NATIONAL COLLEGE (AUTONOMOUS)

Nationally Accredited at "A" Level by NAAC
Tiruchirapalli – 620 001
Under Graduate Programmers Structure under CBCS
(For candidates admitted from the year 2016 – 2019 onwards)

BCA

Aim:

➤ A small section of the curriculum of BCA is generalist in nature with focus on the main subjects of computer applications. The approach to fundamentals of computers is a vital section wherein the basic attributes of computers and its applications are discussed.

Objective:

➤ The objective of this programme shall be to provide sound academic base from which an advanced career in Computer Application can be developed.
➤ Conceptual grounding in computer usage as well as its practical business application will be provided.
➤ The program caters to the needs of the students aspiring to excel in the fields of computers.
➤ The program is designed to develop computer professionals versatile in almost all field of computer application.
➤ The main emphasis of the course is an applied computer use in various fields.

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SEM	PART	Course Title	Instru. Hours/ Week	Credit	Marks Int 25	Marks Ext 75	Total
I year I sem	I	Tamil – I / Hindi – I / Sanskrit – I U16T1, U16H1, U16S1	6	3	25	75	100
	II	English - 1 U16E1	6	3	25	75	100
	III	U16CA1 – Programming in C	5	5	25	75	100
		U16CA2P -Programming in C Lab	**3**	**3**	**25**	**75**	**100**
		U16 AMS1C – Allied Mathematics – I	5	3	25	75	100
		U16 AMS2C – Allied Mathematics – II	3	--	--	--	-
	IV	U16ES – Environmental Studies	2	2	25	75	100
		Paper : 7	**30**	**19**			**600**
I year II sem	I	Tamil – II / Hindi – II / Sanskrit – II U16T2, U16H2, U16S2	6	3	25	75	100
	II	English - II U16E2	4	2	25	75	100
		Communicative English - I U16CE1	2	1	25	75	100
	III	U16CA3 - OOPs Using C++	3	3	25	75	100
		U16CA4P – Programming in C++ Lab	**5**	**5**	**25**	**75**	**100**
		U16 AMS2C – Allied Mathematics – II	3	3	25	75	100
		U16 AMS3C – Allied Mathematics – III	5	3	25	75	100
	IV	U16SBE1C – Skill Based Elective I – Web page designing using HTML	2	2	25	75	100
		Paper : 8	**30**	**22**			**800**
II year III sem	I	Tamil – III / Hindi – III / Sanskrit – III U16T3, U16H3, U16S3	6	3	25	75	100
	II	English - III U16E3	6	3	25	75	100
	III	U16CA5 – Visual Basic Programming	6	4	25	75	100
		U16CA6P- Visual Basic Programming Lab	**3**	**3**	**25**	**75**	**100**
		U162 ACO1C – Financial Accounting	5	3	25	75	100
	IV	U16SBE2C - Skill Based Elective II – Java Script and ASP	2	2	25	75	100
		U16SBE3CP – HTML, Java Script and ASP Lab	**2**	**2**	**25**	**75**	**100**
		Paper : 7	**30**	**20**			**700**

II year **IVsem**	I	Tamil – IV / Hindi – IV / Sanskrit – IV U16T4, U16H4, U16S4	6	3	25	75	10
	II	English - IV U16E4	4	2	25	75	100
		Communicative English - II U16CE2	2	1	25	75	100
	III	U16CA7 – Digital Computer Fundamentals	5	5	25	75	100
		U16ACO2CTP – Accounting Package (Theory (45)& Lab(30))	**4**	**3**	**25** **(15+10)**	**75** **(45+30)**	**100**
		U16 ACO3C– Organization Behavior	5	3	25	75	100
	IV	U16NMCS1 – Basic Concepts of Computer Science	2	2	25	75	100
		U16VE – Value Education	2	2	25	75	100
		Extra Credits I : E- Commerce.	-	*4**	25	75	*100**
		Extra Credits II : Multimedia Technology.	-	*4**	25	75	*100**
		Paper : 8	**30**	**21**			**800**
III **year** **V sem**	III	U16CA8 – Java Programming	5	3	25	75	100
		U16CA11P – Java Programming Lab	**5**	**6**	**25**	**75**	**100**
		U16CA9E– Software Engineering	5	5	25	75	100
		U16CA10E – Computer Graphics	5	5	25	75	100
		U16CA12 – Database System	6	5	25	75	100
	IV	U16NMCS2-Internet and its Applications	2	2	25	75	100
		U16SS– Soft Skill	2	2	25	75	100
		Extra Credits III: BPO (Business Processing Outsource).	-	*4**	25	75	*100**
		Paper : 7	**30**	**28**			**700**
III **year** **VI** **Sem**	III	U16CA13 – Computer Networks	6	6	25	75	100
		U16CA14 – PHP and Scripting Languages	6	6	25	75	100
		U16CA15P – PHP Lab	**6**	**4**	**25**	**75**	**100**
		U16CA17 – Project Work	**6**	**6**	**25**	**75**	**100**
		U16CA16E – Operating System	5	6	25	75	100
	V	U16GS – Gender Studies	1	1	25	75	100
		Extension Activity		1	25	75	100
		Extra Credits III: Cloud Computing.	-	*4**	25	75	*100**
		Paper : 6	**30**	**30**			**600**
		GRAND TOTAL	**180**	**140**	**-**	**-**	**4200**

*Extra Credits are not included in Grand Total.

Njrpaf;fy;Y}up (jddhlrp)> jlUrrmhggsSsp – 1.

Kjw;gUtk;

jhs; nkhopgghlk; - 1 nraAs; (, f;fhyk)> ci uei l> rlWfi j> , yf;fpatuyhW

U16T1

fwgpfFk; fhyk; 6 kz p   **jugGsspfs; 3**

myF 1:   ghujpahu;   - guknghUs; thoj;J

           ghujpj hrd;   - elqfNs nrhyYqfs;

           ftpkz p   - Nfhtpy; topghL

           glLfNfhl;i l ahu;   - xz z hapUffZ k; mz z hrrp

           ehkf;fyyyhu;   - Rj ej puk; ahJ?

myF 2:   fz z j hrd;   - Ntz ;Lk; Ntz ;Lk;

           thyp   - Gddi f kd;dd;

           i tuKj;J   - ghuj p epi df;fggLfpwhd;

           K.Nkj j h   - RtUk; geJk;

           mgJy; uFkhd; - j twhd vz ;

myF 3:   **ci uei l:**

           1.   gukgi uf;Fz k;   - c .Nt.rh

           2.   fy;tp   - ahogghz k; nghddkgyggpsi s

           3.   , yf;fpaKk; r%fKk;   - v] ;i tahGupggpsi s

           4.   fi yAk; fwgi dAk;   - uh.gpNrJggpsi s

           5.   Fws; fhl;Lk; newp   - fpM.ng.tpRtehj k;

           6.   , awi ff; fhl;rpfs;   - fp th.[feehj d;

           7.   rka , yf;fpaqfspy; mwnewp   - Fdwf;Fb mbfshu;

myF 4:   **rlWfi j:**

           1.   j ei j Ak; kfDk;   - fyfp

           2.   fl TS k; fej rhkpggpsi sAk;   - GJi kggpj j d;

           3.   elpgj p tf;fpyhdhu;   - mz z hJi u

           4.   Kj ygpby;   - e.gprr%ujj p

           5.   fhfpj cwT   - R.rKj j puk;

           6.   kNdhghtk;   - tyypfz z d;

           7.   kdpj aej puk;   - tpej d;

           8.   gri rffdT   - yh.r. uhkhkpuj k;

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

       , yf;fpa tuyhW   (trdftpi j> GJfftpi j> ci uei l> rlWfi j kl;Lk)

ghl E}y;   jkp; - KjwgUtk; - Njrpaf;fyY}up ntspaL

        , yf;fpatuyhW - Njrpaf;fyY}up ntspaL

jkpha;Tj;Ji w> Njrpaf;fyY}up (jddhlrp)> jlUrrmhggsSsp – 1.

, uz ;l hk; gUtk;

jhs; nkhopgghlk; - 2 nraAs; (gfjp mw , yf;fpaqfs)> Gjpdk> , yf;fpa tuyhW.

U16T2

fwgpfFk; fhyk; 6 kz p   **jugGsspfs; 3**

myF 1: jlUQhdrkgeju;   -   jlUthi df;fh   gjpfk;   -   ki oahu; kpl whkO

                    thSi l aha;.

           jlUehTf;furu;   -   tpl k; jlpjj   gjpfk;   -   xdW   nfhyhk;   mtu;

                    rpei j Aau;ti u

          ngupaho;thu; - jlUtuq;fk; ghRuk; 2 - kutbi aj; j kgpfF

FyNrfuu; - t'j;Jtf; Nfhl;L mk;khi d Ntz;b e'wy; - jUJauk;….10

myF 2: tssyhu; - j'UtUlgh - ngwhgNgW - Mth vdwi d MI;nfhz;lUs;p.10

jhAkhdtu; - gdkhi y - gdkhi y j'us;Uff...9

, NaRfhtpak; - c ti k top nrajp - fl Nyhuk; xUehs; VR ep'dwhu;.

Fz q;Fb k] jhd; - ep'hkaffz z p – 1-25 fz z pfs;

myF 3: ehdkz pf;fbi 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)

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

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

myF 4: Gj'dk; - fddpfh - uFehj d; Ji w ntspaL

myF 5: , yffpa tuyhW (i rtk;>i tz tk;>rkz k;>ngsjj k>fpwjj;Jtk> Kfkj'ak;

kwWk; Gj'dk; gwwpad kl;Lk)

ghlE}y; jkp; - , uz ;hkgUtk; - Njrpaffy;Y}up ntspaL.

fddpfh - rl j gj'ggf ntspaL> nrdid.

, yffpatuyhW - Njrpaffy;Y}up ntspaL.

jkpha;Tj;Ji w> Njrpaffy;Y}up (jd;dhl;r)> j'Urrphggsssp – 1. %dwhk; gUtk;

jhs; nkhopghl k; - 3 nra;As; (fhggpak)> ehl fk> , yf;patuyhW

U16T3

fwgpfFk; fhyk; 6 kz p   **jugssspfs; 3**

myF 1: r'yggjpfhuk; - el'ggi l fhi j

kz 'Nkfi y - ghjjpuk; ngww fhi j

myF 2: fkguhkhaz k; - Ajj fhz ;l k; - , ejpurpj;J ti jgglyk;

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

myF 3: Njkghtz p - tsd; rdpj gl yk;

r'whgGuhz k; - khDf;Fg;gpi z epdw gl yk;

ghQrhyp rgj k; - #jhl;l r; rUffk;

myF 4: ehl fk; xjjpi f – m. , uhkrhkp (vdrpg'vr; ntspaL)

myF 5: , yffpa tuyhW (fhggpak> Guhz k> ehl fk; gwwpad kl;Lk)

ghlE}y; jkp; - %dwhkgUtk; - Njrpaffy;Y}up ntspaL.

xjjpi f – m. , uhkrhkp (vdrpg'vr; ntspaL)

, yffpatuyhW - Njrpaffy;Y}up ntspaL.

jkpha;Tj;Ji w> Njrpaf;fy;Y}up (jd;dhlrp)> jUrrphggsSp – 1.

ehd;fhk; gUtk;

jhs; nkhopghlk; - 4 nraAs; (gz ila , yf;fpak> , yf;fpatuyhW> nkhopgaugG)
U16T4

fwgpfFk; fhyk; 6 kz p   jugGsspfs; 3

myF 1:

ewwpi z :   1. Ntu; gpz p ntjpuj;J – ghi y - , sqpfUdhu;
                   2. rpyUk; gyUk; fi lffz; - neaj y; - c Nyhrrdhu;
                   3. mupfhy; khwpa mk; fz; - kUjk; kpi sffphdeyNtll dhu;
                   4. , i y , y gpl tk;Kyi y - tpipffl Ngi jg; ngUqfz z dhu;
                   5. Gjy;td; <dw Gqfz ; - FwpQrp

FWenjhi f :1. nfhq;F Nju; thofi f - FwpQrp - , i wadhu;
                   2. , bfFq; Nfspu; - FwpQrp - ntsspt}pahu;
                   3. ahuz q;Fwwi d flNy - neaj y; - mk%tdhu;
                   4. khup ahkgydd - neaj y; - Fdwpadhu;
                   5. c kz u; NrueJ fopej kUqfpd; - ghi y - ngUqfLqNfh
                   6. Ml i k Gi uAk; - ghi y - XNuUotdhu;
                   7. Kspj apu; gpi rej - Kyi y - $lY}u; fpohu;
                   8. , si k ghuhu; - Kyi y - xf;$u; khrhjjpahu;
                   9. Ntkgpd; i gqfha; - kUjk; - kpi sffejdhu;

myF 2:

mfehD}W: 1. gi djjpus; mdd - FwpQrp - guz u;
                   2. gi rgL gri r - Kyi y - kJi u kssdhu;
                   3. , ki k c yfj;J , i rnahLk; - kUjk; - nry;Y}ufNfhrpFd;
                   4. jpi uc oeJ mi r , a - neaj y; - c Nyhrrdhu;
                   5. mspepi y nghwhmJ mkupa – ghi y - ngUqfLqNfh

fyjpjnjhi f: 1. RlujnjhB, Nfsha; - FwpQrp
                   2. fhu; Mug; ngaj fb nfhs; - Kyi y
                   3. tpq;F elu; mtpo; eyk; gfutu - kUjk;
                   4. khkyu; Kz l fk; - neaj y;
                   5. mupjha mwndajp - ghi y

myF 3:

GwehD}W :   1. xUehl; nryyyk; - ghlhz; - xsi tahu;
                   2. gi lgGggy gi l j;J - nghJtpay; - mwpTi l ekgp
                   3. , i sNahu; #lhu; - nghJtpay; - Fl thapy; flujjdhu;
                   4. gyrhdwNu - nghJtpay; - eupnt&cj; ji yahu;
                   5. fhaney; mWj;Jfftsq; nfhspNd - ghlhz; -

gprphei j ahu;

jpUfFws;   1. mwd; typAWjjy> 2.gz Gi li k> 3. xOffKi li k>
                   4. thai k> 5. C o> 6.nrhy;tdi k

myF 4: Kyi ygghlL KOi kAk;
myF 5: , yf;patuyhW (gjpndz ; Nkwfz f;F> fbffz f;F)> nkhopgaugG>
            nghJffl;Li u
ghlE}y;   1. jkp; - ehd;fhkgUtk; - Njrpaf;fy;Y}up ntspaL.

               2. , yf;patuyhW - Njrpaf;fy;Y}up ntspaL.

U16H1

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

<div align="center">QUESTION PAPER PATTERN</div>

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

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

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)

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

SEMESTER – III
PAPER III – MODERN AND MEDIEVAL POETRY, DIOLOGUE WRITING AND TRANSLATION – I

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**
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**

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

<div align="center">

QUESTION PAPER PATTERN
SECTION- A (20 Marks)
</div>

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 लिपि: - परिचय:

१। स्वरा: (१५)
२। व्यञ्जनानि (३३)
३। संयुक्ताक्षराणि
४। संयुक्ताक्षराणां लेखनप्रकार:
५। विसर्गस्य प्रयोग: तस्य उच्चारणप्रकारश्च।

Unit II

कर्तृपदानि - परिचय:

१। अकारान्त-शब्दा: (पुंलिङ्ग:)
    देव:
२। अकारान्त-शब्दा: (नपुंसकलिङ्ग:)
    फलम्
३। लिङ्गा: - सामान्यविधि:
    अ। पुंलिङ्ग:
    आ। स्त्रीलिङ्ग:
    इ। नपुंसकलिङ्ग:
४। लिङ्ग: वचनम् विभक्ति: च
    केवलम् एकवचनम् बहुवचनम् च
५। अनुवाद-अभ्यास: -
    अ। आङ्गल/तमिल् भाषात: संस्कृते
    आ। संस्कृतात् आङ्गल/तमिल् भाषायाम्

Unit III

१। क्रियापदानि (परिचय:)

१। वर्तमानकाले परस्मैपदिन: धातव:
    अ। अन्यपुरुष:/प्रथमपुरुष:
    आ। मध्यमपुरुष:
    इ। उत्तमपुरुष:
    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, किमर्थं, कुतः, कदा

४। क्रियापदानि - (द्वितीय-स्तरः)

वर्तमानकाले परस्मैपदिनः धातवः
भू (भव), 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)
अकारन्त-शब्दः पुंलिङ्गः/नपुंसकलिङ्गः

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

३। विभक्तीनां पुनः परिचयः (तृतीयस्तरः)
अकारन्त-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

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 (गच्छ्)
२। पठ्
३। वद्
३। लृट् लकारः - भविष्यत्कालः (अधिकम्)
४। पत्
५। लिख् (लेख्)
६। क्रीड्
४। लृट् लकारः - भविष्यत्कालः (अधिकम्)
७। आ - गम् (गच्छ्)
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)

Unit III १। भोज्य-पदार्थ-नामानि

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)

२। वार्तालापः

३। क्त-प्रत्यय-धातवः

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

क्त-प्रत्यय-धातवः

आगतः आगता आगतम्
लिखितः लिखिता लिखितम्
खादितः, खादिता, खादितम्
लट् लकारे एव -
भक्ष्, खेल्, पाल्, तुल्,
मार्, गण्, कथ्, क्षाल्,

३। क्रियापदानि

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

३। क्रियापदानि

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.

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. शब्दा:(कर्तृपदानां परिचय:)

१। इकारान्त: पुल्लिङ्ग: कवि शब्द:
तस्य केचन समानान्तशब्दा: च।
एकवचनं तथा बहुवचनम् एव।
हरि:, रवि:, अरि: ऋषि:, पति:,यति: इत्यादय: ।:

२। सर्वनामशब्द:
दकारान्त: स्त्रीलिङ्ग: तद् शब्द:
एकवचनं तथा बहुवचनम् एव।

३। इकारान्त: स्त्रीलिङ्ग:: मति शब्द:
तस्य एकवचनं तथा बहुवचनम् एव।
तस्य केचन समानान्तशब्दा: - रुचि:, शान्ति:
कीर्ति:, बुद्धि:, मुक्ति: इत्यादय:

४। उपर्युक्त-शब्दानां वाक्येषु उपयोग:
अनुवाद-अभ्यास: च (संस्कृत-तमिल्/संस्कृत-
आङ्गल/आङ्गल-संस्कृतेषु)

Unit II

क्रियापदानि

१। लट् लकार: (वर्तमानकाल:)

२। लट् लकार: (वर्तमान्काल:) - अधिकम्

३। लट् लकार: (वर्तमानकाल:) -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। तर्क्

७। तप्

८। नट्

Unit IV

१। लङ् लकार-परिचयः (भूतकालः)

१। भूतकालः नाम किम्?
भूतकालिक-क्रियापदानां परिचयः।
१। गम् (गच्छ)
२। पा (पिब्)
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, कार्त्तीकः, 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, नवनी, दशमी,
एकादशी, द्वादशी, त्रयोदशी, चतुर्दशी,
अमावास्या (अमाः), पूर्णीमा (पौर्णमी)

| ७। नवग्रहनामानि | सूर्य, चन्द्रः, कुजः, बुधः, गुरुः, शुक्रः, शनैश्वरः, राहुः, केतुः |
| ८। संख्या-वाचकपदानि | षड्विंशतिः आरभ्य पञ्चाशत् पर्यन्तम्।(२६-५०) |

Prescribed Book:

सरलसंस्कृतशिक्षकः भागः २, भारतीयविद्याभवनम्, कुलपतिःमुन्शी मार्गः, मुम्बई, ४०००००७

Reference:

1. Samskrt for Beginners, Dr M. Narasimhachari & Dr S. Ramaratnam, N&R Publications, Mylapore, Chennai 60004.
2. संस्कृत-व्यवहारसाहस्री, संस्कृत-भारती, माता मन्दिर 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

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

२। शब्दाः (कर्तृपद-परिचयः)

१। उकारान्तः पुल्लिङ्गः गुरु शब्दः
केचन समानान्त-शब्दाः च।
एकवचनम् तथा बहुवचनम् केवलम्।
पशुः, मनुः, साधुः, शिशुः, प्रमुः 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

१। अञ्च्
२। दल्
३। नन्द्
४। यच्छ्
५। धृ (धरति)

२। लट्/लृट् लकारौ
नूतनक्रियापदानि

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, मेधः।

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

	3
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, धेनुःगौः, 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 मन्दिर 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 : English for Competitive Examinations 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

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

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

POETRY:

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

DRAMA:

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

Semester I   **Hours/Week: 5**

Core Course I (U16CA1)   **Programming in C**   **Credit: 5**

Objective:

- ➢ To understand the syntax and the semantics of C programming language.
- ➢ To be able to build own logic for a given problem and finally develop one's own programs.

UNIT I: Evolution and Application of C – Structure of a C Program – Data types – Declarations – Operators – Expressions – Type Conversions – Built – in Functions.

UNIT II: Data Input and Output – Control Statements: IF, ELSE – IF, GOTO, SWITCH, WHILE, DO – WHILE, FOR, BREAK and CONTINUE.

UNIT III: Functions: Defining and Accessing Arguments – Recursive functions – Storage classes –Arrays: Defining and Processing Arrays – Multidimensional arrays – Passing arrays to functions – Arrays and strings – String Functions – String Manipulations.

UNIT IV: Pointers – Pointer Declarations – Operations on Pointers – Pointers to Functions – Pointer and Strings – Pointers and arrays – Arrays of Pointers – Structures – Structures and Pointers – Unions.

UNIT V: Data files – Opening, Closing and processing files – Files with structures and Unions – Register variables – Bitwise Operations – Macros – Preprocessing.

Text Book:

E. Balagurusamy, *"Programming in C "*, 4th Edition, Tata McGraw Hill Publications.

Unit 1: chapter 1 (sec 1.1, 1.2, 1.8) chapter 2(sec 2.7- 2.9) chapter

 3(sec 3.1-3.12, 3.14), appendix-iii.

Unit 2: chapter 4(sec 4.1-4.5) chapter 5(sec 5.1-5.9) chapter 6(sec 6.1-6.5)

Unit3: chapter 9(sec9.1, 9.4-9.14, 9.16, 9.19) chapter 7(sec 7.1-7.7)   chapter 9(sec 9.17) chapter 8(sec 8.9), appendix iii, chapter 8(sec 8.8)

Unit 4: chapter 11(sec 11.1, 11.4-11.6, 11.9, 11.12, 11.15) chapter 10(sec 10.1- 10.5)

chapter 10(sec 10.1-10.5) chapter 11(sec 11.16) chapter 10(sec 10.12)

Unit 5: chapter 12(sec 12.1-12.4, 12.6), appendix-i, chapter 14(sec 14.1-14.2)

Reference Books:

1. Byron S. Gottfried, *"Programming with C"*, 2nd Edition, Schaum's outline series, Tata McGraw Hill Publications.
2. Mullish Cooper, *"The Spirit of C"*, 4th Edition, Schaum's Outline Series, Tata McGraw Hill Publications.

Semester I   **Hours/Week: 3**

Core Course II (U16CA2P)   **Programming in C Lab**
Credit: 3

Objective:

➢ To introduce students the rudiments of computer programming and Programming methodology using C language.

Program to implement the following concepts

  1. Control statements
  2. Looping structures

3. Functions
4. Arrays
5. String manipulations
6. Structures
7. Application
8. Debugging

Semester I   **Hours/Week: 5**

Allied Course I (U16AMS1C)   **Mathematics – I**   **Credit: 3**

UNIT I:

Algebraic and Transcendental equations: Finding the root of the equation using Bisection method, Newton Raphson method, Iteration method, Method of false position. (problem only)

UNIT II:

Finite differences – forward, backward differences – Newton's forward and backward difference interpolation formulae.   Lagrange's interpolating polynomial. (problem only)

UNIT III:

Measures of Central Tendency – Measures of Dispersion –Moments and measures of Skewness and Kurtosis.

UNIT IV:

Theory of probability - Definitions of Probability – Sample space -   Probability of an Event – Independence of Events – Theorems on Probability – Conditional Probability – Baye's Theorem.

UNIT V:

Correlation and Regression – Properties of Correlation and Regression Coefficients – Numerical Problems for Finding the Correlation and Regression Coefficients.

Text Books:

1. Introductory Methods of Numerical Analysis, S.S. Sastry, fourth edition , 2010,PHI(P)Ltd.
2. Business Statistics, P.R.Vittal, 2001, Margham Publication.

Unit I   : Book 1: Chapter 2 – Sec 2.1-2.5
Unit II   : Book 1: Chapter 3 – Sec 3.3.1,3.3.2,3.6,3.9.1
Unit III   : Book 2: Chapter 5 – Page No. 50-84, Chapter -6,7
Unit IV   : Book 2: Chapter 14 –Page no. 370-408
Unit V   : Book 2: Chapter 8 – Page no. 177-223, Chapter 9- Page no.224 -225.

Semester I & II   **Hours/Week: 6**

 U16 AMS2C   **Allied Course II - Mathematics -2**   **Credit: 3**

UNIT I

Operations Research: Introduction – Basics of OR – Linear programming formulations &graphical solution of two variables – Canonical & standard forms of LPP. Simple Method: Simplex Method for $< =$ constraints only.

UNIT II

Transportation problem: Finding the IBFS by North West corner rule, least cost method, VAM method. Optimal solution by MODI method – Degeneracy in Transportation Problem, Unbalanced transportation problem and Maximization problem

UNIT III

Assignment algorithm – Balanced assignment problem – Unbalanced Assignment problem, travelling sales man problem. Game theory – introduction – saddle point (with and without) –mixed Strategy.

UNIT IV

Sequencing problem: Processing of n jobs through two machines – Processing of n jobs through 3 machines – processing of two jobs through m machines.

UNIT V

Networks: Network – Fulkerson's rule – measure of activity – PERT computation – CPM computation – Resource scheduling.

Text Book:

1. Manmohan & Gupta, *"Operations Research"*, Sultan Chand Publishers, New Delhi

UNIT 1: CHAPTER 2(sec 2.1, 2.2), CHAPTER 3(sec 3.1-3.5), CHAPTER 4(sec 4.3, 4.4)
UNIT 2: CHAPTER 5(sec 5.1-5.3, 5.7, 5.9), CHAPTER 10(sec 10.1-10.3, 10.9, 10.12, 10.14)
UNIT 3: CHAPTER 11(sec 11.1-11.4, 11.6), CHAPTER 17(sec 17.1-17.5)
UNIT 4: CHAPTER 21(sec 21.1, 21.7)
UNIT 5: CHAPTER 12(sec 12.1-12.6)

Reference Books:

1.Prem Kumar Gupta and D.S. Hira, *"Operations Research: An Introduction"*, S.Chand and Co., Ltd. New Delhi,

2. Hamy A.Taha, *"Operations Research"*, 7th Edition, McMillan Publishing Company, New Delhi, 1982.

Semester II		**Hours/Week: 3**
Core Course III (U16CA3)	**OOPS Using C++**	**Credit: 3**

Objective:

➢ To gain knowledge of objects, Class, Data Abstraction, Encapsulation, Inheritance, Polymorphism and Dynamic Binding.
➢ To know about constructing programs using Bottom-up design approach.

UNIT I: Principles of Object Oriented Programming – Software Evolution – Basic Concepts of Object Oriented Programming – Benefits of OOP – Applications of OOP – Structure of C++ Program – Tokens – Keywords – Identifiers and Constants – Basic Data Types – User Defined Data Types – Derived Data Types – Declaration of Variables – Operators – Manipulators – Expressions and their types – Control Structures.

UNIT II: Functions – The Main Function – Function Prototyping – Call by Reference – Return by
Reference – Inline Functions – Default Arguments – Function Overloading. Classes and
Objects –Specifying a Class – Defining Member Functions – A C++ program with Class – #
Static Data Members – Static Member Functions – Arrays of Objects – Objects as Function
Arguments – Friendly Functions – Returning Objects.

UNIT III: Constructors and Destructors – Constructors - Parameterized Constructors –
Multiple Constructors in a Class – Copy Constructors – Destructors – Operator Overloading
– Defining Operator Overloading – Overloading Unary Operators – Overloading Binary
Operators – Overloading Binary Operators using Friends – Rules for Overloading
Operators.

UNIT IV: Inheritance: Extending Classes – Defining Derived Classes – Single Inheritance –
Multilevel Inheritance – Multiple Inheritance – Virtual Base Classes – Pointer, Virtual
Functions and Polymorphism – Pointers - Pointers to Objects – this Pointer – Pointers to
Derived Classes – Virtual Functions – Pure Virtual Functions.

UNIT V: Managing Console I/O Operations – C++ Streams – C++ Stream Classes –
Unformatted I/O
Operations – Formatted Console I/O Operations – Working with Files – Classes for File
Stream Operations – Opening and Closing a File – Detecting End-of-file – More about
Open( ): File Modes .
Text Books:

E.Balagurusamy, *"Object–Oriented Programming with C++"*, 4nd Edition, 2008.

UNIT 1: Chapter 1, Chapter 2 Section 2.6, Chapter 3
UNIT 2: Chapter 4 (Sec 4.1 – 4.7, 4.9), Chapter 5(Sec 5.3 – 5.6, 5.11 – 5.16)
UNIT 3: Chapter 6 (Sec 6.1 – 6.4, 6.7, 6.11) Chapter 7(Sec 7.1 – 7.5, 7.7)
UNIT 4: Chapter 8 (Sec 8.1 – 8.3, 8.5, 8.6, 8.9) Chapter 9(Sec 9.1 – 9.7)
UNIT 5: Chapter 10 (Sec 10.1 – 10.5) Chapter 11 (Sec 11.1 – 11.5)

Reference Books:
Robert Lafore, *"Object–Oriented Programming in Microsoft C++"*, 2nd Edition, Galgotia
Publications, New Delhi, 2000.

Semester II   **Hours/Week: 5**

Core Course IV (U16CA4P)   **Programming in C++ Lab**   **Credit: 5**

Objectives

➢ To get the Knowledge about different Object Oriented Features.
➢ To understand Object Oriented and Object based programming paradigm in event
based programming environment

Program to implement the following concepts

1. Class and Object
2. Functions using

    (i) Call by value

    (ii) Call by reference

    (iii) Recursive call

3. Constructor and its types
4. Function Overloading
5. Operator Overloading
6. Inheritance
7. File Handling concept

Semester II   **Hours/Week: 5**

Allied Course III (U16 AMS3C)   ALLIED 3 -Mathematics - III   **Credit: 3**

UNIT – I

Integration - Integrals of functions containing linear functions of x -Integrals of functions involving $a2 + x2$ - integrals of Rational algebraicfunctions - Integration of irrational functions.

UNIT – II

Properties of definite integrals - Simple applications - Integration by parts - Bernoulli's formula.

UNIT – III

Differential equations of first order - Variable separable -Homogeneous equations - Nonhomogeneous equations - Linear equation -Bernoulli's equation.

UNIT – IV

Second order Linear equations with constant co-efficients - Particularintegrals for e(kx), sin kx, cos kx, xn and e(kx) X.

UNIT – V

Laplace transform - Definition - Some general theorems - InverseTransform.

Text Book:

1. Ancillary Mathematics, Vol-II (2009), S. Narayanan, R. HanumanthaRao, T.K. Manicavachagom Pillay, Kandaswamy.
2. Ancillary Mathematics Book II: Narayanan, Manicavachagom PIllay.

Unit I : Book 1: Chap. I sec 6.1, 6.2, 7 (Omit 7.4), 8 case (i) to (iv) only
                            Page no: 7-13, 23-31, 39-47.
Unit II : Book 1: Chap. I Sec. 11, 12, 15
                            Page no: 61-72, 93, 94.
Unit III: Book 1: Chap 4: Sec 1-5
                            Page no: 205-218.
Unit IV: Book 2: Chap 3: Sec 1-4, Page no: 42-60.

Unit V: Book 1: Chap 7: 7.1, 7.2, 7.3, 7.4, 7.5
              Page no: 289-308.

Semester II   **Hours/Week: 2**

Skill Based Elective I (U16SBE1C) Web Page Designing Using HTML   Credit: 2

Objectives:

➢ To learn the basics of HTML and its Tags
➢ To introduce the detailed concepts of HTML and Scripting

UNIT I: Introduction to HTML-Designing a Home page-History of HTML-HTML Generations-HTML Documents-Anchor Tag-Hyper Links.

UNIT II: Header Section-Title-Prologue-Links-Colorful Web Page-Comment Lines-Designing the Body Sections-Heading printing-Aligning the headings.

UNIT III: Horizontal rule-Paragraph-Tab Settings-Images and Pictures-Embedding PNG Format Images-Lists-Unordered Lists-Ordered Lists-Nested Lists.

UNIT IV: Tables-Table Creation in HTML-Width of the Table and Cells-Cells Spanning-Coloring Cells-Column Specification-Style Sheets-Defining Styles-Elements of Styles-Linking a Style Sheet to an HTML document-In-line Styles-External Style Sheets-Internal Style Sheets-Multiple Styles.

UNIT V: Frames-Frameset Definition-Frame Definition-Nested Frameset-Forms-Action Attribute-Method Attribute- Enctype Attribute- Drop Down List.

Text Book:

C.Xavier, *"World Wide Web Design with HTML"*, Tata McGraw Hill, New Delhi,2010.

Unit 1: chapter 4(sec 4.1-4.6)
Unit 2: chapter 5(sec 5.1-5.6) chapter 6(sec 6.1,6.2)
Unit 3: chapter 6(sec 6.3-6.7) chapter 7(sec 7.1, 7.2, 7.4, 7.5)
Unit 4: chapter 8(sec 8.1-8.6)
Unit 5: chapter 9(sec 9.1-9.7)

Reference Book:

 Joel Sklar, *"Web Design Principles"* Vikas Publications 2000.

Semester III   **Hours/Week: 6**

Core Course: V (U16CA5)   Visual Basic Programming   Credit: 4

Objective:

 ➢ To enable the students to be familiar with visual programming concepts.

UNIT I: Introduction to Visual Basic – Integrated Development Environment (IDE) features - VB editor - customizing the IDE - Anatomy of a form - Working with form properties - setting form's properties - Introducing form events & form methods.

UNIT II: Variables in Visual Basic: Declaring variables - Data types - Null value, Error value, Empty value - The scope of a variable - Module level variables - constants – Creating your own constants - scope of a constant - converting data types - arrays -declaring arrays - fixed size arrays - dynamic arrays -preserve keyword –REDIM Writing code in Visual Basic: The anatomy of a procedure - subroutine and functions -language constructs: for, next, the while loop, select case, Exit statement, with structure.

UNIT III: Selecting & using controls: Introducing to standard controls - Command buttons – Text Buttons - Text buttons - levels - option buttons -check boxes -frame controls -list boxes - combo boxes - Image objects - picture boxes -Timer - scroll bars - file system controls

UNIT IV: Introduction to Built In Active X Control: Tool bar - the tree view control - the List view control - the Image list control - common Dialog control - Status bar control – Rich textbox control - Menu Editor.

UNIT V:DDE properties - DDE Events -DDE methods -OLE properties - Active X control creation and usage and Active X DLL creation and usage -Data Base Access – Data control - Field control - Data Grid Record set using SQL to manipulate data - Open data connectivity (ODBC)

Text Book:

1.Mohammed. Azam, "*Programming with Visual Basic 6.0*" - VlKAS publishing House pvt. Ltd.2009

Unit 1: chapter 1, 3
Unit 2: chapter 4, 5
Unit 3: chapter 2, 6

2.Dr.A. Murugan,Dr.K.Shymala and Grasha Jacob*"Visual Basic Programming"*Margham Publications

Unit 4: chapter 8
Unit 5: chapter 13

Reference Book:
Noel jerke"*Visual Basic 6:The Complete Reference*",Tata McGraw-Hill Edition,2008.

Semester: III   **Hours/Week: 3**

Core Course: VI (U16CA6P) Visual Basic Programming Lab   **Credit: 3**

Objectives:

- ➤ To enable the student to be familiar with visual programming concepts.

- ➤ To Gain Knowledge About The DML, DDL Operations.

- ➤ To Develop A Database With Enhanced Models And Techniques.

- ➤ To Understand About RDBMS, Object Oriented Databases.

VISUAL PROGRAMMING LAB

1. Standard control.

2. Control array of a command button.

3. Geometric shapes control.

4. Basic primitives.

5. Timer control.

6. Move method.

7. Data Bound Control.

Semester III   **Hours/Week: 5**

Second Allied Course I (U16ACO1C)   Financial Accounting   Credit: 3

UNIT – I

     Principles of Double entry System - Accounting Concepts and Conventions– Journal -Ledger – Trial Balance.

UNIT – II

     Subsidiary books - Purchase book, Sales book, Cash book, Petty cash book.

UNIT – III

  Bank Reconciliation Statement - Rectification of errors – Basic principles for Rectification of Errors - Depreciation account. (Straight line method – Written down method)

UNIT – IV

   Final Accounts of Sole Traders with Adjusting entries.

UNIT – V

  Computer Accounting and Algorithm – Area of Application of Computer in Accounting – Features and Advantages of Computers and Computer Accounting Algorithm, Requisites of an effective Algorithm, Features of Algorithm.

Theory 30 Marks & Problem 45 Marks

Books Recommended:

1. **Financial Accounting -** T.S. Reddy and V. Murthy – Margham Publications, Chennai -17.

2. **"Advanced Accounting"** by Jain S.P & Narang K.L, KALYANI Publications, Ludhiana.

3. **"Advanced Accountancy"** by Gupta. R.L and RAdhaswamy.M , Sultan Chand & Sons, New Delhi.

Semester III   **Hours/Week: 2**

Skill Based Elective II (U16SBE2C)   **Java Script and ASP**   **Credit:2**

Objective:

  ➢ To explain the JavaScript Role in the Web page development.
  ➢ To implement the concepts of Variable, Functions, Data Types, Operators, Decision making and Repetition Statements, Frames and Forms of JavaScript.

Unit I

Introduction to Java Script: JavaScript's Role on the Web – A First JavaScript Program – Working with Variables, Functions: Variables – Defining Functions – Calling Functions – Understanding JavaScript Objects – Object Methods – Variable Scope

Unit II

Windows: The Window Object Model – Opening and closing Windows – Frames and Other Objects: Creating Frames – Using the TARGET Attribute – Nesting Frames – The NOFRAMES Tag

Unit III

Forms: Overview of Forms – The <FORM> Tag – Form Elements: Input Fields – Selection Lists – Multiline Text Fields – Validating a User's Input to a Form

UNIT – IV
    Introduction to Active Server pages – Advantages – Processing ASP Scripts with forms variables & Constants – Subroutines.
UNIT – V
    ASP Objects: Response – Request, Applications , Session, Server & ASP Error Objects.

Text Book:
1.Don Gosselin, *"JavaScript Comprehensive"* – Vikas Publishing house.
UNIT I: CHAPTER 1& 2
UNIT II: CHAPTER 5
UNIT III: CHAPTER 6
2. N. P. Gopalan and J. Akilandeswari, Web Technology – A Developer's Perpective, PHI Pvt Ltd., 2011.
Unit IV: Chapter 11.1 -11.8
Unit V: Chapter 12.1, 12.2,12.4 – 12.6 and 12.9.

Reference Books:
1. Steve Suehring, *"JavaScript Step by Step"*, 2nd Edition, Microsoft Corporation
2. Ivan Bayross, HTML, DHTML, Java Script, Perl, CGI,BPB, Third Revis.

Semester III   **Hours/Week: 2**

Skill Based Elective III (U16SBE3CP) HTML, Java Script And ASP Lab   Credit: 2

Objective:

➢ To improve the students in developing the web page using the various concepts of java script

HTML Lab

1. (a) Creation of Vertical Frameset.

   (b) Creation of Horizontal Frameset.

2. Sending Mail.

3. Insertion of Image.

4. Application form Creation.

5. Creating an Advertisement for a Company.

Java Script Lab

1. Functions.

2. Frames.

3. Validation.

ASP

1. Create an ASP file to display the message "Have a Good Weekend" if it is a Saturday otherwise "Hang in there, the week will get better".

2. Write an program to get the name and favorite ice cream flavor. Respond with the price of the corresponding ice cream.

3. Create an advertisement for a bookshop using Ad Rotator component.

4. Write a program to manipulate cookies with the information between HTTP sessions such as i. Last Date visited ii. Last Time visited iii. Number of visits

Semester IV   **Hours/Week: 5**

Core Course VII (U16CA7)   Digital Computer Fundamentals   Credit: 5

Objective:

➢ To learn about computer fundamentals and its organization

➢ To gain Knowledge on digital circuits, Microprocessor architecture, interfacing of various components.

UNIT I: Number Systems and Codes: Decimal, Binary, Octal and Hexadecimal Systems – Conversion from one to another – Complements; Binary Addition, Subtraction, Multiplication & Division; Codes: BCD, Weighted, Excess Three, Gray, ASCII and Error Detecting Codes.

UNIT II: Boolean Algebra: Fundamental Concepts – Boolean Functions and Expressions – Truth Tables – Laws and Theorems; Simplification of Expressions – Karnaugh Map &Tabulation Methods. Digital Logic & Circuits: AND, OR, NOT, NAND, NOR, XOR Gates; Integrated Circuits – TTL & MOS Logic Circuits; Gating Networks.

UNIT III: Logic Design: Flip-Flops – Transfer Circuits – Clocks – Shift Registers – Counters –State Diagrams and State Tables – Magnitude Comparator – Programmable Arrays of Logic Cells.

UNIT IV: Elements of ALU: Design and Implementation of Binary Adders (Half and Full) and Subtractors; BCD Adder; Multiplexers, Floating – Point Number Systems – Arithmetic Operations with Floating Point Numbers.

UNIT V: Memory Elements: RAM, Decoders, Dynamic Random Access Memories; Read Only Memories; Magnetic Tapes; Magnetic Bubble and CCD Memories.

Text Book:
Thomas C. Bartee "*Digital Computer Fundamentals*" , 6th Edition, Tata McGraw Hill, New Delhi,2011

   Unit 1: chapter 2(sec 2.1, 2.4, 2.6, 2.8, 2.9, 2.10, 2.11, 2.12)
   Unit 2: chapter 3(sec 3.1, 3.3, 3.5, 3.7, 3.9, 3.10, 3.14, 3.17, 3.18, 4.10)
   Unit 3: chapter 4(sec 4.1, 4.2, 4.3, 4.7, 4.8, 4.9, 4.13, 4.14, 4.16)
   Unit 4: chapter 5(sec 5.1, 5.3, 5.4, 5.11, 5.20, 5.23, 5.24)
   Unit 5: chapter 6(sec 6.1, 6.3, 6.8, 6.14)

Reference Book:
   1. S.Poornachandra"*Digital   Computer   Fundamentals*",Tata   McGraw-Hill,New Delhi,2009.
   2. Morris Mano "*Digital Design*", 4th Edition, Prentice Hall of India Ltd,2008.

Semester IV   **Hours/Week:4**

Second Allied Course–I (U16ACO2CTP) Accounting Package   Credit:3

Objective:

   ➢ To teach basic concepts of Financial Accounting
   ➢ To use a good Financial Accounting Software.

UNIT I

Computer and Accounting – Role of Computer and Computing-Fundamentals of Computerized Accounting- Computerized Accounting Vs Manual Accounting Features of Tally.

UNIT II

Procedure for creating a new company-Directory Name/Mailing Name/Address/Groups creation-Editing and Deleting Groups.

UNIT III

Display of predefined vouchers-vouchers creations and alteration of vouchers while or after entering transaction – types of vouchers- Payment voucher-Receipt Voucher-Sales Voucher-Purchase Vouchers.

UNIT IV

Ledger-Groups in Tally-Primary groups, subgroups, creation of ledger-process of creation of ledger-Balance Sheet at the Gateway of Tally-Method of showing Trading – Profit and Loss Account and Balance Sheet.

UNIT V

Creation of Inventory Reports-creation of stock categories - stock items - stock groups.

Text Books:

1. Tally-Accounting software –S.Palanive - Margham publications
2. Computer Application in Business - Dr.Rajkumar

Semester IV   **Hours/Week: 5**

Second Allied Course: III (U16ACO3C)   Organizational Behavior   Credit: 3

Objective:

> ➢ To enable the students to understand the concepts of Organizational behavior
> ➢ To improve the personality and satisfaction of business environment.

UNIT I: Organizational behavior-Concept-Nature and scope of Organizational behavior - Need for studying Organizational behavior-Models of Organizational behavior.

UNIT II: Individual behavior and human behavior - theories of personalities - process of perception.

UNIT III: Concept of attitude – Concept of Value -Job Satisfaction - Learning Theory.

UNIT IV: Group behavior - Reason for group formation by people - Group cohesiveness - Job stress - job frustration.

UNIT V: Concept of Leadership - qualities of effective leadership - Leadership styles - Power and Authority - Theories of Motivation.

Text Book:
L.M.Prasad *"Organizational behavior"* 5th Edition – Sultan chand & Sons,2007

Unit 1: chapter 3(sec 3.1,-3.3, 3.9)
Unit 2: chapter 4(sec 4.1-4.4) chapter 5(sec 5.1, 5.2) chapter 6(sec 6.1, 6.2)
Unit 3: chapter 9(sec 9.2, 9.11) chapter 8(8.20) chapter 7(7.4)
Unit 4: chapter 12(12.12.1, 12.14) chapter 8(sec 8.20.1, 8.21)
Unit 5: chapter 14(sec 14.1, 14.1.1, 14, 7) chapter 13, chapter 8(sec 8.3)

Reference Book:

1. Talya Bauer, Berrin Erdogan,"Organizational behavior"- Flat World Knowledge, L.L.C., 2009.
2. V.S.P.Rao &D.S.Narayana,"Organizational theory and behavior", Sultan chand & Sons,1984

Semester: IV   **Hours/Week: 2**

Non Major Elective: I (U16NMCS1)   **Credit: 2**

Basic Concepts of Computer Science

Objectives:

> To impart knowledge about the fundamental concepts of computers in a logical and informative manner.

UNIT I: Introduction: Characteristics of Computers – The Evolution of Computers – The Computer Generations. Basic Computer Organization: Input Unit – Output Unit - Storage Unit – Arithmetic Logic Unit – Control Unit – The Central Processing Unit. Processor and Memory: The Main Memory.

UNIT II: Secondary Storage Devices: Sequential and Direct Access Devices – Magnetic Disk - Optical Disk – CD-ROM. Input-Output Devices: Input Devices: Keyboard – Point-and-Draw Devices – Data Scanning Devices – Electronic-card Reader. Output Devices: Monitors – Printers – Plotters. Computer Software: Types of Software.

UNIT III: Operating Systems: Main Functions of an Operating System. Business Data Processing: Data Processing – Data Storage Hierarchy – Standard Methods of Organizing Data – File Management System: File Types – File Organizations – Database Management System: Database Models.

UNIT IV: Data Communication and Computer Networks: Basic Elements of a Communication System – Data Transmission Modes – Data Transmission Speed – Data Transmission Media – Digital and Analog Data Transmission.

UNIT V: The Internet: Definition- Basic Services: Electronic Mail – File Transfer Protocol – Telnet - The World Wide Web. WWW Browsers – Uses of the Internet. Multimedia: Multimedia Computer System – Multimedia Components – Multimedia Applications.

Text Book:

Pradeep K. Sinha and Priti Sinha,"*Computer Fundamentals*", BPB Publications, 3rd Edition.

Unit 1: chapter (1, 2)
Unit 2: chapter (8, 9, 10)
Unit 3: chapter (14, 16)
Unit 4: chapter (17)
Unit 5: chapter (18, 19)

Reference Book:

V.Rajaraman and Neeharika Adabala,"*Fundamentals of Computers*",6th Edition,PHI Learninig Private Limited,2014

Semester IV   **E – Commerce**   **Credit: 4***

Objective:

> This subject deals with E–commerce concepts like E–Security and E–payment.

> ➢ To understand the process of Electronic commerce and Business strategy involved in it.

UNIT – I

E–Commerce–Electronic Commerce – E–Commerce types – E–Commerce and world at the large – E Commerce Case studies: Intel, Amazon

UNIT – II

Electronic Mail – The X, 400 Messages handling system – Internet addresses – Multipurpose Internet mail Extension – X.500 Directory Services – E–Mail User agent.

UNIT – III

EDI– Costs and benefits – Components of EDI Systems – EDI implementation issues – EDIFACT – EDIFACT Message Structure.

UNIT – IV

Cyber Security – Cyber Attacks – Hacking – SSL – Authentication and assurance of DATA integrity – Cryptographic based solution – Digital Signatures – VPN.

UNIT – V

Electronic Payment Systems – Payment gateway – internet banking – the SET protocol – E–Cash – E–Cheque – Elements of electronics payments

Textbook:

1. Kamalesh.Kbalaji, Debjani Nag "*E–Commerce – The Cutting Edge of Business*", 2ⁿᵈ Edition, Tata McGraw Hill.

Reference Books:

1. Ravi Kalakota and Andrew B.Whinston" *Frontiers of E–Commerce* " – Pearson Edu.
2. S.Jaiswal"*E–Commerce : Doing Business through internet* ", Galgotia Publication, 2001

Semester IV   **Multimedia Technology**   **Credit: 4***
Objective:

To provide fundamental concepts of Multimedia

UNIT – I

Definition – Where to use Multimedia – Multimedia in Business – Multimedia in Schools – Multimedia at Home – Virtual Reality – Delivering Multimedia – CD-ROM, DVD, Flash Drives – The broadband Internet – Fonts and Faces – Cases – Serif vs. Sans Serif – Using text in Multimedia – Designing with Text – Fields for Reading – HTML documents.

UNIT – II

Computer and Text – Character sets and Alphabets – Mapping text across platforms – Font editing and design tools – Fontlab – Making pretty text – Hypermedia and Hypertext – The power of Hypertext – Using Hypertext – Hypermedia structures – Hypertext tools – Making still images – Bitmaps – Vector Drawing – 3D Drawing and rendering – Color – Color Palettes – Image file formats.

UNIT – III

Digital Audio – Making digital audio files – MIDI Audio – MIDI vs. Digital Audio – Multimedia system sounds – Audio File formats – Audio recording – Keeping tract of our sounds – Audio CDs – Sound for mobile – Sound for Internet – The Power of motion – Principles of Animation – Animation by Computer – Animation techniques – Animation File formats.

UNIT – IV

Using Video – How video works and is displayed – Analog video – Digital video – Displays – Digital video containers – Video format converters – Shooting and editing video – The stages of a multimedia project – Hardware – Windows vs. Macintosh – Connections – Memory and storage devices – Input devices – Output devices.

UNIT – V

Software – Text editing and word processing tools – OCR software – painting and drawing tools – 3D modeling and animation tools – Image editing tools – Sound editing tools – Animation, video, and digital movie tools – The team – Project manager – Multimedia designer – Interface designer – Writer – Video Specialist – Audio Specialist – Multimedia Programmer.

Text Book:
1. Tay Vaughan, Multimedia: Making it Work, Tata McGraw Hill, Eighth Edition, 2011.
UNIT I : Chapters 1, 2
UNIT II : Chapters 2, 3
UNIT III : Chapters 4, 5
UNIT IV : Chapters 6, 7
UNIT V : Chapters 7, 8
Reference Books:
1. John F. Koegel Buferd, *Multimedia Systems"*, Published by Addison Wesley Longman, 3rd Edition 2000.
2. David Hillman, *"Multimedia Technology and Applications"*, Galgotia Publications Pvt. Ltd. 1998.

Semester v   **Hours/Week: 5**

Core Course VII1 (U16CA8)   **Java Programming**   **Credit: 3**

Objective:

> To inculcate knowledge on Java Programming concepts
> To create wide range of applications and applets using Java.

UNIT I: OOP and JAVA–objects and classes: Encapsulation, Inheritance, Polymorphism-object creation-Constructors-this keyword-static-Wrapper classes-Exception handling-try,catch, throw, finally, build-in, user defined Exception

UNIT II: Inheritance: super class-sub class-super keyword-method overriding-private, public and protected-packages-Interfaces-final()-finalize ()-string handling

UNIT III:AWT: Events, Listener, Event handling methods-controls: label, button, checkbox, Radio Button ,Layout Manager: Flow Layout, Border Layout, Grid Layout, Card Layout

Applets: Lifecycle, Applet tag in HTML, passing parameters to Applets

UNIT IV: Graphics: working with Graphics-Drawing Line, Rectangles, Ellipses, Polygon. Multithreading: Lifecycle-creating, Running threads, thread priority, Methods in thread class, thread model I/O Stream classes, Bytestream, I/O, file I/O streams. Characterstream:Reader, Writer, Filereader, FileWriter, Random access files

UNIT V: Servlet: Life cycle of the servlet,A simple Servlet, JSDK JDBC: Drivers, Connectivity Networking: Networking Basics, socket, client/server, Internet Addressing, Inetaddress: URLConnection, TCP/IP Sockets

Text book:

HerbertSchildt, *"Complete reference Java2"*, 5th Edition, Tata-McGraw Hill,2002

Unit 1: chapter 1,6,10
Unit 2: chapter 7, 8,9,13
Unit 3: chapter 19,20,21,22
Unit 4: chapter 21, 11, 17
Unit 5: chapter 18, 27

Reference books:

1. E. Balagurusamy, *"Programming with Java"*, 3rd Edition Java McGraw – Hill Publishing Company Ltd,New Delhi
2. Patrick Naughton, *"The Java HandBook"*,Tata McGraw-Hill,2008.
2. C. Muthu, *"Programming with Java"*, 2nd Edition, 2000, Vijay Nicole Imprints Private Limited, Chennai

Semester V   **Hours/Week: 5**

Core Course X1 (U16CA11P)   JAVA PROGRAMMING LAB   Credit:6

Objective:

> ➢ To make the student understand the java programming concepts and make them to write their own programs using those concepts.

Write a java program using the concept

1. Classes and Objects.

2. Inheritance

3. (a) Built-in package.

   (b)User defined package

4. Vector Manipulation.

5. Exception handling.

6. Applet.

7. Multi Threading.

8. AWT components.

Semester: V   **Hours/Week: 5**

Elective Course – I (U16CA9E)   Software Engineering   Credit: 5

Objective:

> ➢

> ➤ Detailed discussion about the development of software,
> ➤ Steps involved in planning a software project,
> ➤ Techniques involved in Estimating the cost of the software,
> ➤ Concepts of design, verification and Validation.

UNIT I: Introduction to Software Engineering: Definitions - Size factors – Quality and Productivity Factors – Managerial Issues. The Product: The evolving role of software – Software – characteristics - applications. The process: Software engineering: A Layered Technology – The software process –Evolutionary software process models: Spiral model.

UNIT II: Planning a Software Project: Defining the problem – Developing a solution Strategy –Planning the development Process – Planning an organizational structure – Other Planning Activities.

UNIT III: Software Cost Estimation: Software Cost Factors – Software Cost Estimation Techniques – Staffing Level Estimation. Software Requirements Definition: The Software Requirements Specification – Formal Specification Techniques.

UNIT IV: Software Design: Fundamental Design Concepts – Modules and Modularization Criteria – Design Notation – Design techniques – Design Guidelines. Implementation Issues: Structured coding techniques – coding style – Documentation guidelines.

UNIT V: Verification and Validation Techniques: Quality Assurance – Walkthroughs and inspections – Static analysis –Unit testing and debugging – System testing – Formal verification.

Text Books:
1.Richard E. Fairely – "*Software Engineering Concepts*", Tata McGraw Hill Publication, 1997 edition.

Unit 1: chapter 1(sec 1.1-1.4)
Unit 2: chapter 2(sec 2.1-2.5)
Unit 3: chapter 3(sec 3.1-3.4) chapter 4(sec 4.1-4.2)
Unit 4: chapter 5(sec 5.1-5.2, 5.9) chapter 6(sec 6.1, 6.2, 6.4)
Unit 5: chapter 8(sec 8.1-8.3, 8.5-8.7)

2.Roger S.Pressman – "*Software Engineering A Practitioner's Approach*", 5th edition, McGraw Hill, 2001.

UNIT 1: CHAPTER 1(Sec 1.1, 1.2)

Reference book:
1.Watts S. Humphery – "*A Discipline for Software Engineering*", Addition Wesley Company, 1995.

Semester: V   **Hours/Week: 5**

Elective Course – II (U16CA10E)   Computer Graphics   **Credit: 5**

Objective:
- ➢ To understand the graphics applications and its use.
- ➢ To acquire knowledge in two dimensional transformation and the concept of clipping

UNIT I:A survey of computer graphics: Computer aided design – Presentation graphics – computer art – Entertainment – Education and training – Visualization – ImageProcessing – Graphical user interfaces. Overview of graphics systems: Video display devices – Raster-scan systems – Random scansystems – Graphics monitors and workstation – Input devices – Hard-copy devices –Graphics software.

UNIT II: Output primitives: Points and lines – Line-drawing algorithms – DDA algorithm –Bresenham's line algorithm – Circle-generating algorithms – Filled-area primitives – Boundary-fill algorithm.

UNIT III: Attributes of output primitives: Line attributes – Area-fill attributes – Character attributes-Bundled attributes – Inquiry functions – Antialiasing

UNIT IV: Two-dimensional Geometric transformations: Basic transformations – Matrix representations – Composite transformations – Other transformations.

UNIT V: Window-to-viewport coordinate – Two-dimensional viewing functions – Clipping operations – Point clipping – Line clipping – Polygon clipping.

Text book:

Donald Hearn and M.Pauline Baker "*Computer Graphics*" C Version 2nd Edition, -Pearson Education, 2006.

Unit 1: chapter 1(sec 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8)
        chapter 2(sec 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7)
Unit 2: chapter 3(sec 3.1, 3.2, 3.5, 3.11)
Unit 3: chapter 4(sec 4.1, 4.4, 4.5, 4.6, 4.7, 4.8)
Unit 4: chapter 5(sec 5.1, 5.2, 5.3, 5.4)
Unit 5: chapter 6(sec 6.4, 6.5, 6.6, 6.7, 6.8)

Reference Book:

1. Jeffrey J. McConnell," *Computer Graphics: Theory Into Practice*",Jones and barlett publishers,2006.
2. Peter Shirley, Michael Ashikhmin, Steve Marschner **"***Fundamentals of Computer Graphics***"**,CRC Press,2009.

Semester: V   **Hours/Week: 6**
Core Course: XII (U16CA12)   **Database Systems**   **Credit: 5**

Objective:

➢ To understand RDBMS and queries to design database and manipulate data in it.
➢ To understand the conceptual ,physical design of a database its backup & recovery

UNIT I: Introduction: Database System Applications – Purpose of Database Systems – View of Data – Database Language – Relational Databases – Database Design – Object – Based and semi structured Databases – Data Storage and Querying Transaction Management – Data Mining and Analysis – Database Architecture – Database Users and Administrators – History of Database Systems.

UNIT II: Relational Model: Structure of Relational Databases – Fundamentals Relational – Algebra Operations Additional Relational – Algebra Operations – Extended Relational – Algebra Operations – Null Values – Modification of the Database.

UNIT III:SQL: Data Definition – Basic Structure of SQL Queries – Set Operations – Aggregate Functions – NULL Values – Nested Sub queries – Complex Queries – Views – Modification of the Database – Joined Relations – SQL Data Types and Schemes – Integrity Constraints – Authorization – Embedded SQL.

UNIT IV: Relational Languages: The Tuple Relational Calculus – The Domain Relational Calculus – Query – by – Example. Database Design and the E- R Model: Overview of the Design Process – The Entity – Relational Ship Model – 3 Constraints – Entity – Relational ship Diagrams – Entity – Relationship Design Issues

UNIT V: Relational Database Design: Features of Good Relational Designs – Atomic Domains and First Normal Form – Decomposition Using Functional Dependencies – Functional – Dependency Theory – Decomposition Using Multivalued Dependencies –– Database – Design Process.

TEXT BOOK:
Silberschatz.Henry F.Korth and S.Sudarshan "*Database System Concepts*", 5thEdition-McGraw – Hill – 2005.

Unit 1: chapter 1(sec 1.1,1.2,1.3,1.4,1.5,1.6,1.7,1.8,1.9,1.10,1.11,1.12,1.13)
Unit 2: chapter 2(sec 2.1, 2.2, 2.3, 2.4, 2.5, 2.6)
Unit 3: chapter 3(sec 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11)
         chapter 4(sec 4.1, 4.2, 4.3, 4.4)
Unit 4: chapter 5(sec 5.1, 5.2, 5.3)
         chapter 6(sec 6.1, 6.2, 6.3, 6.4, 6.5)
Unit 5: chapter 7(sec 7.1, 7.2, 7.3, 7.4, 7.6, 7.8)
Reference Books:
1. Ramez Elmasri –Shamkant B.Navathe "*Fundamentals of Database Systems*" – Third Edition –Addison Wesley Longman Pvt.,Ltd – Delhi 2001.
2. Alexis leon and Matheews Leon "*Database Management Systems*" – Vikas Publishing House Pvt.,Ltd., - New Delhi – 2002.

Semester: IV   **Hours/Week: 2**

Non Major Elective: II (U16NMCS2)   Internet and Its Applications   Credit: 2

Objective:

> ➢ To understand the fundamental concepts of Internet and its applications.
> ➢ To attain knowledge in Web browsing, E-mail and Search engine concepts

UNIT I

Internet – Introduction- Getting Connected: Dial-up connection – DSL - Cellular Broadband - Wireless Broadband – WWW - Web Technologies: HTML

UNIT II

Web Browsers and Web browsing: Web Browsers - Types of Browsers – Web Browsing - Internet Addressing: IP address – Domain Name – Uniform Resource Locator (URL)

UNIT III

E-mail: Names and Addresses – Mailing Basics - Spamming – E-mail Safety Tips – Instant Messaging: Instant Messaging from the Web – Internet Telephony - Videoconferencing

UNIT IV

Internet Protocol: TCP/IP - File Transfer Protocol – Hyper Text Transfer Protocol –Telnet – Gopher – WAIS.

UNIT V

Searching the Web: Web Index – Web Directory - Search Engine – Meta-search Engines - Anonymity, Safety and Privacy: Privacy – Cookies – Understanding Security and privacy

Text Book

Alexis Leon and Mathews Leon," *Internet for Everyone"*, Leon Press, 15th Anniversary Edition, 2012.

Reference Books

1. Deitel and Deitel,"*Internet and World Wide Web - How to Program"*, PHI,4th Edition, 2008.

2. Christian Cramlish,"*The Internet"*, BPB, 2nd Edition, 2004

Semester V   **Business Process Outsourcing**   **Credit: 4***

UNIT – I

Business Process Outsourcing – Basics – Benefits of BPO – Growth Drivers – BPO Models and Types of Vendors – Offshore BPO – Evolution Destinations – Challenges of Off shoring – BPO Companies in India.

UNIT – II

BPO Industry – Employment Opportunities – Employee Structure – Skill Set Required –

Compensation Levels – Contact Centre BPO – Types of Call Centres – Technology – Components and working of a Call center – Issues and Problems – Case Study – Intelenet Global.

UNIT – III

Healthcare BPO – Structure of the American Healthcare Sector – Activity Profile – Future Trends and Threats – Case Study – Cbay Systems.

UNIT – IV

Transaction Processing BPO - Elements of Back – Office Serivces – Financial Services –

Insurance – Case Studies – Datamatics – Hinjuja TMT.

UNIT – V

Human Resource BPO – Reasons for outsourcing HR – Activities involved in HR BPO –

HR Outsourcing Trends – Career in HR BPO – Emerging BPO Domains – Media and Entertainment BPO – Publishing BPO.

Semester: VI   **Hours/Week: 6**

Core Course: XIII (U16CA13)   Computer Networks   Credit: 6

Objective:

- To inculcate knowledge on Networking concepts and technologies like wireless, broadband.
- To gain knowledge about routing algorithm, DNS, WWW and E-mail

UNIT I

Introduction: uses of computer networks - network hardware - network software -reference models - example networks - network standardization

UNIT II

The physical layer: guided transmission media - wireless transmission – communication satellites - the public switched telephone network

UNIT III

The data link layer: data link layer design issues - error detection and correction -elementary data link protocols - sliding window protocols

UNIT IV

The network layer: network layer design issues - routing algorithms - congestion control algorithms- quality of service – internetworking

UNIT V

The transport layer: the transport service - elements of transport protocols - a simple transport protocol the application layer: dns--domain name system - electronic mail – the world wide web

Text Book:
Andrew S. Tanenbaum "*Computer Network*", 4th Edition,Prentice Hall, 2006.

UNIT 1: CHAPTER 1(Sec 1.1, 1.2, 1.3, 1.4, 1.5, 1.6)
UNIT 2: CHAPTER 2(Sec 2.3, 2.4, 2.5)
UNIT 3: CHAPTER 3(Sec 3.1, 3.2, 3.3, 3.4)
UNIT 4: CHAPTER 5(Sec 5.1, 5.2, 5.3, 5.4, 5.5)
UNIT 5: CHAPTER 6(Sec 6.1, 6.2, 6.3, 7.1, 7.2, 7.3)

Reference Book:

1.Forouzan "*Computer Networks*",Tata McGraw-Hill Education, 2012.
2. William Stallings, "*Data and Computer Communications*", 6th Edition, Prentice Hall of India, 2002.

Semester: VI   **Hours/Week: 6**

Core Course: XIV (U16CA14)   PHP and Scripting Languages   Credit: 6

Objective:

> ➢ To understand PHP variables, functions, and operators in a PHP program.
> ➢ To utilize PHP in web forms and demonstrate form data validation using PHP.

UNIT I

PHP: Server side scripting Language: Basic syntax - Types - Variables - Constants - Expressions - Operators - Control Structures

UNIT II

PHP: Functions - Classes and Objects – HTML Basics –PHP access Specifiers.

UNIT III

Advanced concepts in PHP- Sessions, Cookies, PHP server Variables, HTTP Header Function.

UNIT IV
File Handling –Working with Databases –and FTP.

UNIT V

Ajax: Creating and opening XML – HTTP request object – Handling downloaded data – Passing Data to the server with GET and POST.
Advanced Ajax: Downloading Images using Ajax – Downloading java script with Ajax – Connecting to Google suggest.
Drawing Images on the Server: Drawing Lines, Drawing Rectangles, Drawing Ellipses, Drawing Arcs, and Drawing Polygons – Tilling Images.

TEXT BOOKS:

1.Dr.K.Meena,Dr.R.Sivakumar,A.B.Karthick Anand Babu *"Web Programming using PHP and MySQL"* –Himalaya Publishing House.
UNIT 1: CHAPTER 1(Sec 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7)
        CHAPTER 2
UNIT 2: CHAPTER 3(Sec 3.1, 3.2, 2.3)
UNIT 3: CHAPTER 4(Sec 4.1, 4.2, 4.3, 4.4)
2.Steven Holzner *"The PHP Complete Reference 5.2"* – Tata McGraw-Hill Edition.
UNIT 4: CHAPTER 9, CHAPTER 10, CHAPTER 11
UNIT 5: CHAPTER 12, CHAPTER 13, CHAPTER 14

Reference Books:
1. Steven Holzer *"Spring into PHP5"*, Tata McCraw Hill Edition.
2. Steven Holzer *"Ajax Bible"*-, Tata McCraw Hill Edition.

Semester: VI   **Hours/Week: 6**

Core Course: XV (U16CA15P)   **PHP Lab**   **Credit: 4**

Objective:

- ➢ To develop applications in PHP using various concepts like arrays and sessions
- ➢ To establish the connectivity between PHP and MySQL, to add, retrieve and delete records from a table.

1. Develop a PHP program using controls and functions

2. Develop a PHP program and check message passing mechanism between pages.

3. Develop a PHP program using String function and Arrays.

4. Develop a college application form using MYSQL table.

5. Develop a PHP program using parsing functions (use Tokenizing)

6. Develop a PHP program and check Regular Expression,

7. Develop a PHP program and Check HTML functions.

8. Develop a PHP program for Hashing functions.

8. Develop a PHP program for Network functions.

9. Develop a PHP program for Date and time functions.

10. Develop a PHP program using session.

Semester: VI   **Hours/Week: 5**

Elective Course – III (U16CA16E)   Operating Systems   **Credit: 6**

Objective:
To provide fundamental concepts of all managements in an operating system.

UNIT I

Introduction: What is an Operating System – Mainframe Systems – Multiprocessor Systems -Distributed System – Handheld Systems. Operating System Structures: System Components –Operating System Services - #System Programs# – System Structure-: Layered Approach.

UNIT II

Memory Management: Single Contiguous Allocation – Example of Multiprogramming – Partitioned Memory Management – #Paged Memory Management# – Demand Paged Memory Management – Segmented Memory Management.

UNIT III

Processor Management: Job Scheduling – Functions – Job Scheduling in Non-Multiprogrammed Environment – Job Scheduling in Multiprogrammed Environment – Process Scheduling Functions – Policies – Process Synchronization – Deadlocks: Deadlock Characterization – Deadlock Avoidance – Recovery from Deadlock.

UNIT – IV
I/O Traffic Controller, I/O Scheduler, I/O Device Handlers – Spooling.

UNIT – V
File Management : Simple File System, General Model of a File System, Physical and Logical File System.

Text Books:
1. Stuart E. Madnick & John J. Donovan, *Operating Systems*, McGraw Hill International Editions, 1997. (Unit II, III, IV)
2. Abraham Silberschatz and Galvin Milan, *Operating System Concepts,* Sixth Edition, John Wiley & Sons, 2006. (Unit I, III, V)
Books for Reference:
Charles Crowley, *Operating Systems – A Design Oriented Approach*, IRWIN Publication, 1997.
UNIT 1: Chapter 1 (Sec 1.1, 1.2, 1.4, 1.5, 1.8) Chapter 3(Sec 3.1, 3.2, 3.4, 3.5)
UNIT 2: Chapter 3
UNIT 3: Chapter 4, Chapter 8 (Sec 8.2, 8.5, 8.7)
UNIT 4: Chapter 5
UNIT 5: Chapter 11(Sec 11.1 – 11.3), Chapter 12(Sec 12.2, 12.4)

Semester V   **Cloud Computing**   **Credit: 4***

Objective:

To impart a knowledge on cloud computing, its architecture,authentication services, interconnecting services with web server

UNIT I:

Understanding Cloud Computing: Introduction to cloud computing-surveying the Role of Cloud Computing, developing the cloud services-Advantage of Auxiliary Cloud Services- Deploying Application and Services to the Azure Cloud.

UNIT-II

Understanding Windows Azure Platform Architecture: The Lifecycle- Securing and Isolating Services and Data,-Assuring Fabric Controller Availability-Virtualizing Windows Server for Azure.

UNIT III

Minimizing Risk When Moving to the Azure Cloud Service:Bypassing the Barrier to Cloud Computing- Implementing the Secure Sockets Layers Transmission-Encryption for Web Roles-Encrypting Personal Information in Azure Storage Services.

UNIT IV

Authenticating Users with .NET Access Control Services: Creating the .NET Services Solution, Installing the .NET Services SDK and other Tools, Crating the Card Space Credentials at Federatedidentity.net, Using a Managed Card Space Credential with ACS.

UNIT V

Interconnecting the Services with the .NET Service Bus: Creating .NET ServiceSolution and Installing Prerequisites, Relaying Message with SB. Exploring .NET Service Bus Queues and Routers: Persisting Messages in Service-Bus Queues, Delivering Message with Service Bus Routers.

Text Book:

1. Roger Jennings "Cloud Computing with the Windows Azure Platform", Wiley,2009

Reference Books:

1. Michael Miller, "Cloud Computing", Pearson Education,2008
2. Michael Morrison. "AJAX Construction Kit: Building Plug-and-Play Ajax Applications," 2007
3. Billy Hoffman and Bryan Sullivan, "AJAX Security", 2007
4. Barry Wilkinson and Michael Allen "Parallel Programming", 2004

COURSE

CODE: **U16ES**

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 PubI. 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 Xl 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.,)
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