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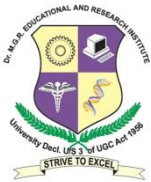
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DEPARTMENT OF COMPUTER APPLICATIONS

BCA Computer Applications (Full Time)
Curriculum & Syllabus
2014 Regulation

I SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	HBTA14001/ HBHI14001/ HBFR14001	Tamil/Hindi/French – I	3	0	0	3
2.	HBEN14001	English – I	3	0	0	3
3.	HBMA14A01	Allied I Paper I Mathematics – I	3	1	0	4
4.	HBCA14G01	Fundamentals of Computers	3	1	0	4
5.	HBCA14G02	Office Automation	3	0	0	3
6.	HBCA14L01	PC Lab	0	0	2	2
Total			15	2	2	19

II SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	HBTA14002/ HBHI14002/ HBFR14002	Tamil/Hindi/French – II	3	0	0	3
2.	HBEN14002	English – II	3	0	0	3
3.	HBMA14A02	Allied I Paper II Mathematics – II	3	1	0	4
4.	HBCA14G03	DOS and Windows Operating System	3	0	0	3
5.	HBCA14G04	Programming in C	3	0	0	3
6.	HBCA14L02	Programming in C Lab	0	0	2	2
7.	HBCA14L03	DOS and Windows OS Lab	0	0	2	2
Total			15	1	4	20



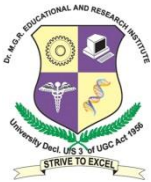
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III SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	HBCA14GA1	Allied II Paper I Computer Organization and Design	3	1	0	4
2.	HBCA14G05	Data Structures	3	0	0	3
3.	HBCA14G06	Web Page Designing	3	0	0	3
4.	HBCA14G07	Fundamentals of Operating System	3	1	0	4
5.	HBCA14G08	Financial Accounting	3	1	0	4
6.	HBCA14L04	Data Structures using C Lab	0	0	2	2
7.	HBCA14L05	Web Page Designing(HTML AND DHTML) Lab	0	0	2	2
Total			15	3	4	22

IV SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	HBCA14GA2	Allied II Paper II Computer Organization and Design	3	1	0	4
2.	HBCA14G09	Object Oriented Paradigm and Programming in C++	3	0	0	3
3.	HBCA14G10	Introduction to RDBMS	3	0	0	3
4.	HBCA14G11	Software Engineering	3	1	0	4
5.	HBMG14G01	Entrepreneurship Development	3	0	0	3
6.	HBCA14L06	Programming in C++ Lab	0	0	2	2
7.	HBCA14L07	RDBMS Lab – Query	0	0	2	2
Total			15	2	4	21



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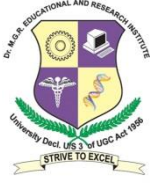
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V SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	HBMG14L01	Soft Skills-I	2	0	0	2
2.	HBMG14001	Environment Studies	3	0	0	3
3.	HBCA14G12	Programming in Java	3	0	0	3
4.	HBCA14G13	Data Communication and Networking	3	1	0	4
5.	HBCA14G14	Visual Programming	3	0	0	3
6.	HBCA14L08	Programming in Java Lab	0	0	2	2
7.	HBCA14L09	Visual Programming Lab	0	0	2	2
Total			16	1	4	19

VI SEMESTER						
S.NO	Sub.Code	Title of the Subject	L	T	P	C
1.	HBMG14L02	Soft Skills-II	2	0	0	2
2.	HBCA14G15	Computer Graphics	3	1	0	4
3.	HBCA14G16	Linux OS	3	0	0	3
4.	HBCA14G17	Mobile Communication	3	1	0	4
5.	HBCA14G18	Multimedia Systems	3	1	0	4
6.	HBCA14L10	Linux Lab	0	0	2	2
7.	HBCA14L11	PROJECTWORK(Portfolio development)	0	0	10	10
Total			14	3	12	29

Total Credits to be earned for the award of the Degree : 130



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DEPARTMENT OF COMPUTER APPLICATIONS

HBTA14001

Tamil-I

3

0

0

3

நோக்கம்:

- வாய்மொழிஇலக்கியத்தையும்செய்யுள்இலக்கியத்தையும்அறிந்துகொள்ளல்
 - சிறுகதைமரபினைப்புரிந்துகொள்ளல்
 - பிழைஇன்றித்தமிழ்எழுதுவதற்குஅடிப்படைஇலக்கணத்தைப்பயிற்றுவித்தல்
 - கவிதைமரபினையும்சிறுகதைமரபினையும்வரலாற்றுநிலையிலிருந்துவிளக்குதல்
- முதற்பருவம் – தமிழ்த்தாள் 1**

அலகு – 1

செய்யுள்திரட்டு வாய்மொழிஇலக்கியம்: நாட்டுப்புறப்பாடல்கள்

1. தாலாட்டு
2. காதல்
3. ஒப்பாரி
4. காணிநிலம்வேண்டும் – பாரதி
5. நல்லதோர்வீணை – பாரதி
6. தமிழ்காதல் – பாரதிதாசன்
7. தமிழ்வளர்ச்சி – பாரதிதாசன்
8. எந்நாளோ? – பாரதிதாசன்
9. ஆறுதன்வரலாறுகூறுதல் – கவிமணிதேசியவிநாயகம்பிள்ளை

அலகு – 2

1. வழித்துணை – ந.பிச்சமுர்த்தி
2. குருடர்களின்யானை - அப்துல்ரகுமான்
3. முள்முள்முள் - சிற்பி

அலகு – 3 புதுமைப்பித்தன்கதைகள்

1. கடவுளும்கந்தசாமிப்பிள்ளையும்
2. செல்லம்மாள்
3. துன்பக்கேணி
4. ஆற்றங்கரைப்பிள்ளையார்
5. ஒருநாள்கழிந்தது

அலகு – 4 பெயர், வினை, இடை, உரிச்சொற்களின்பொதுஇலக்கணம், வலிமிகும்இடங்கள், வலிமிகாஇடங்கள்

அலகு – 5

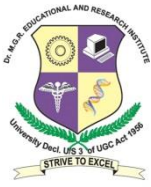
1. தமிழ்க்கவிதையின்தோற்றமும்வளர்ச்சியும்
(மரபுக்கவிதை, புதுக்கவிதை)
2. தமிழ்ச்சிறுகதையின்தோற்றமும்வளர்ச்சியும்

மரபுத்தொடர்கள், பொருந்தியசொல்தருதல்கலைச்சொற்கள், நேர்காணல்

மேற்பார்வைநூல்கள்:

1. சென்னைப்பல்கலைக்கழகவெளியீடு – 2013
2. பொதுஇலக்கணம்

Total no of Hrs: 45



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HBHI14001

HINDI – I

3 0 0 3

OBJECTIVES:

- Special emphasis on creative writing with phrases and quotes.
- Essays of eminent authors have been selected
- Administrative terms prescribed by official language department is taught

Prose, Administrative Hindi and Grammar.

UNIT I

9 Hrs

1. Sabhyatakarahasya – lesson and annotations ,Questions & answers,
2. Administrative terms (Prayojanmulak Hindi)

UNIT II

9 Hrs

1. Mitrathakarahasya - lesson and annotations questions and answers
2. Patralekhan, definitions, correspondence in hindi

UNIT III

9 Hrs

1. Paramanuoorjaevam and kadhyasanrakshan (lesson) annotations and answers,
2. Technical terms and words, letter writing

UNIT IV

9 Hrs

1. Yuvavon se (lesson), annotations, essay and questions and answers
2. Types of official correspondence, technical terms
3. Grammer(Change of voice, correcting the sentences)

UNIT V

9 Hrs

1. Yogyataaurvyavasaykachunav (Lesson) essay, questions and answers
2. Letter writing
3. grammer& technical terms

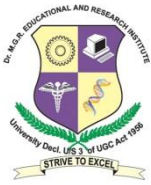
Total no of Hrs: 45

TEXT BOOK:

1. Dr. Syed Rahmatullah&PoornimaPrakashan, Hindi gadhyamaala

REFERENCES:

1. Dr. Syed Rahmatullah&PoornimaPrakashan, *Prayojanmulak Hindi*
2. Dakshin Bharat Hindi Prachara Sabha, T.Nagar,*Saral Hindi Vyakaran-2*



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HBFR14001	FRENCH – I	3	0	0	3
UNITÉ 1					9 Hrs
Découvrir le langue française					
UNITÉ 2					9 Hrs
Faire connaissance					
UNITÉ 3					9 Hrs
Organizer son temps					
UNITÉ 4					9 Hrs
Découvrir son environnement					
UNITÉ 5					9 Hrs
S'informer, Se faire plaisir					

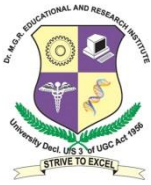
Total no. of Hrs: 45

TEXT BOOK:

Authors: Jacky Girardet, Jacques Pécheur

Available at :Goyal Publishers Pvt Ltd 86, University

Block JawaharNagar ,New Delhi – 110007. Tel : 011 – 23858362 / 23858983



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HBEN14001

ENGLISH – I

3 0 0 3

OBJECTIVES:

- To make students improve their vocabulary and its usage .
- To inculcate in them the pleasure of reading stories, plays and dramas.
- To promote their skill of writing essays, paragraph etc.
- To make them learn grammar in an informal way.
- To improve their speaking skill.
- To facilitate in enhancing their LSRW skills. the learners

UNIT I PROSE

12 Hrs

Textures of English (Cambridge University Press India Pvt. Limited)

- Headache - R.K Narayan
A Little Bit of What You Fancy - Desmond Morris
My Early Days - Abdul Kalam
How to Escape from Intellectual Rubbish - Russell
Town by the Sea - Amitav Ghosh

UNIT II POETRY Verse (Macmillan Publishers India Limited)

8 Hrs

- Written in Early Spring - Wordsworth
When I have Fears - John Keats
Ulysses - Tennyson
The Unknown Citizen - Auden
For Elkana - Ezekiel

Unit III Short Stories

8 Hrs

Vignettes: A Collection of Short Stories Ed.Dr.P.N.Ramani

(New Century Book House(p)Limited)

- Upper Division Love - Manohar Malgonkar
The Doll's House - Katherine Mansfield
Marriage is a Private Affair - Chinua Achebe
The Man Who Knew Too Much - Alexander Baron
The Ransom of Red Chief - O Henry

Unit IV Functional English & Soft Skills

8 Hrs

Synonym, Antonym, Prefix-Suffix, Word Formation, Tense, Auxiliaries (Primary and Modal), Types of Sentences, Voice, Interrogatives (Yes or No, Wh questions), Tag questions, Adjectives, Degrees of Comparison, Adverb, Conditional Sentences, Sentences Expressing Cause and Effect, Purpose, Concord or subject-verb agreement, Common errors

Letter Writing – seeking permission, requests, comprehension, note-making.

Soft Skill: Spring Board to Success, Sharda Kaushik. Etal Orient Black Swan – 2014.

Part I – Speech Sounds in English Language

Part II – Group Talk

Unit V One Act Plays

5 Hrs

Six One Act Plays Ed;Dr.NafeesaKaleem –

(AnuChitra Publications)

- The Dear Departed - Stanley Houghton
The Discovery - Herman Ould
The Shirt - Francis Dillon
The Pie and the Tait - Hugh Chesterton
Refund - Fritz Karinthy

Test and Written Exercises:

4 Hrs

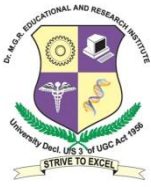
Total no. of Hrs :45

TEXTBOOK:

1. English Pronunciation in Use-Marks Hancock Cambridge Univ – 2003.

REFERENCE:

1. Sharda Kaushik etal Orient Black Swan (2014) Spring Board to Success.



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HBMA14A01

MATHEMATICS I

3 1 0 4

OBJECTIVES:

- Engage students in sound mathematical thinking and reasoning.
- Analyze the structure of real world problems and plan solution strategies.
- Solve the Problems using appropriate tools.

UNIT I

12 Hrs

ALGEBRA: Binomial, Exponential, Logarithmic Series (without proof of theorems) –Problemson Summation, Approximation and Coefficients.

UNIT II

12 Hrs

MATRICES: Characteristic equation –Eigen values and Eigen vectors of a real matrix–Properties of Eigen values–Cayley-Hamilton theorem (withoutproof)–Orthogonal reduction of asymmetric matrix to Diagonal form.

UNIT III

12 Hrs

TRIGONOMETRY: Expansion of $\sin n\theta$, $\cos n\theta$ in powers of $\sin\theta$ and $\cos\theta$ –Expansion of $\tan n\theta$ –Expansion of $\sin^n \theta$ and $\cos^n \theta$ in terms of Sines and Conines of multiples of θ –Hyperbolic functions–Separation into real and imaginary parts.

UNIT IV

12 Hrs

DIFFERENTIATION: Basicconcepts of Differentiation–Elementary differentiation methods –Parametric functions–Implicitfunction –Leibnitz theorem(without proof)–Maxima and Minima– Points of inflection.

UNIT V

12 Hrs

FUNCTIONSOF SEVERAL VARIABLES : Partial derivatives– Total differential–Differentiation of implicitfunctions–Taylor’sexpansion–Maxima and Minima by Lagrange’sMethod of undeterminedmultipliers–Jacobians.

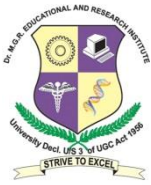
Total No of Hrs:60

TEXT BOOK:

1. Kreyszig,E(2001)*AdvancedEngineeringMathematics*(8thed.),JohnWileyandSons(Asia)Pvt.Ltd., Singapore.

REFERENCES:

- 1.Grewal,B.S(2000) *Higher Engineering Mathematics*(3^{5th}ed.), Khanna Publishers, Delhi,
- 2.JohnBird(2010) *BasicEngineeringMathematics*(5thed.),ElsevierLtd.
- 3.Veerarajan(2002) ,*EngineeringMathematicsforIYr*.TataMcGrawHillPublishingCo.,NewDelhi.4.
- 4.Kandasamy, P&Thilagavathy,K&Gunavathy, K(2000) *Engineering Mathematics*(4thRevised ed.),S.Chand& Co., Publishers, New Delhi.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G01

FUNDAMENTALS OF COMPUTERS

3 1 0 4

OBJECTIVES:

- To give you a general understanding of how a computer works
- Introduce you to assembly-level programming
- To prepare you for future courses
- Introduction To Programming Environment
- Input/ Output Devices and Memory units

UNIT I 12 Hrs

Introduction to Computers: Basic structure of Computer, Classification of computers: (Micro, mini frame, super computer, pc, server, workstations) Data Representation Within Computer: BIT, BYTE, WORD ASCII, EBCDIC, BCD Code

UNIT II

12 Hrs

Input/ Output Devices and Memory: Keyboard Direct Entry: Card readers, scanning devices (BAR CODE, OMR, MICR), Voice input devices, Light pen, Mouse, Touch Screen, Digitizer, Scanner. . Output Devices: Printers: Impact and Non-impact printers. CRT, LCD, CD-WRITER, ZIP DRIVE, DVD, Introduction to Web Camera, modem. Memory: RAM, ROM, PROM, EPROM, EEPROM, Base memory, extended memory, expanded memory, Cache memory Storage devices Tape, FDD, HDD, CDROM, Pen Drive.

UNIT III 12 Hrs

Algorithm & Flowcharts: Introduction To Programming Environment, Definition and properties Principles of flowcharting, Flowcharting symbols, Converting algorithms to flowcharts. Introduction To Programming Environment: History of languages, high-level, Low level, Assembly languages etc. Compilers, Interpreters, Assemblers, Linkers, Loaders.

UNIT IV

12 Hrs

Microcomputers: What is Microprocessor, Introduction to Family of microprocessor, Ideal microcomputer, An Actual microcomputer, Memory system for microcomputer, Minimum microcomputer configuration.

UNIT V

12 Hrs

Voice and Data communication, Types of communications, Physical communication, Public Switched Telephone Network, Cellular communication system.

Total No of Hrs: 60

TEXT BOOK:

1. Rajaraman, V (2010) *Fundamentals Of Computers* (5th ed.), PHI Learning

REFERENCES:

1. Sinha, P, K (2004) *Computer Fundamentals* (6th ed.) BPB Publications.
2. Reema Thareja (2014), *Fundamentals of Computers*, Oxford.
3. Anita Goel (2010), *Computer Fundamentals*, Pearson Education India.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G02

OFFICE AUTOMATION

3 0 0 3

OBJECTIVES:

- To improve quality of output in terms of presentation and reduction in processing time
- Discussing in Microsoft Word documents.
- Working with Tables and Columns.
- Introduction to Ms-Excel.
- Introduction to Power point.

UNIT I

9 Hrs

Introduction to Ms-Word: Starting Word, Typing and saving your Masterpiece, printing Title Bar, Toolbars, The Ruler, Insertion point, Scroll Bars, The Menu bar, The status bar. Dialog Boxes: Command buttons, check boxes, drop-down lists, tabs, radio buttons, Increment buttons. Wizards and Templates. Basic Text Editing: Moving around in a document, Adding Text, Cut, Copy, Paste, Undo, Redo, Delete .

UNIT II

9 Hrs

Formatting: Character formatting ,Font dialog box paragraph Formatting ,Keeping text together,Adding borders and shading, Using tabs, page and section formatting, setting page margins, numbering pages.Searching and Proofreading Tools: Find and replace, Searching for special character, Proofreading tools, Choosing custom dictionary, Checking Grammar, Choosing a writing style, Using the Thesaurus

UNIT III

9 Hrs

Working with Tables and Columns: Anatomy of a Table, creating a table, entering text in a table, Using table tools changing columns widths with Auto fit, Gridlines, Merging Cells, Formatting Sorting tables, copying tables, deleting tables, Printing of Documents, Mail merge.

UNITIV

9 Hrs

Introduction to Ms-Excel:Spreadsheet overview, Excel highlights, starting excel, creating spreadsheet excel menu , Working with Formulas and Functions, Introduction, Using basic formulas, advance formulas, designing formulas. Using basic and advance functions, Formatting:Types of formatting Using borders, color and patterns ,Conditional format , Creating and Formatting Charts: Introduction to charts. Creating charts, formatting charts, exploring charts.

UNIT V

9 Hrs

Introduction to Power point - Creating a Presentation with Microsoft PowerPoint, Modifying a Presentation, Inserting Objects into a Presentation, Finishing a Presentation, Working with Advanced Tools and Masters, Enhancing Charts, Inserting Illustrations, Objects and Media Clips, Using Advanced Features.Introduction to Access: Introduction to database, Database basics, Creating and working with the database, Finding, filtering and formatting data.

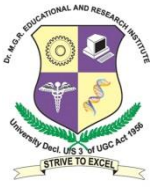
Total No of Hrs: 45

TEXT BOOK:

1. Corey Sandler , Tam Badgett& Jan Weingarten *Teach Yourself Office 97/2000 For WindowS* , BPB Publications,

REFERENCES:

1. Stephen L. Nelson(1999) *Office 2000: The Complete Reference* , McGraw-Hill.
2. Olsen, J, W(1999)*Mastering Word 2000 Premium Edition*,SybexInc



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14L01

PC SOFTWARE LAB

0 0 2 2

OBJECTIVES:

- Students will be learning and knowing to operate MS WORD
- Students will have knowledge on MS EXCEL worksheets
- Students will be capable of preparing slides and presentation in MS POWERPOINT

MSWORD

1. Text Manipulations.
2. Usage of Numbering, Bullets, Footer and Headers.
3. Usage of Spell check, and Find & Replace.
4. Text Formatting.
5. Picture insertion and alignment.
6. Creation of documents, using templates.
7. Creation templates.
8. Mail Merge Concepts.
9. Copying Text & Pictures from Excel.

MS - EXCEL

10. Cell Editing.
11. Usage of Formulae and BUILT-IN Functions.
12. File Manipulations.
14. Data Sorting (both number and alphabets).
14. Worksheet Preparation.
15. Drawing Graphs.
16. Usage of Auto Formatting.

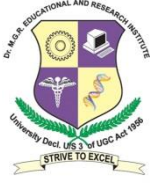
POWER POINT

17. Inserting Clip arts and Pictures.
18. Frame movements of the above.
19. Insertion of new slides.
20. Preparation of Organisation Charts.
21. Presentation using Wizards.
22. Usage of design templates.

ACCESS

23. Create a data base
24. Execute queries
25. Insert, delete, modify

Total Hrs needed to complete the lab: 30



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DEPARTMENT OF COMPUTER APPLICATIONS

HBTA14002

TAMIL II

3 0 0 3

நோக்கம்:

- தமிழ்இலக்கியவரலாற்றில் சிற்றிலக்கியங்கள் பெறும் இடத்தைப்பற்றி எடுத்துரைத்தல்
- சைவ, வைணவசமயங்களோடு தமிழ்இலக்கியமரபுகொண்டுள்ள உறவினைப்போலப்பிறசமயங்களானகிறித்துவ, இஸ்லாம்சமயங்களோடும் தமிழ்இலக்கியம் உறவுகொண்டு விளங்குவதனை எடுத்துரைத்தல்
- காப்பியமரபினை எடுத்துரைத்து ஒருசிலசிறுகாப்பியங்களைப்பயிற்றுவித்தல்
- அடிப்படைஇலக்கணத்தைப்பயிற்றுவித்தல்

இரண்டாம்பருவம் – தமிழ்த்தாள் 2

அலகு – 1

1. சிற்றிலக்கியவரலாறு
2. கிறித்துவஇலக்கியவரலாறு
3. இஸ்லாமியஇலக்கியவரலாறு

அலகு – 2

1. நந்திக்கலம்பகம்
2. முத்தொள்ளாயிரம்
3. தமிழ்விடுதூது (36 கண்ணிகள்)

அலகு – 3

1. திருக்குற்றாலக்குறவஞ்சி (குறத்திமலைவளங்கூறுதல்)
2. முக்கூடற்பள்ளு (நாட்டுவளம்)
3. இயேசுபிரான்பிள்ளைத்தமிழ் (செங்கீரைப்பருவம் முதல் 5 செய்யுட்கள்)

அலகு – 4

1. நளவெண்பா (கலிநீங்குகாண்டம்)
2. சீறாபுராணம் (மானுக்குப்பிணைநின்றபடலம்)

அலகு – 5

1. இலக்கணக்குறிப்பு: உவமைத்தொகை, பண்புத்தொகை, உம்மைத்தொகை, வேற்றுமைத்தொகை, வினைத்தொகை, இருபெயரொட்டுப்பண்புத்தொகை, அன்மொழித்தொகை...
2. ஒருபொருள்குறித்தபலசொல், பலபொருள்குறித்தஒருசொல்
3. ஒருமைபன்மைமயக்கம், பிறமொழிச்சொற்களைநீக்குதல், அகரவரிசைப்படுத்துதல்

மேற்பார்வைநூல்கள்:

1. சென்னைப் பல்கலைக்கழகவெளியீடு – 2013
2. பொது இலக்கணம்

Total No of Hrs: 45



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DEPARTMENT OF COMPUTER APPLICATIONS

HBHI14002

HINDI II

3 0 0 3

OBJECTIVES:

- Famous ancient and modern poets from the Hindi literature are prescribed
- Navrasas and meters are taught
- To keep with latest trends in modern Hindi, Computer applications in Hindi, provisions of official language Act etc are included

UNIT I

(Poetry, Hindi computing ,alankar)

9 Hrs

1. Poetry Manu Ki chintha – kaviparichay, annotation, summary, Madhushala and kabirdhas , two padhya only
2. Alankaaranupras, and upma only

UNITII

9 Hrs

1. Poetry Surdas (two padh only), kaviparichay, annotation , Kaikeyikapaschatap
2. Utprekshaalankar

UNIT III

9 Hrs

1. Meerabai only one padya
2. Kaamkajihindi, concept of official language, and hindi computing theory

UNIT IV

9 Hrs

1. Jugnu ,summary & meaning annotation
2. Hindi software packages,

UNIT V

9 Hrs

1. Kaviparichay
2. Kabirdas, MeerabaiMythili saran gupta
3. Jaishankar Prasad
4. Sleshaalankar.

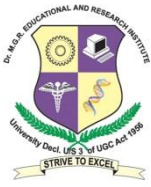
Total No of Hrs :45

TEXT BOOK:

1. Dakshin Bharat hindipracharasabha, *KavyaKusum- 3*

REFERENCES:

1. Murali Manohar & vidhyanilaya, *Ras Chand Alankar*
2. Hareeshvishwavidyalayprakashan, agra, *Kaamkajihindi and hindi computing*



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DEPARTMENT OF COMPUTER APPLICATIONS

HBFR14002

FRENCH II

3 0 0 3

UNIT - 1

Cultiver les relations

UNIT - 2

9 Hrs

Découvrir le passé

UNIT - 3

9 Hrs

Entreprendre

UNIT - 4

9 Hrs

Prendre des décisions

UNIT - 5

9 Hrs

Faire face aux problèmes et s'évader

9 Hrs

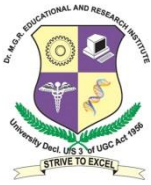
Total No of Hrs: 45

TEXT BOOK:

Authors : Jacky Girardet, Jacques Pécheur

Available at : Goyal Publishers Pvt Ltd 86, University Block Jawahar Nagar

New Delhi – 110007. Tel : 011 – 23858362 / 23858983



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HBEN14002

ENGLISH – II

3 0 0 3

OBJECTIVES:

- To make students improve their vocabulary and its usage .
- To inculcate in them the pleasure of reading stories, plays and dramas.
- To promote their skill of writing essays, paragraph etc.
- To make them learn grammar in an informal way.
- To improve their speaking skill., To facilitate the learners in enhancing their LSRW skills.

UNIT I PROSE

12 Hrs

Textures of English (Cambridge University Press India Pvt. Limited)

History of Chess

- Barbara Mack

To Know When to Say, "It's None of Your Business

- McCormick

The India of My Dreams

- Indira Gandhi

The Second Crucifixion

- Collins and Lapiere

How to Avoid Argument

- Sam Horn

UNIT II POETRY Verse (Macmillan Publishers India Limited)

8 Hrs

Lcave this Chanting

- Tagore

The Stonc

- Gibson

Mending Wall

- Frost

The Ballad of Father Gilligan

- W.B. Yeats

The Listeners

- De La Mare

UNIT III BIOGRAPHICAL SKETCHES

8 Hrs

Portraits in Prose-An Anthology of Biographical Sketches

Ed:S.Jagadisan, Orient Blackswan Private Limited

Socrates

- Sir Richard Livingstone

Leo Tolstoy

- Ronald Seth

Alexander Fleming

- Philip Cane

Mother Teresa

- John Frazer

Martin Luther King

- R.N.Roy

UNIT IV FUNCTIONAL ENGLISH & SOFT SKILLS

8 Hrs

Prepositions, Reported Speech, Editing, Phrasal Verbs and Idioms, Gerunds Infinitives, Beginning Sentences with 'It', Common Errors, Use in sentence words as different word classes – (Text based) Writing CV,

Completing a dialogue, Expansion of hints

Soft Skill: Spring Board to Success, Sharda Kaushik. Etal Orient Black Swan – 2014.

Part III English Usage

Part IV Listening Skills

Part V Face to Face Interaction

Unit V Scenes from Shakespeare – Emerald Publication

5 Hrs

Test and Written Exercises

4 Hrs

Total No of Hrs: 45

TEXTBOOK:

1. *English Pronunciation in Use-Marks Hancock Cambridge Univ – 2003.*

REFERENCE:

1. Sharda Kaushik etal Orient Black Swan(2014) *Spring Board to Success*



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DEPARTMENT OF COMPUTER APPLICATIONS

HBMA14A02

MATHEMATICS II

3 1 0 4

OBJECTIVES :

- Aware about the importance and symbiosis between mathematics and applied sciences
- Use double and triple integrals to find the surface area and volume of a solid region
- To solve equations of tangent planes and normal lines to surfaces

UNIT I

12 Hrs

INTEGRATION: Basic concepts of Integration –Methods of Integration–Integration by substitution–Integration by parts –Definite integrals – Properties of definite integrals–Problems on finding Area and Volume using single integrals(simple problems).

UNIT II

12 Hrs

MULTIPLEINTEGRALS: Double integral in Cartesian and Polar Co-ordinates – Changeoforder of integration– Triple integral inCartesian Co-ordinates– Spherical Polar Co-ordinates–Change of variables (simple problems).

UNIT III

12 Hrs

ORDINARYDIFFERENTIALEQUATIONS: First order differential equations –Second and higher order linear differential equations with constant coefficients and with RHS of the form: e^{ax} , x^n , $\sin ax$, $\cos ax$, $e^{ax} f(x)$, $xf(x)$ where $f(x)$ is $\sin bx$ or $\cos bx$ –Differential equations with variable coefficients(Euler’s form)(simple problems).

UNIT IV

12 Hrs

THREEDIMENSIONALANALYTICALGEOMETRY: Direction Cosinesand Ratios– Equationof a straightline– Anglebetweentwo lines–Equationof aplane– Co-planarlines – Shortestdistancebetween skewlines–Sphere –Tangentplane.

UNIT V

12 Hrs

VECTORCALCULUS: Scalar and Vector functions–Differentiation–Gradient,Divergence and Curl–Directional derivatives–IrrotationalandSolenoidalfields–Line, Surfaceand Volumeintegrals – Green’s,Stoke’sand Gaussdivergencetheorems(statement only) –Verification.

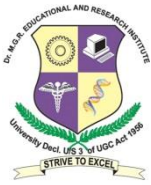
Total No of Hrs: 60

TEXT BOOK:

1. Kreyszig,E(2001)*AdvancedEngineeringMathematics*(8th ed.),JohnWileyandSons(Asia)Pvt.Ltd., Singapore.

REFERENCES:

1. Grewal,B,S(200), *HigherEngineeringMathematics*(35th ed.),KhannaPublishers.
2. JohnBird (2010) *BasicEngineeringMathematics*(5th ed.),ElsevierLtd.
3. Veerarajan, T(2002) *EngineeringMathematicsforIYr.*(FirstReviseded.), TataMcGrawHill Publishing Co.,NewDelhi.
4. Kandasamy,P.,Thilagavathy, K&Gunavathy,K, *EngineeringMathematicsVol.I*(4th Reviseded.)S.Chand&Co.,Publishers,NewDelhi..
6. JohnBird(2006) *HigherEngineeringMathematics*(5th ed.),ElsevierLtd.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G03 DOS AND WINDOWS OPERATING SYSTEM 3 0 0 3

OBJECTIVES:

- To be Discuss the Disk Operating System.
- Introduction to Windows Operating System
- Opening windows explorer, Copy, Delete, Move & Paste.
- Features of MS-WINDOWS
- Discussing the types of Networking

UNIT I

9 Hrs

Disk Operating System: What is DOS, History.Files and Directory,Study of all internal & External commands.Types of files.Configuration of DOS (config. sys)Batch file concept & study of Autoexec.bat file.Booting Procedure of DOS

UNIT II

9 Hrs

Introduction To Windows Operating System: What are Windows O.S., History, files and Folders?Architecture of windows O.S., Study of windows directories.Basics of windows: Desktop, My computer, Recycle bin, my network places, Quick launch tool bar

UNIT III

9 Hrs

Windows Explorer: Opening windows explorer.Copying, pasting, moving, deleting, send to files Controlling and customizing the toolbars ,Using address bar, history list Working with files and folders.

UNIT IV

9 Hrs

Features of MS-WINDOWS: GUI, Multitasking, multi-user, network etc.Important files of windows and their locations (For e.g. DLL, INI etc.)Windows Accessory :Calculator Character map Notepad, WordPad Paint,System tools and minor troubleshooting using different .ini files, Windows registry files.

UNIT V

9 Hrs

Using Local Networks: What is network, E-mail?, Finding computers and files on network Sharing and managing files, folders and printers Adding and sharing Internet connection.

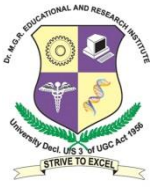
Total No of Hrs: 45

TEXT BOOK:

1. Russell A Stultz*Dos 6.22*, BPB Publication

REFERENCES:

1. Paul McFedries (2003)*Teach Yourself VISUALLY Windows 8.1*, Wiley Publisher
2. Ray Duncan (2008) *Advanced MS-Dos Programming*, BPB Publisher



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14L02

PROGRAMMING IN C LAB

0 0 2 2

OBJECTIVES:

- To write programs in C to solve the problems.
- Students should know how to read, write, and debug basic programs using good programming styl
- To implement simple searching and sorting methods

I Summation of Series:

1. Sin(x)
2. Cos(x)
3. Exp(x) (Comparison with built in functions)

II String Manipulation:

1. Counting the no. of vowels, consonants, words, white spaces in a line of text and array of lines
2. Reverse a string & check for palindrome.
3. Substring detection, count and removal
4. Finding and replacing substrings

III Recursion:

1. ${}^n P_r, {}^n C_r$
2. GCD of two numbers
3. Fibonacci sequence
4. Maximum & Minimum

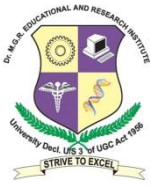
IV Matrix Manipulation:

1. Addition & Subtraction
2. Multiplication

V Sorting and Searching:

1. Insertion Sort
2. Bubble Sort
3. Linear Search
4. Binary Search

Total no. of Hrs. needed to complete the lab : 30



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HBCA14L03

DOS AND WINDOWS LAB

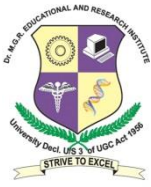
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OBJECTIVES:

- Students will learn various internal and external dos commands
- Students should know how to create, rename and delete folders in Windows OS

1. Booting procedure of DOS.
2. Study of various internal and external commands of DOS.
3. Study of various batch file commands and creation of batch file used in autoexec.
4. Study of redirection and piping concept.
5. Study of Windows O.S.
6. Study of components and accessories of Windows O.S.
7. Study windows Directories, different .ini files & their locations.

Total no. of Hrs. needed to complete the lab: 30



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HBCA14GA1 ALLIED II-PAPER –I COMPUTER ORGANIZATION AND DESIGN 3 1 0 4

OBJECTIVES :

- Student will learn the concepts of computer organization for several engineering applications.
- Student will develop the ability and confidence to use the fundamentals of computer organization as a tool in the engineering of digital systems.

UNIT I

12 Hrs

Number systems - Conversion from one number system to another - compliments - Binary codes - Binary logic - Logic gates - Truth tables.

UNIT II

12 Hrs

Boolean Algebra - Axioms - Truth table simplification of Boolean function - map method (upto 5 Variables) - Mc-Clausky tabulation method.

UNIT III

12 Hrs

Sequential logic - RS, JK,D and T Flip flops - Registers -Shift Registers - Counters - Ripple Counters - Synchronous Counter - Design of Counters.

UNIT IV

12 Hrs

Adders - Subtractors - Decoders - Encoders - Multiplexer - Demultiplexer - Design of Circuits using decoders/Multiplexers - ROM - PLA - Designing circuits using ROMIPLA.

UNIT V

12 Hrs

Design of ALU -. Design of Status Register - Design of accumulator - Introduction to Computer Design.

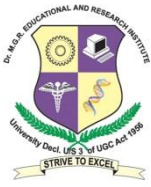
Total No of Hrs: 60

TEXTBOOK:

1. Mano,M,M(1994) *Digital Logic and Computer Design*, Prentice Hall of India

REFERENCES:

1. Barte, T,C(1991) *Computer Architecture and logical Design* McGraw Hill,.
2. David A. Patterson & John L. Hennessy(2011), *Computer Organization and Design: The Hardware/Software Interface*(4th ed.), Morgan Kaufmann Publishers Inc.



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HBCA14G05

DATA STRUCTURES

3 0 0 3

OBJECTIVES :

- Having successfully completed this course, the student will be able to:
- Choose the data structures that effectively model the information in a problem.
- Select appropriate methods for organizing data files and implement file-based data structures.

UNIT I

9 Hrs

Introductions and Overview: Introduction, Basic technology, elementary data organization, Data structure, Data structure operation, Notation and Concept of algorithm

UNIT II

9 Hrs

Array, Records And Pointers: Introduction, Linear array, Representation of linear array in memory, Traversing linear array, Inserting and Deleting, Sorting methods (Selection, bubble, insertion), Searching methods (Binary and linear search)

UNIT III

9 Hrs

Linked List: Introduction, Linked list, Representation of Linked list in memory, Searching a linked list, Memory allocation, Garbage collection, Insertion and deletion in linked list

UNIT IV

9 Hrs

Stacks, Queues, Recursion: Introduction, Stacks, Array representation of stacks, Arithmetic expression, Recursion, Queues

UNIT V

9 Hrs

Tree: Introduction, Terminology of Binary tree, Types of Binary tree, Traversing of binary tree, Header Nodes, Threads

Total No of Hrs: 45

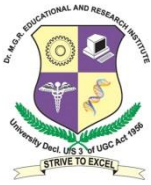
TEXTBOOK:

1. Seymour Lipschutz (1986) *Data Structure, Schaum's Outline Series In Computers*, McGraw Hill

REFERENCES:

1. Jeanpaul, Tremblay Paul & Sorenson, G (2007) *An Introduction To Data Structure With Application* (2nd ed.), Tata McGraw Hill.

2. Narasimha Karumanchi (2011), *Data Structures and Algorithms Made Easy* (2nd ed.), CreateSpace Independent Publishing Platform.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G06

WEB PAGE DESIGNING

3 0 0 3

OBJECTIVES:

- Understand the importance of the web as a medium of communication.
- Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.
- Learn the language of the web: HTML and CSS.

UNIT I

9 Hrs

Introduction to Web Publishing: Web browser, WWW, Web design process, Implementation, Maintenance Phases of Website. Web Publishing,HTML Documents: Overview, rules&guidelines, structure of HTML documents, document types.

UNIT II

9 Hrs

The Markup Tags: HTML, HEAD, TITLE, BODY, Paragraphs, Lists, Formatted & Unformatted text, Extended quotations, Address, Horizontal rules, Hyperlink, Font (Size,Color), Table, Image(Add, Alignments), CellSpace/Cellpadding, Frame Set, Options, Form.Linking:URL, Mail to anchors, LinkImage: Image size attributes, aligning images, alternate text for images, Background graphics, and Background color,External Images,Sounds&Animations.Imagemap,Server side image map,Client side image map,In line image.

UNIT III

9 Hrs

Tables: Table tags, General Table format. Row Span, Colspan, Frame: Overview of frame, Simple frame example, Frame targeting, Floating frame, Frame problems. Form:Action attribute, Method attribute, Name attribute,Enctype attribute,Completeformsyntax,Example.

UNIT IV

9 Hrs

DHTML: Dynamic HTML, Document object model, Roll over Buttons, Moving objects with DHTML, Ramification of DHTML.

UNIT V

9 Hrs

VBScript: Adding script to document, Inputbox, working with global & local variables, numbers, date&time, operators, arrays, uppercase & lower case letters. Functions, Control statements, if-then-else,Nested ifs,Select Case,Looping Statements for -Next, Do-while, Do-Until, Java Script Basics: Introduction, Basics, DataTypes & variables,Expressions & Operators.

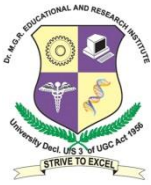
Total No of Hrs: 45

TEXT BOOK:

1. Thomas A. Powell(1999) *HTML: The Complete Reference*(2nd. Ed), BpbPublication.

REFERENCES:

1. Danesh&Tatters (1996) *JAVASCRIPT 1.1*(1sted.)SamsnetPublications.
2. Ed. Wilson (2006) *Microsoft VBScript: Step by Step*, Microsoft Press



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G07

FUNDAMENTALS OF OPERATING SYSTEMS

3 1 0 4

OBJECTIVES:

- Student will learn the general understanding of structure of modern computers
- Student will learn the purpose, structure and functions of operating systems
- Student will learn the illustration of key OS aspects by example

UNIT I

12 Hrs

Introduction: What is an operating system? Mainframe, desktop, multiprocessor, distributed, clustered, real-time and handheld systems. Operating System Structures, System components, operating system services, system calls, systems programs, system structure, virtual machines.

UNIT II

12 Hrs

Process: Process concept, process scheduling, operations on processes, cooperating processes. Inter process communication. CPU Scheduling: Basic concepts, scheduling criteria, scheduling algorithms, algorithm evaluation.

UNIT III

12 Hrs

Process Synchronization: The critical section problem, semaphores, classical problems of synchronization. Deadlocks: Deadlock characterization, methods for handling deadlocks. Deadlock prevention, avoidance and detection. Recovery from deadlocks.

UNIT IV

12 Hrs

Memory Management: Swapping, contiguous memory allocation, paging, segmentation, segmentation with paging. Virtual Memory: Demand paging, page replacement, location of frames, thrashing.

UNIT V

12 Hrs

Linux: History, design principles, kernel modules, process management, scheduling, memory management, file systems, input and output, inter process communication, network structure, security.

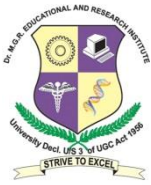
Total No of Hrs: 60

TEXTBOOK:

1. Silberschatz G.G (2000), *Operating System Concepts* (8th ed.) John Wiley & Sons Inc.

REFERENCES:

1. Dhamdhere (2012), *Operating Systems: A Concept Based Approach* (3rd ed.), McGraw Hill Education.
2. Andrew S. Tanenbaum, *Modern Operating Systems* (4th ed.)
3. Thomas Anderson & Michael Dahlin (2014), *Operating Systems: Principles and Practice* (2nd ed.)



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G08

FINANCIAL ACCOUNTING

3 1 0 4

OBJECTIVES:

- This course aims to convey sufficient knowledge for an accounting structure, Depreciation accounting analysis.
- Students are expected and able to analyze a company's financial statements and come to a reasoned conclusion about the financial situation of the company.

UNIT I

12 Hrs

Meaning and Scope of Accounting, Basic Accounting Concepts and Conventions - Objectives of Accounting – Accounting Transactions – Double Entry Book Keeping – Journal, Ledger, Preparation of Trial Balance.

UNIT II

12 Hrs

Preparation of Final Accounts of Sole Trading Concern – Adjustments – Closing Stock – Outstanding and Prepaid items, Depreciation, Provision of Bad Depts., Provision for Discount on Debtors, Interest on Capital and Drawings – Preparation of Receipts and Payments Account, Income and Expenditure Account and Balance Sheet of Non Trading Organization(Simple Problems).

UNIT III

12 Hrs

Classification of errors – Rectification of errors – Preparation of Suspense Account, Bank Reconciliation Statement (Only Simple Problems)

UNIT IV

12 Hrs

Depreciation – Meaning, Causes, Types – Straight Line Method – Written Down Value Method (Change in Method excluded) - Insurance Claims – Average Clause (loss of stock only)

UNIT V

12 Hrs

Single entry – Meaning, Features, Defects, Difference between Single Entry and Double Entry System- Statement of Affairs Method – Conversion Method (only simple problems)

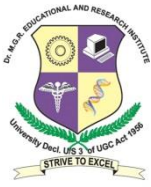
Total No of Hrs: 60

TEXT BOOK:

1. Gupta R.L(2010) *Advanced Accountancy*(14th ed.),S.Chand, Delhi.
2. T.S Reddy and A.Murthy – Financial accounting.

REFERENCES:

1. Agarwala A. N. *Higher Science of Accountancy*(1st ed.) KitabMahal,Allahabad.
2. Jam,S,P&Narang,K,L(2012)*Financial Accounting*(2nd ed.)Kalyani Publisher
3. Shukla, M, C &Grawel,T,S(2010) *Adavnced Accounts(VoL I)*(7th ed.)S.ChandPublishing



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HBCA14L04

DATA STRUCTURES USING C

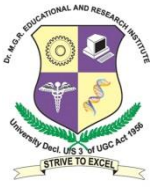
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OBJECTIVES:

- To make participant learn the fundamental data structures algorithms.
- Describes and implements the algorithms such as stacks, queues, linked lists, trees, searching techniques, sorting techniques, hashing techniques and graphs.

- 1.Implements PUSH, POP operations of stack using arrays.
2. Implements PUSH, POP operations of stack using pointers.
3. Implement add, delete operations of a queue using arrays.
4. Implement add, delete operations of queue using pointers.
5. Conversion of infix to postfix using stack operations.
6. Posffix expression evaluation.
7. Addition of two polynomials using Arrays and Pointers.
8. Polynomial multiplication using singly linked list.
9. Creation, Insertion and deletion in doubly linked list.
10. Binary tree traversals (inorder, preorder and post order) using linked list and recursion.
11. Non-recursive inorder traversal.
12. Non-recursive preorder traversal.
14. Non-recursive postorder traversal.
14. Depth first search for graphs using recursion
15. Breadth first search for graphs.

Total No of Hrs needed to complete the Lab : 30



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HBCA14L05 WEB PAGE DESIGNING (HTML AND DHTML) 0 0 2 2

OBJECTIVES:

- Students will be able to use a variety of strategies and tools to create websites.
- Provides students with an opportunity for "real world" experience designing and developing websites for local community organizations

Create a simple webpage

1. Create a page for Ordered list
2. Create a web page contains links of other page & other area
3. Createa webpage which contains table,frames&image
4. Createawebpage contains animated image&text.
5. Create a web page using HTML form tag
6. Use Cascading Style Sheet to create web page

Total No of Hrs needed to complete the Lab : 30



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HBCA14GA2 ALLIED II-PAPER –II COMPUTER ORGANIZATION AND DESIGN 3 1 0 4

OBJECTIVES :

- Student will learn the concepts of computer organization for several engineering applications.
- Will learn building blocks of Computer Systems.
- To be understand memory management.
- Student will develop the ability and confidence to use the fundamentals of computer organization as a tool in the engineering of digital systems.

UNIT I

12 Hrs

Building blocks of computer system: Basic building blocks – I/O, Memory, ALU and its components, Control Unit and its functions, Instruction –word, Instruction and Execution cycle, branch, skip, jump and shift instruction, Operation of control registers; Controlling of arithmetic operations

UNIT II

12 Hrs

Addressing techniques and registers: Addressing techniques – Direct, Indirect, Immediate, Relative, Indexed addressing and paging. Registers – Indexed, General purpose, Special purpose, overflow, carry, shift, scratch, Memory Buffer register; accumulators; stack pointers; floating point; status information and buffer registers.

UNIT III

12 Hrs

Memory: Main memory, RAM, static and dynamic, ROM, EPROM, EEPROM, EAROM, Cache and Virtual memory.

UNIT IV

12 Hrs

Interconnecting System components: Buses, Interfacing buses, Bus formats – address, data and control, Interfacing keyboard, display, auxiliary storage devices and printers. I/O cards in personal computers.

UNIT V

12 Hrs

Introduction to Microprocessors and Microcontrollers: introduction to 8085 micropocesor, examples of few instructions to understand addressing techniques. Difference between microprocessor and microcontrollers.

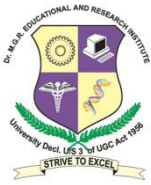
Total No of Hrs: 60

TEXT BOOK:

1. Andrew S. Tanenbaum(2005) *Structured Computer Organization*(5h ed.),Printice Hall

REFERENCES

1. William Stallings(2003) *Computer Organization and Architecture*(6th ed.), Pearson.
2. Bartee,T,C(1991) *Computer Architecture and logical Design* McGraw Hill,.
3. David A. Patterson & John L. Hennessy(2011), *Computer Organization and Design: The Hardware/Software Interface*(4th ed.), Morgan Kaufmann Publishers Inc.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G09 OBJECT ORIENTED PARADIGM AND PROGRAMMING IN C++ 3 0 0 3

OBJECTIVES:

- To prepare object- oriented design for small/medium scale problems.
- To explain class structures as fundamental, modular building blocks
- To understand the role of inheritance, polymorphism, dynamic binding and generic structures in building reusable code

UNIT I

9 Hrs

Introduction to OOP: Object Oriented Programming, Basic concepts of OOPS, Benefits of OOPs.

UNITII

9 Hrs

Introduction to C++: Tokens, Keywords, Identifiers, Datatypes, Constant, Operators Operator precedence & associativity, I/O statements, Structure of C++ program, Control statements, Looping statements, Type casting, Arrays, Pointer, References, Structure and Unions, Function, Function Prototype, Call by value, Call by reference, Return by reference, Inline function, Default arguments, Function Overloading.

UNIT III

9 Hrs

Class&Object: Define Class, Members, Object, Visibility modes, Static members, Friend functions Pointer to members & Pointer to objects, Constructors & Destructors. **Operator** Over loading & Type Conversions: Concept of Operator Overloading, Unary & Binary operator overloading, Rules for Overloading. Type conversions–Basic to Class, Class to basic Class to Class.

UNITIV

9 Hrs

Inheritance & Polymorphism: Concept of Inheritance, Types of Inheritance, Polymorphism, Virtual Classes, Pointer to Derived class, Virtual functions, Rules for Virtual function, Pure Virtual functions.

UNITV

9 Hrs

C++ I/O System: C++ Streams, Stream classes, formatted I/O, Overloading <<.

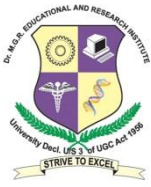
Total No of Hrs : 45

TEXT BOOK:

1. Balguruswamy, E (2008) *Object Oriented Programming With C++*, (4th ed.) Tata McGraw-Hill Education.

REFERENCES:

1. Richard Johnsonbaugh & Martin Kalin (1998) *Object Oriented Programming In C++* (1st ed.) Prentice Hall
2. Sheild, H (2002) *C++ Complete Reference* (4th ed.), McGraw-Hill Osborne Media



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HBCA14G10

INTRODUCTION TO RDBMS

3 0 0 3

OBJECTIVES :

- To Understand basic database concepts, including the structure and operation of the relational data model.
- To Construct simple and moderately advanced database queries using Structured Query Language (SQL)

UNIT I

9 Hrs

Introduction and Basic Concepts: Structure of DBMS, Advantages and Disadvantages of DBMS, Relational Database: attributes & domains, tuples, relations and their schemes, Integrity rules RelationalAlgebra: basic operations, additional relational algebraic operations.

UNIT II

9 Hrs

Interactive SQL:Oracle & Client-Server Technology Data ,Manipulation in DBMS ,The Component Parts of a Two Dimensional Matrix, The Data Types Two Dimension Matrix Creation, Insertion of Data into tables, Viewing Data in the Tables. Deletion Operations, Updating the contents of Tables, Modifying the Structure of Tables, Renaming Tables, Destroying Tables,

UNIT III

9 Hrs

More on SQL: Computations on Table Data, Oracle Dual Table, Sysdate OracleFunctions, Data Constraints,Grouping Data from Tables,Manipulating Dates,Subqueries,Study of the clauses:Union,Intersect,Minus,

UNIT IV

9 Hrs

SQL PerformanceTuning: Indexes ROWID, Views Sequences Introduction to PL/SQL:Introduction, TheGeneric PL/SQL Block Oracle Transaction , Introduction to Cursor & Locks

UNIT V

9 Hrs

Introduction to database objects :Stored Procedures and Functions, Database Triggers

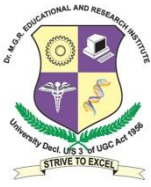
Total No of Hrs : 45

TEXT BOOK:

1. Bipin C. Desai (1997) *AnIntroductionToDatabase Systems*,West Publishing Company

REFERENCES:

1. Ivan Bay ross*Sql,Pl/SqlThe Programming LanguageOf Oracle(2nd ed.)* , Bpb Publications.
2. Gavekar, *Dbms And Rdbms Using Oracle*, Vision publications.



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HBCA14G11

SOFTWARE ENGINEERING

3 1 0 4

OBJECTIVES:

- To understand the basic concepts of software engineering
- To learn about software cost estimation
- To design a real time system

UNIT I

12 Hrs

Introduction to Software Engineering: Definitions - Size Factors - Quality and Productivity Factors - Managerial Issues - Planing a software project : Defining the problem - Developing a Solution Strategy - Planning the Development Process - Planning an Organization structure - Other Planning Activities.

UNIT II

12 Hrs

Software Cost Estimation: Software cost factors - Software Cost Estimation Techniques - Staffing-level Estimation - Estimating Software Maintenance Costs - The Software Requirements Specification - Formal Specification Techniques - Languages and Processors for Requirements Specification.

UNIT III

12 Hrs

Software design: Fundamental Design Concepts - Modules and Modularization Criteria - Design Notations - Design Techniques - Detailed Design Considerations - Real-Time and Distributed System Design - Test Plans - Milestones, walkthroughs, and Inspections.

UNIT IV

12 Hrs

Implementation issues: Structured Coding Techniques - Coding Style - Standards and Guidelines - documentation guidelines -Type Checking - Scoping Rules - Concurrency Mechanisms.

UNIT V

12 Hrs

Quality Assurance - Walkthroughs and Inspections - Static Analysis - Symbolic Execution - Unit Testing and Debugging - System Testing - Formal Verification: Enhancing Maintainability during Development - Managerial Aspects of Software Maintenance - Source Code Metrics - Other Maintenance Tools and Techniques.

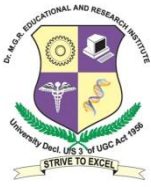
Total No of Hrs : 60

TEXTBOOK:

1. Fairley,R(1997) *Software Engineering Concepts*, Tata McGraw-Hill.

REFERENCES:

1. Pressman,R,S(1997) *Software Engineering*(4th ed.) , McGraw Hill.
2. Stephen Schach(2006), *Software Engineering*(7th ed.) McGraw Hill Education.
3. Len Bass (2010), *Software Engineering*(1st ed.),Pearson Education.



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HBMG14G01

ENTREPRENEURSHIP DEVELOPMENT

3 0 0 3

OBJECTIVES:

- Understand the process and procedure involved in setting up a small enterprise.
- Acquire the necessary managerial skills required to run a small-scale industry.
- Know the pros and cons in becoming an entrepreneur.

UNIT I

9 Hrs

Entrepreneur –Meaning – Definition – Characteristics – Functions – Role of Entrepreneurs in the economic development – Classification of entrepreneurs – Factors affecting entrepreneurial growth.

UNIT II

9 Hrs

Entrepreneurship – Concept – Distinction between Entrepreneur and Entrepreneurship - Entrepreneurship Development Programmes – Objectives - Stages in EDP- Pre-training Stage – Training phase – Post Training – Evaluation and Feedback of EDP.

UNIT III

9 Hrs

Project Identification - Sources of ideas – Preliminary evaluation and testing of ideas – Constraints - Project formulation – Stages- Feasibility study and Feasibility Report – Selection Criteria.

UNIT IV

9 Hrs

Project Report - Project Appraisal – Technical – commercial appraisal –Financial appraisal– Sources of finance – Steps to star an industrial unit.

UNIT V

9 Hrs

Incentives and subsidies of State and Central Govt. – Aims – Backward areas – Industrial Estates –Role of DIC,SISI, TCO in entrepreneurial growth.

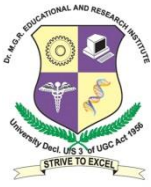
Total No of Hrs : 45

TEXT BOOK:

1. Singh,P,N(1986) *Developing Entrepreneurship for Economic Growth*.

REFERENCE:

1. *Guide to Entrepreneurs – Industrial Development* – Govt. of Tamil Nadu – SIPCOT
2. Thierry Burger Helmchen(2012), *Entrepreneurship Born, Made and Educated*, Marina Jozipovic.
3. Thierry Burger Helmchen(2012), *Entrepreneurship Creativity and Innovative Business Models*, Marina Jozipovic.



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HBCA14L06

PROGRAMMING IN C++ LAB

0 0 2 2

OBJECTIVES:

- To prepare object-oriented design for small/medium scale problems
- Be able to program using more advanced C++ features such as composition of objects, operator overloads, dynamic memory allocation, inheritance and polymorphism, file I/O, exception handling, etc
- Be able to build C++ classes using appropriate encapsulation and design principles.

Write a basic CPP program

1. Using Class

2. Using Constructor

3. Using Friend Function

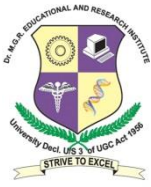
4. Using Operator Overloading

6. Using Inheritance

7. Virtual Function

8. Using Files

Total no. of Hrs needed to complete the Lab : 30



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HBCA14L07

RDBMS LAB

0 0 2 2

OBJECTIVES:

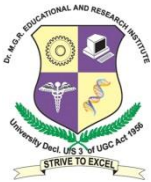
- Learn Oracle DDL to define and create a relational database structure.
- Be able to write fairly complex SQL queries to retrieve data from a database with multiple tables.
- Learn Oracle SQL*Plus commands to write interactive queries and format reports.
- Learn the basics of Oracle PL/SQL programming to develop and manage Oracle database applications

I. SQL BASICS :

1. DDL – Create,Alter,Drop
2. DML-Update ,Insert,Delete
3. DQL-Select

- II. VIEWS**
- III. INTEGRITY CONSTRAINTS- Naming Constraints**
- IV. SUB QUERIES- Nested, Complex**
- V. SQL FUNCTIONS-Built in functions**
- VI. SET OPERATIONS**
- VII. PL/SQL-Factorial ,Fibonacci Series, Using Cursor**

Total no. of Hrs needed to complete the Lab : 30



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HBMG14L01

SOFT SKILLS I

2 0 0 2

OBJECTIVES:

To improve

- Value system
- Interpersonal skills
- Behaving in corporate culture
- Self awareness/confidence
- Communication skill

Carrier & Confidence Building

UNIT I

6 Hrs

Creation of awareness of the top companies / different verticals / courses for improving skill set matrix, Industry expectations to enable them to prepare for their career – Development of positive frame of mind – Avoiding inhibitions – Creation of self awareness – Overcoming of inferiority / superiority complex.

UNIT II

6 Hrs

Selection of appropriate field vis-à-vis personality / interest to create awareness of existing industries, Preparation of Curriculum Vitae – Objectives, Profiles vis-à-vis companies.

UNIT III

6 Hrs

Group discussions: Do's and Don'ts – handling of group discussions – What evaluators look for! Interpersonal relationships – with colleagues – clients – understanding one's own behavior – perception by others, How to work with persons whose background, culture, language / work style different from one's, behavior pattern in multi-national offices.

UNIT IV

6 Hrs

Interview – awareness of facing questions – Do's and Don'ts of personal interview / group interview, Enabling students prepare for different Procedures / levels to enter into any company – books / websites to help for further preparation, Technical interview – how to prepare to face it. Undergoing employability skills test.

UNIT V

6 Hrs

Entrepreneurship development – preparation for tests prior to the interview – Qualities and pre-requisites for launching a firm.

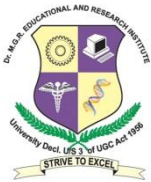
Total No of Hrs : 30

TEXT BOOKS:

1. R.S. Aggarwal (1989), *Quantitative Aptitude*, S.Chand Publication.
2. Shalini verma (2009), *Soft Skills*, Pearson Publication.

REFERENCES:

1. Shalini verma(2012), *Enhancing employability @ SOFT SKILLS*, Pearson Publication.
2. Kiranmai Dutt, P, Geetha Rajeevan,CLN Prakash(2010), *A Course in Communication Skills*, Foundation Books Publication.
3. Nira konar(2011), *English Language Laboratories*, PHI Learning Publication.
4. Anandamurugan,S (2011), *Placement Interviews*, Tata McGraw Hill Education Publication.



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HBMG14001

ENVIRONMENT STUDIES

3 0 0 3

OBJECTIVES:

- Understanding of the human and natural environment
- Demonstrate in-depth understanding of the environment.
- Demonstrate an ability to integrate the many disciplines and fields that intersect with environmental concerns

UNIT I

9 Hrs

INTRODUCTION TO ENVIRONMENTAL STUDIES: Definition, Scope and importance – Need for Public awareness – Types of resources – Utilization of forest resources, water resources, Mineral resources, food resources, energy resources and land resources- Dams and their effects on forest and tribal people-conflicts over water- equitable use of resources for sustainable life styles.

UNIT II

9 Hrs

ECOSYSTEMS AND BIODIVERSITY: Kinds of ecosystems- Structure and functions of an ecosystems- Energy flow within the ecosystem –Productivity- food chains and Trophic Levels- Ecological Pyramids- value of biodiversity – Biodiversity at global, National & local levels – Hot spots of Biodiversity –Threats to biodiversity – Endangered and Endemic species of India – Conservation of Biodiversity.

UNIT III

9 Hrs

ENVIRONMENTAL POLLUTION: Environmental Pollution, sources, effects-control measures for air pollution, water pollution, Noise pollution, Land pollution, Marine pollution, e-waste pollution,Solid Waste Management- Disaster Management.

UNIT IV

9 Hrs

ENVIRONMENTAL MANAGEMENT: Introduction - Environmental Management – climate change - population growth – Nuclear Accidents and Holocaust- Human Health and Human Rights- Environmental Ethics- Environmental Legislation- public awareness – Role of information Technology in Environmental & human health

UNIT V

9 Hrs

CASE STUDIES: Visit to a local area to document environmental assets River/forest/grassland/hill/mountain) - Study of common plants, insects, birds- Study of simple ecosystems-pond, river, hill slopes – Visit to a local polluted site (Urban/Rural/ Industrial/ Agricultural)- e-waste hazardous –case study.

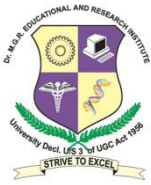
Total No of Hrs : 45

TEXT BOOK:

1. Meenambal,T(2009) *Environmental Science and Engineering*, MJP Publishers, Chennai

REFERENCES:

1. Iftikaruddin,(2006) *Principles of Environmental science and Engineering*, Sooraj Publication.
2. Masters,G(2006) *Environmental Engineering*, New Centurion Book House, New Delhi.
3. Rajagopal, *Environmental Engineering*, Oxford University Press, New Delhi.
4. BinyJoseph(2006) *Environmental Engineering*, Tata McGraw Hills.
5. Rana(2003) *Essentials of Ecology and Environmental Science*, Prentice – Hall of India Private Limited, New Delhi.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G12

PROGRAMMING IN JAVA

3 0 0 3

OBJECTIVES:

- To understand the concepts of object-oriented, event driven, and concurrent programming paradigms and develop skills in using these paradigms using Java.
- Be exposed to Java specific, Web services Architecture

UNIT I

9 Hrs

Introduction to Java - Features of Java - Object Oriented Concepts - Lexical Issues - Data Types - Variables - Arrays - Operators - Control Statements.

UNIT II

9 Hrs

Classes - Objects - Constructors - Overloading method - Access Control- Static and fixed methods - Inner Classes - String Class - Inheritance - Overriding methods - Using super-Abstract class.

UNIT III

9 Hrs

Packages - Access Protection - Importing Packages - interfaces - Exception Handling - Throw and Throws - Thread - Synchronization - Messaging - Runnable Interface - Inter thread Communication - Deadlock - Suspending, Resuming and stopping threads - Multithreading.

UNIT IV

9 Hrs

I/O Streams - File Streams - Applets - String Objects - String Buffer - Char Array - Java Utilities - Code Documentation.

UNIT V

9 Hrs

Networks basics - Socket Programming - Proxy Servers - TCP/IP Sockets - Net Address - URL - Datagrams - Working with windows using AWT Classes - AWT Controls - Layout Managers and Menus.

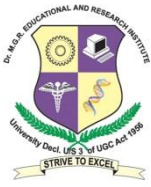
Total No of Hrs : 45

TEXT BOOK:

1. Naughton, P & Schildt, H(1999) *Java2 The Complete Reference* (3rd ed.),TMH.

REFERENCES:

1. Cay S.Horstmann, Gary Cornell (2000) *Core Java 2 Volume I Fundamentals*(5th ed.), PHI.
2. Arnold, K & Gosling, J(1996) *The Java Programming Language*(2nd ed.), Addison Wesley.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G13

DATA COMMUNICATION AND NETWORKING

3 1 0 4

OBJECTIVES:

- To introduce the students the functions of different layers
- To understand the layering concepts in computer networks
- Be exposed to the required functionality at each layer
- To have knowledge in different applications that use computer networks

UNIT I

12 Hrs

Introduction to Data Communication. Network, Protocols & standards and standards organizations - Line Configuration - Topology - Transmission mode - Classification of Network - OSI Model - Layers of OSI Model.

UNIT II

12 Hrs

Parallel and Serial Transmission - DTE/DCE Interface - Modems - Guided Media - Unguided Media - Performance - Types of Error - Error Detection - Error Corrections.

UNIT III

12 Hrs

Multiplexing - Types of Multiplexing - Multiplexing Application - Telephone system - Project 802 - Ethernet Token Bus - Token Ring

UNIT IV

12 Hrs

FDDI - IEEE 802.6 - SMUS - Circuit Switching - Packet Switching - Message switching - Connection Oriented and Connectionless services.

UNIT V

12 Hrs

History of Analog and Digital Network - Access to ISDN - ISDN Layers - Broadband ISDN - X.25 Layers - Packet Layer Protocol - ATM ATM Topology - ATM Protocol.

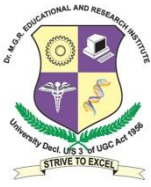
Total No of Hrs : 60

TEXT BOOK:

1. Behrouz &Forouzan(2001) *Introduction to Data Communication and Networking* (2nded.), TMH.

REFERENCES:

1. Jean Wairand (1998) *Communication Networks (A first Course)*(2nd ed.), WCB/ McGraw Hill8.
2. Olivier Bonaventure(2011), *Computer Networking : Principles, Protocols and Practice* ,The Saylor Foundation.
3. Iresh A. Dhotre, Vilas S. Bagad (2013), *Computer Networks An Illustrated Guide to Computer Networking*, Technical Publications.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G14

VISUAL PROGRAMMING

3 0 0 3

OBJECTIVES:

- Identify the differences between the procedural languages and event driven languages
- Define and modify the properties and methods associated with an object
- Define and implement form objects, including data arrays, control arrays, text boxes, message boxes, dialog boxes, labels, pull down menus, and combo boxes.

UNIT I

9 Hrs

Customizing a Form - Writing Simple Programs - Toolbox - Creating Controls - Name Property - Command Button - Access Keys - Image Controls - Text Boxes - Labels - Message Boxes - Grid - Editing Tools - Variables - Data Types - String - Numbers.

UNIT II

9 Hrs

Displaying Information - Determinate Loops - Indeterminate Loops - Conditionals - Built-in Functions - Functions and Procedures.

UNIT III

9 Hrs

Lists - Arrays - Sorting and Searching - Records - Control Arrays - Combo Boxes - Grid Control - Projects with Multiple forms - Do Events and Sub Main - Error Trapping.

UNIT IV

9 Hrs

VB Objects - Dialog Boxes - Common Controls - Menus - MDI Forms - Testing, Debugging and Optimization - Working with Graphics.

UNIT V

9 Hrs

Monitoring Mouse activity - File Handling - File System Controls - File System Objects - COM/OLE - automation - DLL Servers - OLE Drag and Drop.

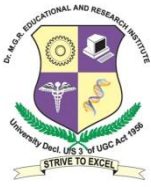
Total No of Hrs : 45

TEXT BOOK:

1. Gary Cornell(1999) *Visual Basic 6 from the Ground up*, Tata McGraw Hill.

REFERENCES:

1. Noel Jerke(1999) *Visual Basic 6 The Complete Reference* Tata McGraw Hill .
2. Bryan Newsome(2012), *Beginning Visual Basic*, Wiley India Private Limited
3. Bill Sheldon, Billy Hollis & Rob Windsor (2013), *Professional Visual Basic 2012 and .NET 4.5 Programming*, John Wiley & Sons.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14L08

PROGRAMMING IN JAVA LAB

0 0 2 2

OBJECTIVES:

- Be familiar with the main features of the Java language
- Develop the ability to solve real-world problems through software development in Java
- Be able to write a Java program to solve a well specified problem;
- Develop efficient Java applets and applications using OOP concept

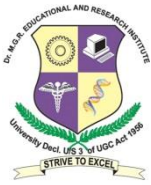
Applications

1. Finding area and Perimeter of a circle. Use Buffered Reader class.
2. Substring Removal from a String. Use String Buffer Class.
3. Determining the order of numbers generated randomly using Random Class.
4. Implementation of Point Class for Image manipulation.
5. Usage of Calendar Class and manipulation.
6. String Manipulation using Char Array.
7. Database Creation for storing e-mail addresses and manipulation.
8. Usage of Vector Classes.
9. Implementing Thread based applications & Exception Handling.
10. Application using synchronization such as Thread based, Class based and synchronized statements.

Applets

11. Working with Frames and various controls.
12. Working with Dialogs and Menus.
14. Working with Panel and Layout.
14. incorporating Graphics.
15. Working with Colors and Fonts.

Total no. of Hrs. needed to complete the Lab : 30



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HBCA14L09

VISUAL PROGRAMMING LAB

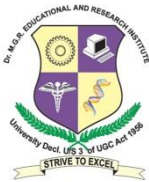
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OBJECTIVES:

- Introduce the concepts of Visual Programming.
- Familiarize students with the processes involved in long computer programs;
- Give students practice testing and debugging programs more like the ones they can expect to be working with after graduation;

1. Payroll
2. Mark sheet Processing
3. Savings bank account for banking
4. Inventory System
5. Invoice system
6. Library information system
7. Student information system
8. Income tax processing system
9. Electricity bill preparation system
10. Telephone directory maintenance.

Total no. of Hrs. needed to complete the Lab : 30



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HBMG14L02

SOFT SKILLS -II

2 0 0 2

To be organized by the Placement & Training department with the assistance of external agencies.

OBJECTIVES:

The purpose of this is to build confidence and inculcate various Soft skills and to help students to identify and achieve their personal potential

At the end of this training program the participant will be able to,

Explain the concept problem solving

- Outline the basic steps in problem solving
- List out the key elements
- Explain the use of tools and techniques in problem solving
- Discuss the personality types and problem in solving techniques
- By adapting different thinking styles in group and lean environment
- Recognizing and removing barriers to thinking in challenging situations
- Make better decision through critical thinking and creative problem solving

Methodology

The entire program is designed in such a way that every student will participate in the class room activities. The activities are planned to bring out the skills and talent of the students which they will be employing during various in their life.

1. Group activities + individual activities
2. Collaborative learning
3. Interactive sessions
4. Ensure participation
5. Empirical learning

Unit I

6 Hrs

Self Introduction – Narration – Current news update – Current Tech update – GD

Unit II

6 Hrs

Verbal Aptitude Test I – odd man out series – GD I – Mock Interview I

Unit III

6 Hrs

Verbal Aptitude Test II – Resume Writing- Mock Interview II – reading comprehension

Unit IV

6 Hrs

GD III – Numbers – Height and distance – directions – permutation and combination – odd man out – problem on ages.

Unit V

6 Hrs

Mock Interview III – ratio and proportion – clocks – HCF and LCM – Time and work – profit and loss – partnership.

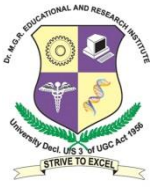
Total No of Hrs : 30

TEXTBOOK:

1.Pushpalata and Sanjay kumar(2007), *Communicate or Collpase: A Handbook of Effective Public Speaking, Group Discussions and Interviews*, Prentice-Hall, Delhi.

REFERENCES:

- 1.Thorpe, Edgar(2003), *Course in Mental Ability and Quantitative Aptitude*, Tata MCGraw-Hill,
- 2.Thorpe, Edgar(2003), *Test of Reasoning*, Tata MCGraw-Hill,
- 3.Prasad(2001), H.M, *How to prepare for Group Discussion and Interview*, Tata MCGraw-Hill,
- 4.Agarwal, R.S(2004), *A Modern Approach to verbal non-Verbal Reasoning*, S.Chand & Co.,
- 5.Mishra Sunita and muralikrishna(2004), *Communication Skills for Engineers*(1st ed.), Pearson Education.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G15

COMPUTER GRAPHICS

3 1 0 4

OBJECTIVES:

- Gain knowledge about graphics hardware devices and software used.
- Understand the two and three dimensional graphics and their transformations.
- Be familiar with understand clipping techniques.
- Appreciate illumination and colour models

UNIT I

12 Hrs

Introduction to computer Graphics - Video display devices- Raster scan Systems -Random Scan Systems - Interactive input devices - Hard copy devices - Graphics software - Output primitives - line drawing algorithms - initialising lines - line function - circle Generating algorithms.

UNIT II

12 Hrs

Attributes of output Primitives - line attributes - Color and Grayscale style - Area filling algorithms - Character attributes inquiry functions - Two dimensional transformation - Basic transformation - Composite transformation - Matrix representation - other transformations.

UNIT III

12 Hrs

Two - dimensional viewing - window- to view port co-ordinate transformation - clipping algorithms - Interactive input methods - Physical input devices - logical classification of input devices - interactive picture construction methods.

UNIT IV

12 Hrs

Three - dimensional concepts - Three dimensional display methods - parallel Projection - Perspective Projection - Depth Cueing - Visible line and surface identification - Three dimensional transformation.

UNIT V

12 Hrs

Three dimensional viewing - Projection - Viewing transformation - implementation of viewing operations - Hidden surface and Hidden line removal - backface removals.

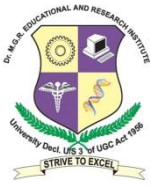
Total No of Hrs : 60

TEXT BOOK:

1. Hearn, D & Baker, M,P (1997) *Computer Graphics* - Prentice Hall of India .

REFERENCES:

1. David F Rogers, *Procedural Elements for Computer Graphics*, Tata McGraw Hill,
2. Neuman & Sproul, *Principles of Interactive Computer Graphics*, Tata McGraw Hill.
3. Govil Shalin, *Principles of Computer Graphics*, PAI, Springer.
4. Kanitkar Yashwant(2008) *Let Us C*(1st ed), BPB Publishing.
5. Steven Harrington, *Computer Graphics*, Tata McGraw Hill.
6. Zhiqiang Xiang, Roy Plastock, Schaum's Outlines, *Computer Graphic*(2nd ed), Tata McGraw Hill.



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G16

LINUX OPERATING SYSTEM

3 0 0 3

OBJECTIVES:

- To be aware of the evolution of the Operating System
- To have an exposure to Linux and Windows 2000 operating systems
- To enable the students to install and use Linux distribution
- To train the students in the Linux desktop usage and some commonly used programs

UNIT I

9 Hrs

Introduction: Comparison of various operating systems, Advantages of Linux, Flavour of Linux, Installation notes, Linux Loader, Linux kernel. File System and Devices: File System concept, Concepts of Devices, Various kinds of Hardware: - Harddisk, floppy disk drivers, CD-ROM drives, Mouse, Memory devices, Printer devices, File systems: - mount, fsconf and other related commands

UNIT II

9 Hrs

Linux commands and Utilities: Study of following commands and utility: Add user, alias, at, atrm, banner, batch, bind, cat, cd, chmod, chown, chroot, cp, cpio, dc, dd, df, dir, du, dump, ex, fax, fc, fd format, file, find, finger, grep, gunzip, gv, gvim, gzip, halt, hostname, if config, kill, ln, locate, login, logout, look, lpc, lpd, lp, rm, ls, mail, man, mcopy, mdel, mdir, mformat, mkdir, mlabel, more, mount, mt, mv, netcft, netstat, passwd, ping, ps, pwd, quota, quotaoff, rm, rmdir, route, set, shutdown, sort, stat, strings, su, tar, tree, umount, unzip, vdir, vi, view, wc, who, whoami, xload, xset, zip.

UNIT III

9 Hrs

System Administration : Performing system maintenance, Communication commands: - write, wall, talk, mesg, motd, Pre-login Message, Managing of tware with RPM: - Installing, Uninstalling, Upgrading , Managing users and Groups with linux conf and control-panel: - Adding users, changing user-password, removing users

UNIT IV

9 Hrs

Backup and Restore: Back up Strategies and Operations, Restoring files Introduction to Shell Programming : Basics, Control Statements, shell variables , filters, Interrupt, parsing options, file generation

UNIT V

9 Hrs

Network configuration for Linux: Introduction, Configuration examples for Linux, DHCP configuration for Linux, PPP configuration for Linux, Dynamic reconfiguration and tuning for Linux.

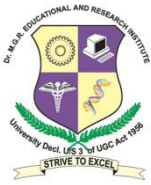
Total No of Hrs : 45

TEXT BOOK:

1. Bill Ball & David Pitts *Red Hat Linux 7 Unleashed*, Techmedia SAMS Publication.

REFERENCES:

1. Evi Nemeth, Garth Snyder, Scott Seebass, Trent R. Hein *UNIX System Administration Handbook (3rd. ed)*, Person Education Asia (LPE).
2. Mark G. Sobell (2013), *Practical Guide to Linux Commands Editor*, Pearson.
3. Goodlife (2006), *Running Linux* (5th ed.), Om Books Publisher



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G17

MOBILE COMMUNICATION

3 1 0 4

OBJECTIVES:

- Understand and identify requirements issue limitation parameters and components in computing
- To understand the rationale for the solution adopted in existing or emerging systems
- To participate in the development and proposal of future systems

UNIT I

12 Hrs

Introduction to Cellular Mobile Systems: Introduction, Basic Cellular System, Performance Criteria, Operation of Cellular System, Planning a Cellular System, Analog Cellular System, Digital Cellular System

UNIT II

12 Hrs

Wireless Communication: Application, History, Market for Mobile Communication, Some open research topics, Simplified reference model

UNIT III

12 Hrs

Medium Access Control: Motivation for specialized MAC,SDMA,FDMA,TDMA,CDMA,GSM

UNIT IV

12 Hrs

Wireless LAN: Infrared Vs radio transmission, Infrastructure and along Network 1.3IEEE 802.11,HIPERLAN,Bluetooth

UNIT V

12 Hrs

Mobile Network Layer and Transport Layer: Mobile IP, Traditional TCP, Classical TCP Improvements

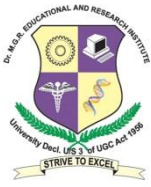
Total No of Hrs : 60

TEXT BOOK:

1. JochenSchiller(2013) *MobileCommunications*(2nd ed.), PearsonEducation

REFERENCES:

1. WilliamC.Y.Lee(1995)*MobileCellularTelecommunications*(2nd ed.), Mc-Graw- Hill.
2. Nitesh Bansal (2013), *Mobile Communication Systems*(1st ed.), Nandu Printers & Publishers Pvt. Ltd
3. Pattnaik Prasant Kumar & Mall Rajib(2012), *Fundamentals of Mobile Computing* , PHI



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DEPARTMENT OF COMPUTER APPLICATIONS

HBCA14G18

MULTIMEDIA SYSTEMS

3 1 0 4

OBJECTIVES:

- Introduce students to the design issues related to multimedia systems.
- Explain the interaction problems introduced by multimedia(e.g. Compression and synchronization)
- Students will be able to handle image files and can also create animations

UNIT I

12 Hrs

Multimedia System: Multimedia Elements, Multimedia Application, Multimedia System Architecture

UNIT II

12 Hrs

Data Compression: The Need For Data Compression, Types Of Data Compression, Run Length Encoding, Huffman Coding, JPEG, CCITTH.261 VideoCoding,MPEGI &II,DVI

UNITIII

12 Hrs

Image And Graphics: Principles Of Raster Graphics, Computer Visual Display Concept, Resolution Color & Palettes, Refresh Rates, Digital Image Representation, Digital Image Formats, Image Scanner Principles, FileFormats; Bmp, Jpeg,Tiff,Avi,Wav, Mp3

UNIT IV

12 Hrs

Animation And Special Effects: Animation Principles, Survey Of Animation Tools- Video Technologies: Analog Video Principles, Ccd Camera, Broad cast Standards, Recording Formats & Standards, Digital Video Principles

UNIT V

12 Hrs

Storage & Retrieval Technologies: Magnetic Media Technologies, Cd_Rom & Its Standards, Magnetic Optical Disk Principles ,Ide, Scsi ,Usb Interface To Storage Devices

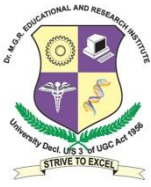
Total No of Hrs : 60

TEXT BOOK:

1. Naleigh &KiranThakrar, P, K *MultimediaSystemDesign*

REFERENCES:

1. ScottFisher *MultimediaauthoringBuilding&DevelopingDocuments*
2. RalfSteinmetz,&KlaraNashtedt*MultimediaComputingCommunication&Application*
3. JohnF.KoegelBuford, *MultimediaSystem*
4. S.Gokul*MultimediaMagic*Bpb Publication



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HBCA14L10

LINUX LAB

0 0 2 2

OBJECTIVES:

- To demonstrate the process, memory, file and directory management issues under the LINUX operating system
- To introduce LINUX basic commands
- To make students how to make simple programs in LINUX and administrative task of LINUX

1. Prime Test.
2. Palindrome Test.
3. Fibonacci Series generation.
4. Armstrong No Test.
5. Solving Quadratic Equation.
6. Menu Driven Shell Script - Sort with various options.
7. User friendly change of modes (chmod).
8. Usage of case structures.
9. Process Scheduling: FCFS, SJF, Priority, Round Robin
10. Interprocess communications using message Queues & Pipes.
11. Using Pipes to calculate NCR.
12. Applications for functions, Procedures & Macros.

Total no. of Hrs. needed to complete the Lab : 30