Gupta, V.K.Kapoor.

Reference Book:
(Course II & III)
1. Mood A.M.Graybill, F.A. and Boes, O.C.-Introduction to theory of statistics, McGraw Hill (1974)
2. Hogg.R.V. and Craig, A.T-Introduction to Mathematical statistics, Colliar Macmillan, 1978-4th Edition.
3. Raghatgi,U.K-An introduction of probability theory and Mathematical statistics, Wiley Eastern 1984.

MATHEMATICAL STATISTICS III – U16AST3

Semester : IV   **Second Allied Course: III**
Instruction Hours/Week:5   **Credit: 3**

UNIT I
Normal distribution – constant, m.g.f, binomial, poission, and chisquare distribution tending to normal, statement of central limit theorem. Characteristics functions and its properties. Statement of uniqueness theorem and continuity.

UNIT II
Continuous distributions – rectangular, Exponential, Beta,Gamma Distributions.
UNIT III
Sampling distributions, 't', 'f' and chisquare distributions.

UNIT IV
Correlation – Rank Correlation, Karl pearson's Correlation coefficient and its properties. Linear Regression and its properties.

UNIT V
Internal Estimation. Test of Hypothesis – Null and alternative hypothesis (concept only) one tail and two tail test, test of significance based on normal and 't' distribution for mean, simple correlation and proportion – Test of significance based on chisquare and F Distribution for variance, test for goodness of fit and independence of attributes.

TEXTBOOK
Gupta S.C and Kapoor V.K, Fundamentals of Mathematical Statistics, Sulthan Chand and Sons, New Delhi – 2002 edition.

Reference Book:
1. Mood A.M., Graybill F.A, and Boes O.c. – Introduction to theory of Statistics, McGraw Hill (1974)
2. Hogg R.V. and Craig, A.t. – Introduction of Mathematical Statistics, Colliar Macmillan, 1978 – 4th Edition.
3. Gupta S.C. and Kapoor, V.K. – Fundamentals of Mathematical Statistics, Sultan Chand and Sons.

OPERATIONS RESEARCH – U16MS9E

Semester: V   **Major Based Elective – I**
Instruction Hours/Week: 5   **Credit:4**

(In all the Units No Book Work need to be proved – Only applications of the Book works need to be taught)

UNIT I
Introduction to Operations Research – Elementary treatment of Linear Programming – Simplex Method for <, =, > constraints.

UNIT II
Application to Transportation problem – Transportation algorithm – Degeneracy algorithm – Degeneracy in Transportation Problem, Unbalanced transportation problem – Assignment algorithm – Unbalanced Assignment problem.

UNIT III
Sequencing : Introduction-Sequence for n Jobs on 2 machines – Processing n Jobs on 3 machines – Processing n Jobs on m machines. Replacement Models.

UNIT IV
PERT CPM network – Critical & sub Critical jobs – Determining the Critical Path – Network Calculation of PERT networks – Probability of PERT.

UNIT V
Inventory theory – Variables in an inventory problem – Techniques of Inventory Control with known demand.
[1] Purchasing Model with No shortage
[2] Purchasing Model with shortage
[3] Manufacturing Model with No shortage
[4] Manufacturing Model with Shortage

TEXT BOOK(S)
[1] Kanti Swaroop, Gupta.P.K & Manmohan, Operations Research, Sultan Chand & Co.
UNIT-I - Chapter 0 sections 0.1 to 0.9., Chapter 2 Sections 2.1 to 2.5, Chapter 3 Sections 3.1 to 3.4, 3.8
UNIT –II - Chapter 9 Sections 9.1 to 9.9 & Chapter 10 Sections 10.1 to 10.3
UNIT-III - Chapter 16 Sections 16.1 to 16.4 & Chapter 18 Sections 18.1 to 18.3
UNIT –IV - Chapter 20 Sections 20.1 to 20.8
UNIT – V - Chapter 17 Sections 17.1, 17.2, 17.4 to 17.6, 17.8, 17.9

REFERENCE(S)
[1] Hamdy A. Taha, Operations Research (7th Edn.), Prentice Hall of India, 2002.
[2] Richard Bronson, Theory and Problems of Operations Research, Tata McGraw Hill Publishing Company Ltd., New Delhi, 1982.

AUTOMATA THEORY – U16MS9E

Semester : V   **Major Based Elective Course: I**
Instruction Hours/Week:5   **Credit: 4**

UNIT I : Finite Automata and Regular Expressions
Definitions and examples-Deterministic and Non deterministic finite Automata-Finite Automata with å – moves-Regular expressions and their relationship with automation.

UNIT II: Context free grammar
Grammar-ambiguous and unambiguous grammars-derivation trees-Chomsky Normal gorm-Greibach normal form.

UNIT III:
Push down Automation-definition and examples- Relation with context free languages – Pumping lemma for CFLs.

UNIT IV:
Finite Automata and lexical analyzer-Minimizing the number of states of a DFA-Implementation of a lexical analyzer.

UNIT V: Basic parsing techniques
Parsers-Top down-Bottom up-Shift reduce-Operator predence-Recursive descent-Predivine Parsing.

TEXT BOOK(S)
1. Introduction to Automata theory, languages and combinatorics by John E.Hopcroft and J.D.UIlman, Narosa Publishing House-Chennai.(Units I,II & III)
2. Principles of Compiler Design by A.V.Aho and J.D.UIlman, Narosa Publishing House-Chennai (Units IV & V)

Unit I - Chapter 2 sections 2.1 to 2.5
Unit II - Chapter 4 sections 4.1 to 4.3, 4.5 to 4.6
Unit III - Chapter 5 sections 5.2, 5.3, Chapter 6 section 6.1
Unit IV - Chapter 3 sections 3.1 to 3.8
Unit V - Chapter 5 sections 5.1 to 5.5

ASTRONOMY – U16MS10E

Semester: V   **Major Based Elective Course: II**
Instruction Hours/Week:5   **Credit: 4**

UNIT I
Relevant properties of a sphere & relevant formulae in spherical trigonometry (All with out proof) – Celestial sphere – Diurnal motion.

UNIT II
Earth-Dip of the horizon – Astronomical refraction – Tangent & Cosine's formula – Properties & Simple problems applying them.

UNIT III
Geocentric parallax - Keplar's Laws of Planetary motion (statement only) – Three anomalies of the Earth and relation between them

UNIT IV
Time , Seasons, Years and Calendar & Simple problems – Heliocentric parallax - Aberration of light

UNIT V
Moon – Motions of Planet - Eclipses

Note: All the units includes worked out problems only, **not exercise problems**

TEXT BOOK(S)
1. S.Kumaravelu and Prof.Susheela Kumaravelu, Astronomy, SKV Publication, 2004.
UNIT I - Chapters 1 (Statements only), Chapter 2 – sections 39 to 83
UNIT II - Chapters 3 Sections 5 & 6 , Chapters 4 sections 117 to 120, 129,130
UNIT III - Chapters 5 sections 135 to 137, Chapter 6
UNIT IV - Chapters 7 Sections 166 to 170, 172 ,173,175 to 179, Chapter 8 sections 190 to 192, Chapter 9 sections 195 to 197
UNIT V – Chapter 12 sections 229 to 241,250, Chapter 13 sections 256 to 270, Chapter 14 sections 285 to 289,292 to 295
REFERENCE (S)
1. V.Thiruvenkatacharya, A Text Book of Astronomy, S.Chand and Co., Pvt Ltd., 1972.

DISCRETE MATHEMATICS – U16MS10E

Semester: V   **Major Based Elective : II**
Instruction Hours/Week: 5   **Credit: 4**

UNIT I
Mathematical Logic- Introduction- Statements and Notations- Connectives-Normal forms.

UNIT II
The Theory of inference- Predicate calculus –Inference theory of predicate calculus.

UNIT III
Set theory – Introduction- Basic concepts of set theory- Operation on sets- Relations and ordering.

UNIT IV
Functions– Definition and Introduction – Composition of Functions – Inverse functions-Characteristics function of a set- Hashing function.

UNIT V
Partially Ordered Sets – Lattice – Lattice as Algebraic System –Some Properties of Lattices – Boolean algebra.

TEXT BOOK(S)
J.P.Trembly and R.Manohar, Discrete Mathematical Structures with Applications to Computer Science, McGraw Hill book Co., 1997.

.
UNIT I: ChapterI:Sections 1.1 to 1.3
UNIT II: ChapterI:Sections 1.4 to 1.6
UNIT III: ChapterII: Sections 2.1 to 2.3
UNIT IV: ChapterII: Sections 2.4 to 2.6
UNIT V: ChapterIV: Sections 4.1 to 4.3

REFERENCE(S)
1. J.E.Hop croft and J.D.Willman, Introduction to Automata Theory, Nicosia publishing House.
2. C.L.Liu, Elements of Discrete Mathematics, McGraw-hill Book Co., 1986.

GRAPH THEORY – U16MS16E

Semester : VI   **Major Based Elective Course: III**
Instruction Hours/Week: 5   **Credit: 4**

UNIT I: Basics and different graphs:
Basic definitions & application of graphs – Isomorphism – sub graphs – walks, paths & circuits – Connected & disconnected graphs – Euler graphs – Hamiltonian paths & circuits.

UNIT II: Trees:
Definition and properties of trees – pendent vertices in a tree – distance & centre in a tree – Rooted & binary trees – Spanning trees – Fundamental circuits – Finding all spanning trees of a Graph.

UNIT III: Cut sets and cut vertices:
Cut sets – Properties of a Cut set – all cut sets in a graph – Fundamental circuits & Cut sets – Connectivity & separability –network flows.

UNIT IV: Planar graphs and coloring:
Planar graphs – Kuratowski's 2 graphs – different representations of planar graphs – detection of planarity-chromatic number – chromatic polynomial.

UNIT V: Matrix representation of graphs:
Incidence matrix – Circuit Matrix – Fundamental Circuit Matrix – Cut set matrix – path & adjacency matrix and the related theorems.

Text Books
1.Narsingh Deo, Graph Theory with applications to Engineering & Computer Science, Prentice Hall of India, New Delhi, 1997.
UNIT I - Chapter 1 Sections 1.1 to 1.5 & Chapter 2 sections 2.1 to 2.9
UNIT II - Chapter 3 Sections 3.1 to 3.9
UNIT III – Chapter 4 Sections 4.1 to 4.6 (excluding theorem 4.4)
UNIT IV - Chapter 5 Sections 5.2 to 5.5 & Chapter 8 Section 8.1, 8.3
UNIT V - Chapter 7 Sections 7.1, 7.2, 7.3, 7.4, 7.6, 7.8, 7.9

REFERENCE(S)
1. Dr.S.Arumugam & Dr.S.Ramachandran, Invitation to Graph Theory, SciTech Publications India Pvt Limited, Chennai 2001.
2. K.R.Parthasarathy, Basic Graph Theory, Tata McGraw Hill Publishing Co., New Delhi 1994
3. G.T.John Clark, Derek Allan Holten, A First Look at Graph Theory, World Scientific Publishing Company, 1995.

STOCHASTIC PROCESSES – U16MS16E

Semester : VI   **Major Based Elective – III**
Instruction Hours/Week:5   **Credit: 3**

UNIT I
Generating function – Laplace transforms – Laplace transforms of a probability distribution function Difference equations – Differential difference equations – Matrix analysis.

UNIT II
Stochastic process – notion – specification – stationary process – Markov chains – Definition and examples – Higher transition probabilities.

UNIT III
Classification of states and chains – Determination of Higher transition probabilities – stability of Markov system – limiting behavior.

UNIT IV
Poisson process and related distributions – generalization of Poisson process – Birth and death process.

UNIT V
Stochastic process in queuing and reliability – queuing systems, m/m/1 models – Birth and death process in queuing theory – Mutti channel models – Bulk Queues.

TEXT BOOK:
Scope and treatment as in "Stochastic Process" by J. Medhi, Chapters 1, 2, 3 (omitting 3.6, 3.7 & 3.8), 4(omitting 4.5 and 4.6) and Chapter 10 (omitting 10.6, 10.7)

Book for Reference:
1. First course in Stochastic Process by Samuel Kartin.
2. Stochastic Process by Srinivasan and Metha (TATA Mc Graw Hill)
3. Elements of Applied Stochastic Process by V. Narayanan.

QUANTITATIVE APTITUDE I - U16NMMS1

Semester: IV   **Non Major Elective Course: I**
Instruction Hours/Week: 2   **Credit:2**

Unit I
Numbers-HCF-LCM-Problem on numbers.

Unit II
Decimal Fractions and Simplification (chapter 3 & 4).

Unit III
Surds and Indices - Percentage - Profit and Loss.

Unit IV
Ratio and Proportion – Partnership – Allegation or Mixture (Chapters 12, 13 & 20).

Unit V
Average – Problems on Age (Chapters 6 & 8)

Text Book:
Scope and treatment as in " Quantitative Aptitude " by R.S.Aggarwal, S.Chand & Company ltd., Ram Nagar, New Delhi (2007).

QUANTITATIVE APTITUDE II – U16NMMS2

Semester: V   **Non Major Elective course: II**
Instruction Hours/Week: 2   **Credit: 2**

UNIT I
Chain Rule – Time – Work and Wages – Pipes and Cisterns (Chapters 10, 11&12)

UNIT II
Simple Interest – Compound Interest – Growth and Depreciation Shares and Debentures (Chapters 14, 15, &16)

UNIT III
Time and Distance – Trains – Boats and Streams (Chapters 17, 18 & 19)

UNIT IV
Clocks – Area of Plane figure – Volume and Surface Area of Solid Figures (Chapters 21, 22 & 23).

UNIT V
Data Interpretation – Data Sufficiency (Chapters 24 & 25)

Text Book:
Scope and treatment as in "Quantitative Aptitude" by Abhijit Guha, Tata McGraw Hill Publishing Company Limited, New Delhi (2005).

SEMESTER – II   COURSE CODE: U16SBE1

PART – IV: COMPUTER APPLICATIONS – I - OFFICE AUTOMATION

HOURS: 2   **CREDITS: 2**

UNIT I:

MS- Word- Introduction to Computers - Hardware - Software, Operating System: Windows XP -MS-Paint, Notepad, WordPad, Introduction to MS-Word, Creating, Editing and Formatting Document - Working with Drawing objects - Text Manipulation

UNIT II:

Working with Tables – Columns – Labels - Plotting, editing and Filling drawing objectsBookmark – Header & Footer - Checking and Correcting a document - Creating Labels – Envelops – Mail Merge – Formatted output and Report generation Printing Documents, Working with Internet.

UNIT III:

Ms – Excel - Ms – Excel: Introduction – Data Entry – Cell Formatting - Plotting Graphs – Workbook Features – Library Functions

UNIT IV:

Conditional Functions and Data Sorting – Limit the data on a worksheet - Data Validation –Data consolidation - Chart creation - Checking and Correcting Data - Tracking and Managing Changes-Advanced Features

UNIT V:

MS – PowerPoint- Introduction - Creating, Editing and Formatting Presentation – Applying Transition and Animation Effects - Applying Design Templates - Viewing and Setting up a Slide Show - Navigating among Different Views - Ms Outlook: Introduction to Folder List – Address Book.

TEXTBOOKS

1. Jill Murphy, Microsoft Office Word- Comprehensive Course, Labyrinth Publications, 2003.
2. McGraw-Hill/Irwin-Deborah Hinkle, Microsoft Office 2003 PowerPoint: A Professional Approach, Comprehensive w/ Student CD, New Delhi, 2003.
3. Nellai Kannan, C., MS-Office, Nels Publications, Tamil Nadu, 2002.

PART – IV: COMPUTER APPLICATIONS - II - DESKTOP PUBLISHING

HOURS: 2   **CREDITS: 2**

UNIT I:

Photoshop Tools : Move, Type, Marquee, Lasso, Crop, Shapes, Healing, Brush, Patch, Cloning Stamp, Eraser, Gradient, Blur, Smudge, Dodge, Pen, Eye Dropper, Patch selection and Zoom tool.

 Layer: New layer, Layer set, Duplicate layer, Rasterize and Merge down
Layer Styles: Drop shadow, inner shadow, outer glow & inner glow, Bevel and Emboss, Gradient overlay, Stroke. Text formatting

UNIT II:

File: Save, File formats, Page set up.   Edit:
Check spelling, Copy merged, Fill, Transform, Define pattern.   Image:
Motion blur, Twirl, lens flare, Glowing edges, lighting effects, solarize, water paper, Stained glass, Mosaic Tiles.   Window:
Character and Paragraph settings.

COREL DRAW:

UNIT III:

Drawing Tools: Pick, Shape, Knife, eraser, Smudge, Roughen brush, free transform, Zoom ,hand, Free hand, Bezier, Artistic, Pen, Poly line, Point, Interactive connective, Spiral tool.
Colour Tool: Paint Bucket Tool, Eye Dropper, Fill Tools. Fill Options, Stroke Options.

UNIT IV:

Special Effects: 3D effects, Add perspective, Blend, Contour, Artistic media, lens, and Power clip.

 Shaping Options: Weld, trim, Intersect.   Text
Effects: Format text, bullet, and fit text to path, align and straighten, spell check.   File
Menu: Save, Save as, Import, Page set Up.

PAGE MAKER:

UNIT V:

Page Maker Tools: Pointer, Rotate, Line, Rectangle, Ellipse, Polygon, Hand, Text, Crop, Rectangle frame tools. Text layout, Style and Objects: Alignments, Styles, fill, frame options, Stroke, Group, Lock, unlock, mask, polygon settings character and paragraph settings.
Text Editing: Edit story: Undo, Redo, Cut, Copy, Paste, paste Special, Spelling check and Find.

File: Page set up, save, Save as.

TEXTBOOKS

1. CorelDraw IN Simple Steps – Shalini Gupta Corel DRAW Bible - DEBORAH MILLER
2. Teach Yourself Adobe Photoshop – Rose Carla Adobe Photoshop Cs Classroom in a Book by Adobe Press.
3. Using Microsoft Word - Asmita Bhatt Pagemaker In Easy Steps - Scott Basham Ctoa Material By Genesis.

PART – IV: COMPUTER APPLICATIONS – II PRACTICAL (DTP LAB)

HOURS: 2   **CREDITS: 2**

OFFICE AUTOMATION & DESKTOP PUBLISHING LAB

UNIT I:

Office Automation

1. MS – Word: Text Formatting, Mail Merge
2. Ms – Excel: Implement the Statistical & Mathematical Function
   (Using Min ,Max, Median, Average, Standard Deviation, Correlation, Logical 'if' Condition) for the given

   data, Prepare a Chart for a given Data using Pie diagram / Histogram

UNIT II:

Photoshop

3. Design a College Broacher / Birthday Card.
4. Cropping, rotating and Overlapping the image.
5. Create a single image from Multiple image.
6. Creating an image with multilayer's.

UNIT III:

Corel Draw

7. Design a Visiting Card \ Greeting Card using Draw & Text tools.
8. Create a logo for a Company \ College.

UNIT IV:

Page Maker

9. Type and format a letter using text tool.
10. Prepare a Invitation for College Day /Sports Day.

PART – IV: ENVIRONMENTAL STUDIES

HOURS: 2   **CREDITS: 2**

UNIT I:

Environment and Natural Resources: Definition, scope, importance of Environmental Studies - Need for public awareness. Natural resources — classification - Associated problems a) Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people. b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. e) Energy resources: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification • Role of an individual in conservation of natural resources • Equitable use of resoureces for sustainable lifestyles.

UNIT II:

Ecosystems • Concept of an ecosystem • Structure and function of an ecosystem • Producers, consumers and decomposers • Energy flow in the ecosystem • Ecological succession • Food chains, food webs and ecological pyramids • Introduction, types, characteristic features, structure and function of the following ecosystem: a. Forest ecosystem b. Grassland ecosystem c. Desert ecosystem d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

UNIT III:

Biodiversity and its conservation • Introduction — Definition: genetic, species and ecosystem diversity • Biogeographical classification of India • Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values • Biodiversity at global, National and local levels • India as a mega-diversity nation • Hot-sports of biodiversity • Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts • Endangered and endemic species of India • Conservation of biodiversity In-situ and Ex-situ conservation of biodiversity

UNIT IV:

Environmental Pollution Definition • Cause, effects and control measures of a. Air pollution b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. Nuclear hazards • Solid waste Management : Causes, effects arid control measures of urban and industrial wastes • Role of an individual in prevention of pollution • Pollution case studies • Diaster management floods, earthquake, cyclone and landslides.

UNIT V:

Social Issues and the Environment • From Unsustainable to Sustainable development • Urban problems related to energy • Water conservation, rain water harvesting, watershed management • Resettlement and rehabilitation of people; its problems and concerns. Case Studies • Environmental ethics: Issues and possible solutions. • Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies • Wasteland reclamation • Consumerism and waste products • Environment Protection Act. • Air (Prevention and Control of Pollution) Act. • Water (Prevention and control of Pollution) Act • Wildlife Protection Act • Forest Conservation Act • Issues involved in enforcement of environmental legislation. • Public awareness.

TEXTBOOKS

1. Ekambaranatha Ayyar.M. and T.N. Ananthakrishnan, 1992. Manual of Zoology Vol. 1 [Invertebrata], parts I and II.S. Viswanathan (Printers and Publishers) Pvt. Ltd; Madras.

2. Agarwal, K.C. 2001 Environmental Biology, Nidi Pubi. Ltd. Bikaner.

3. Sharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad.

4. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.

5. Clark R.S., Marine Pollution, Clanderson Press Oxford (TB)

6. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai,

7. De A.K., Environmental Chemistry, Wiley Eastern Ltd.

8. Down to Earth, Centre for Science and Environment (R)

9. Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute Oxford Univ. Press.

10. Hawkins R.E., Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)

11. Heywood, V.H & Waston, R.T. 1995. Global Biodiversity Assessment. Cambridge Univ. Press

12. Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi.

13. Mckinney, M.L. & School, R.M. 1996. Environmental Science systems & Solutions, Web enhanced edition.

14. Mhaskar A.K., Matter Hazardous, Techno-Science Publication (TB)

15. Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co. (TB)

16. Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA.

17. Rao M N. & Datta, A.K. 1987. Waste Water treatment. Oxford & IBH Pubi. Co. Pvt. Ltd.

18. Sharma B.K., 2001. Environmental Chemistry. Geol Pubi. House, Meerut

19. Survey of the Environment, The Hindu (M)

20. Townsend C., Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (TB)

21. Trivedi R.K., Handbook of Environmental Laws, Rules Guidelines, Compliances and Standards, Vol I and II, Enviro Media (R)

22. Wanger K.D., 1998 Environmental Management. W.B. Saunders Co.Philadelphia, USA

    (M) Magazine (R) Reference (TB) Textbook

SEMESTER – IV   COURSE CODE: U16VE

PART – IV: VALUE EDUCATION

HOURS: 1   CREDITS: 2

UNIT I:

PHILOSOPHY OF LIFE Human Life on Earth (Kural 629), Purpose of Life (Kural 46) Meaning and Philosophy of Life(Kural 131, 226) The Law of Nature (Kural 374) Glorifying All form of Life in this Universe (Kural 322, 327) – Protecting Nature /Universe (Kural 16, 20, 1038)

UNIT II:

INDIVIDUAL QUALITIES Basic Culture (Kural 72, 431) Thought Analysis (Kural 282, 467, 666) Regulating desire (Kural 367), Guarding against anger (Kural 158, 305, 306, 314), To get rid of Anxiety (Kural 629), The Rewards of Blessing (Kural 3), Benevolence of Friendship (Kural 786), Love and Charity (Kural 76), Self – tranquility/Peace (Kural 318)

UNIT III:

SOCIAL VALUES (INDIVIDUAL AND SOCIAL WELFARE) Family (Kural 45), Peace in Family (Kural 1025), Society (Kural 446), The Law of Life (Kural 952), Brotherhood (Kural 807) , The Pride of Womanhood (Kural 56) Five responsibilities/duties of Man : a) to himself, b) to his family, c) to his environment, d) to his society, e) to the Universe in his lives (Kural 43, 981), Thriftness (Thrift)/Economics (Kural 754), Health (Kural 298), Education (Kural 400), Governance (Kural 691), People's responsibility/ duties of the community (Kural 37), World peace (Kural 572)

UNIT IV:

MIND CULTURE Mind Culture (Kural 457) Life and Mind - Bio - magnetism, Universal Magnetism (God – Realization and Self Realization) - Genetic Centre – Thought Action – Short term Memory –

Expansiveness – Thought – Waves, Channelising the Mind, Stages - Meditation (Kural 261, 266, 270), Spiritual Value (Kural 423)

UNIT V:

TENDING PERSONAL HEALTH Structure of the body, the three forces of the body, life body relation, natural causes and unnatural causes for diseases (Kural 941), Methods in Curing diseases (Kural 948, 949) The Five units, simple physical exercises.

TEXTBOOKS

1. Philosophy of Universal Magnetism (Bio-magnetism, Universal Magnetism) The World Community Service Centre Vethatri Publications (for Unit IV)
2. Pope, G.U., Dr. Rev., Thirukkural with English Translation, Uma Publication, 156, Serfoji Nagar, Medical College Road, Thanjavur 613004 (for All Units)
3. Value Education for Health, Happiness and Harmony, The World Community Service Centre Vethatri Publications (for All Units)

SEMESTER – V   COURSE CODE: U16SS

PART – IV: SOFT SKILLS

HOURS: 2   CREDITS: 2

UNIT I:

Know Thyself / Understanding Self Introduction to soft skills self discovery – Developing positive attitude – Improving perceptions – Forming values.

UNIT II:

Interpersonal Skills/ Understanding Others Developing interpersonal relationship –Team building –group dynamics –Net working- Improved work relationship

UNIT III:

Communication Skills/ Communication with others Art of Listening –Art of reading –Art of speaking –Art of writing –Art of writing emails-e mail etiquette

UNIT IV:

Corporate Skills/ Working with Others Developing body language –Practising etiquette and mannerism – Time management – Stress management.

UNIT V:

Selling Self/ Job Hunting Writing resume /cv-interview skills – Group discussion –Mock interview Mock GD –Goal setting –Career planning

TEXT BOOKS

1. Meena. K and V.Ayothi (2013) A Book on Development of Soft Skills (Soft Skills: A Road Map to Success) P.R. Publishers & Distributors, No, B-20 &21, V.M.M Complex, Chatiram Bus Stand, Tiruchirapalli -620 002. (Phone No: 0431-2702824: Mobile No: 94433 70597, 98430 7442) Alex K. (2012)
2. Soft Skills – Know Yourself & Know the World, S.Chand & Company LTD, Ram Nagar, New Delhi - 110 055. Mobile No: 94425 14814(Dr.K.Alex)

REFERENCE BOOKS

1. Developing the leader within you John C Maxwell
2. Good to Great by Jim Collins
3. The Seven habits of highly effective people Stephen Covey
4. Emotional Intelligence Daniel Goleman
5. You can Win Shive Khera

Principle   centred   leadership   Stephen   Covey

PART – V: GENDER STUDIES

HOURS: 1   **CREDITS: 1**

UNIT I:

Concepts of Gender: Sex-Gender-Biological Detertninism- Patriarchy- Feminism -Gender Discrimination -Gender Division of Labour -Gender Stereotyping-Gender Sensitivity - Gender Equity —Equality-Gender Mainstreaming Empowerment

UNIT II:

Women's Studies Vs Gender Studies: UGC's Guidelines - VII to XI Plans- Gender Studies: Beijing Conference and CEDAW-Exclusiveness and Inclusiveness.

UNIT III:

Areas of Gender Discrimination: Family Sex Ratio-Literacy -Health -Governance Religion Work Vs Employment- Market - Media - Polities Law Domestic Violence — Sexual Harassment — State Policies and Planning

UNIT IV:

Women Development and Gender Empowerment: Initiatives International Women's Dcca4e -International Women's Year - National Policy for Empowerment of Women - Women Empowerment Year 2001- Mainstreaming Global Policies.

UNIT V:

Women's Movements and Safeguarding Mechanism:— In India National / State Commission for Women (NCW) - All Women Police Station Family Court- Domestic Violence Act - Prevention ofSexual Harassment at Work Place Supreme Court Guidelines - Maternity Benefit Act - PNDT Act - Hindu Succession Act 2003 Eve Teasing Prevention Act - Self Help Groups 73 and 74 Amendment for PRIS.

TEXTBOOKS

1.   Bhasin Kamala, Understanding Gender: Gender Basics, New Delhi: Women Unlimited 2004
2.   Bhasin Kamala, Exploring Masculinity: Gender Basics, New Delhi: Women Unlimited, 2004
3.   Bhasin Kamala, What is Patriarchy? : Gender Basics, New Delhi: Women Unlimited, 1993
4.   Pernau Margrit Ahmad Imtiaz, Reifeld Hermut (ed.,) Family and Gender: Changing Values in Germany and India, New Delhi: Sage Publications, 2003
5.   Agarwal Bina, Humphries Jane and Robeyns Ingrid (ed.,)
6.   Capabilities, Freedom, and Equality: Amartya Sen's Work from a Gender Perspective, New Delhi: Oxford University Press, 2006

7. Rajadurai.S.V, Geetha.V, Themes in Caste Gender and Religion, Tiruchirappalli: Bharathidasan University, 2007 Misra Geetanjali, Chandiramani Radhika (ed.,)

8. Sexuality, Gender and Rights: Exploring Theory and Practice in South and Southeast Asia, New Delhi: Sage Publication, 2005 Rao Anupama (ed.,)

9. Gender &Caste: Issues in Contemporary Indian Feminism, New Delhi: Kali for Women, 2003

10. Saha Chandana, Gender Equity and Gender Equality: Study of Girl Child in Rajasthan, Jaipur: Rawat Publications, 2003

11. Krishna Sumi,(ed.,) Livelihood and Gender Equity in Community Resource Management New Delhi: Sage Publication, 2004

12. Wharton .S Amy, The Sociology of Gender: An Introduction to Theory and Research, USA: Blackwell Publishing, 2005.

13. Mohanty Manoranjan (ed.,) Class, Caste, Gender: Readings in Indian Government and Politics- 5, New Delhi: Sage Publications, 2004.

14. Arya Sadhna, Women, Gender Equality and the State, New Delhi: Deep & Deep Publications, 2000.