Dr. M.G.R.
Educational and Research Institute
University
(Declared as Deemed to be university u/s.3 of UGC Act 1956)
Maduravoyal, Chennai - 95
(An ISO 9001 : 2008 Certified Institution)

B.Sc. (COMPUTER SCIENCE AND NETWORKING)

Curriculum and Syllabus

Regulation – 2017

B.Sc. (Computer Science & Networking) Curriculum and Syllabus

Semester –I – Theory						
Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Page No.**
HBTA17001/18001	Tamil – I/Hindi - I/French- I	3	0	0	3	
HBEN17001/18001	English - I	3	0	0	3	
HBMA17A01/18A01	Allied Mathematics - I	3	1	0	4	
HBCS17G01	Fundamentals of Computer & Internet	3	1	0	4	
HBCS17G02	Fundamentals of Programming	3	1	0	4	
Practical						
HBCS17L01	Fundamentals of Programming Lab	0	0	6	2	
	1st Semester Credits				**20**	

Semester –II – Theory						
Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Page No.**
HBTA17002/18002	Tamil - II/ Hindi - II/French - II	3	0	0	3	
HBEN17002/18002	English - II	3	0	0	3	
HBMA17A02/18A02	Allied Mathematics - II	3	1	0	4	
HBCS17G03	Object Oriented Programming	3	1	0	4	
HBCS17G04	Data Structures	3	1	0	4	
Practical						
HBCS17L02	Data Structure Lab Using C++	0	0	6	2	
	2nd Semester Credits				**20**	

Semester –III – Theory						
Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Page No.**
HBPH17A03	Allied Electronics - I	3	1	0	4	
HBCS17G05	Programming in Java	3	1	0	4	
HBCS17G06	Operating System	3	1	0	4	
HBCS17G07	Computer Architecture and Organization	3	1	0	4	

HBCS17G08	Computer Networks	3	1	0	4	
Practical						
HBCS17L03	Programming in Java Lab	0	0	6	2	
	Soft Skill-I	0	0	6	2	
				3rd Semester Credits	**24**	

Semester –IV – Theory						
Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Page No.**
HBPH17A04	Allied Electronics – II	3	1	0	4	
HBCS17G09	Database Management System	3	1	0	4	
HBCN17G01	Data Communications	3	1	0	4	
HBCN17G02	Network Routing	3	1	0	4	
Practical						
HBCS17L05	DBMS Lab	0	0	6	2	
HBCN17L01	Data Communication Lab	0	0	6	2	
	Soft Skill-II	0	0	6	2	
				4th Semester Credits	**22**	

Semester –V – Theory						
Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Page No.**
HBCN17EXX	Elective - I	3	1	0	4	
HBCS17E07	Mobile Application Development	3	1	0	4	
HBCF17G02	Cryptography	3	1	0	4	
	Environmental Studies	3	0	0	3	
HBCN17EYY	Elective-II	3	1	0	4	
Practical						
HBCN17L02	Mobile Application Development Lab	0	0	6	2	
HBCN17L03	Cryptography Lab	0	0	6	2	
				5th Semester Credits	**23**	

Semester –VI – Theory						
Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Page No.**
HBMG17G01	Enterpreneurial Development	3	0	0	3	
HBCN17EZZ	Elective-III	3	1	0	4	
HBCN17G03	Ad-hoc Networks	3	1	0	4	
Practical						
HBCN17P01	Network based Project	0	0	12	10	-
				6th Semester Credits	**21**	

Electives						
Sub. Code	**Subject Name**	**L**	**T**	**P**	**C**	**Page No**
HBCN17E01	Network Management	3	1	0	4	
HBCN17E02	High Speed Networks	3	1	0	4	
HBCN17E03	Wireless Networks	3	1	0	4	
HBCN17E04	Client Server Computing	3	1	0	4	
HBCS17C14	Fundamentals of Cloud Computing	3	1	0	4	
HBCF17C01	Introduction to Information Security	3	1	0	4	
HBCN17E06	Satellite Communication	3	1	0	4	
HBCN17E07	Optical Communication & Network	3	1	0	4	
HBCN17E08	Fundamentals of Network Infrastructure Management	3	1	0	4	

Credit Requirements

I Year - (I & II Sem) - 20 + 20 = 40

II Year - (III & IV Sem) - 24 + 22 = 46

III Year - (V & VI Sem) - 23 + 21 = 44

Total Credit Requirement = 130

Dr.M.G.R
EDUCATIONAL & RESEARCH INSTITUTE
UNIVERSITY
(Declared U/S 3 of the UGC Act 1956)
B.B.A., BCA., B.Sc., B.Com (முதல் பருவம்

நோக்கம்:

- வாய்மொழி இலக்கியத்தையும் செய்யுள் இலக்கியத்தையும் அறிந்து கொள்ளல்
- சிறுகதை மரபினைப்புரிந்து கொள்ளல்
- பிழைஇன்றித்தமிழ் எழுதுவதற்கு அடிப்படை இலக்கணத்தைப்பயிற்றுவித்தல்
- கவிதை மரபினையும் சிறுகதை மரபினையும் வரலாற்று நிலையிலிருந்து விளக்குதல்

தமிழ் - தாள் I

அலகு – 1

1. தாலாட்டு
2. காதல்
3. ஒப்பாரி
4. காணிநிலம் வேண்டும் - பாரதி
5. நல்லதோர் வீணை – பாரதி
6. தமிழ்க்காதல் - பாரதிதாசன்
7. தமிழ்வளர்ச்சி – பாரதிதாசன்
8. எந்நாளோ? – பாரதிதாசன்
9. ஆறு தன் வரலாறு கூறுதல் - கவிமணி தேசிய விநாயகம் பிள்ளை

அலகு – 2

1. வழித்துணை – ந.பிச்சமூர்த்தி
2. குருடர்களின் யானை – அப்துல்ரகுமான்
3. முள் முள் முள் - சிற்பி

துணை வேந்தர் ஒப்புதலுக்கு அனுப்பப்படுகிறது.

Prof. Dr. S. DINAKARAN
JOINT REGISTRAR
Dr. M.G.R.
Educational and Research Institute
University
(Decl. u/s.3 of UGC Act, 1956)
Periyar E.V.R. High Road
Maduravoyal, Chennai-600 095

அலகு -3 புதுமைப்பித்தன் கதைகள்

1. கடவுளும் கந்தசாமிப் பிள்ளையும்
2. செல்லம்மாள்
3. துன்பக்கேணி
4. ஆற்றங்கரைப் பிள்ளையார்
5. ஒருநாள் கழிந்தது

அலகு -4

1. பெயர், வினை, இடை, உரிச்சொற்களின் பொது இலக்கணம், வலிமிகும் இடங்கள், வலிமிகா இடங்கள்.

அலகு – 5

1. தமிழ்க் கவிதையின் தோற்றமும் வளர்ச்சியும் (மரபுக்கவிதை, புதுக்கவிதை)
2. தமிழ்ச்சிறுகதையின் தோற்றமும் வளர்ச்சியும்
மரபுத் தொடர்கள், பொருந்தியசொல் தருதல் கலைச் சொற்கள், நோகாணல்

மேற்பார்வை நூல்கள்:

Vice Chancellor
Dr. M.G.R. Educational and Research Institute University
(Declared u/s 3 of the UGC Act 1956)
Periyar E.V.R. Road,

தமிழ்த்துறைத் தலைவர்
டாக்டர் எம்.ஜி.ஆர்.
கல்வி மற்றும் ஆராய்ச்சி நிறுவனம்
பல்கலைக்கழகம்
மதுரவாயல், சென்னை - 600 095

Dr.M.G.R.
Educational and Research Institute
UNIVERSITY
(Decl. U/S 3 of the UGC Act 1956)

BHI13001 **HINDI – I** 3 0 0 3

Prose, Administrative Hindi and Grammer.

UNIT I **9 Hrs**

1. Sabhyata kaa rahasya – lesson and annotations ,Questions & answers,
2. Administrative terms (Prayojan mulak Hindi)

UNIT II **9 Hrs**

1. Mitratha ka rahasya - lesson and annotations questions and answers
2. Patra lekhan, definitions, correspondence in hindi

UNIT III **9 Hrs**

1. Paramanu oorja evam and kadhya sanrakshan (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. Yogyata aur vyavasay ka chunav (Lesson) essay, questions and answers
2. Letter writing
3. grammer & technical terms

Total no of Hrs: 45

REFERENCES

- Dr. Syed Rahmatullah & Poornima Prakashan, *Hindi gadhya maala*
- Dr. Syed Rahmatullah & Poornima Prakashan, *Prayojanmulak Hindi*
- Dakshin Bharat Hindi Prachara Sabha, T.Nagar, *Saral Hindi Vyakaran-2*

Syllabus for French

Semester I – French - I

Unit 1

Découvrir la langue française

- Se présenter, dire si on comprend, présenter une personne, nommer les choses, savoir vivre, comprendre la grammaire

Unit 2

Faire connaissance

- Donner des informations sur une personne, demander, exprimer ses préférences, parler de son travail, parler de ses activités, parler de son pays, de sa ville

Unit 3

Organiser son temps

- Dire la date, dire l'heure, donner des informations sur un emploi du temps, proposer-accepter-refuser, interroger-répondre, faire un programme d'activités

Unit 4

Découvrir son environnement

- S'orienter, Situer, Se loger, Exprimer la possession, Connaître les rythmes de vie, Fixer des règles

Unit 5

S'informer

- Dire ce qu'on fait, S'informer sur un emploi du temps passé, Expliquer, Exprimer la doute ou la certitude, Découvrir les relations entre les mots, Savoir s'informer

Recommended book :

Campus 1 – méthode de française by Jacky Girardet, Jacques Pécheur

13/06/2017

S. MANIMEGALAI

Dr. M.G.R.
Educational and Research Institute
University
(Declared as Deemed to be university u/s.3 of UGC Act 1956)
Maduravoyal, Chennai - 95
(An ISO 9001 : 2008 Certified Institution)

Faculty of Humanities and Science
Department of English
Syllabus for English
Semester I Paper I
Common to All UG Courses (H&S)

(i.e. B.B.A., B.C.A.(General), B.C.A.(Animation & Multimedia), B.Com. (General), B.Com. (A&F), B.Com. (C.S), B.Sc. (Comp. Sci.), B.Sc. (I.Sc.& Cyber Forensics), B.Sc.Comp.,(Science & Networking), B.Sc. (Electronics), B.Sc. (Media & Vis. Com.), B.Sc. (Bio.Tech), B.Sc. (Maths), B.Sc. (Physics), B.Sc. (Chemistry) etc)

Proposed for implementation from the Academic Year 2017-2018

Code: HBEN15001

L T P C

3 0 0 3

UNIT I

Prose: Literary Landscapes (Orient Black Swan)

UNIT II

Poetry: Literary Landscapes (Orient Black Swan)

UNIT III

Short Stories: Literary Landscapes (Orient Black Swan)

UNIT IV

One Act Plays: Literary Landscapes (Orient Black Swan)

UNIT V
Functional English

Total: **45 Periods**

HEAD DEPARTMENT OF ENGLISH
DR. M.G.R. EDUCATIONAL AND RESEARCH INSTITUTE
UNIVERSITY
Chennai - 600 095

SEMESTER I

From the Academic Year 2017-2018

COURSE OBJECTIVES:

1. to prepare students for attaining a comprehensive knowledge of the communication skills
2. to make them understand the nuances of the language and use its vocabulary in appropriate contexts
3. to develop in students a knowledge of the various techniques in language use
4. to develop in them analytical and interpretative skills
5. to train learners in organized academic and business writing

Unit I-PROSE- For Detailed Study

1. On Running After One's Hat — G.K. Chesterton
2. The Unexpected — Robert Lynd
3. How to be a Doctor — Stephen Leacock

Unit II- POETRY- For Detailed Study

1. Ulysses — Lord Tennyson
2. If — Rudyard Kipling
3. Leave this Chanting and Singing — Rabindranath Tagore

Unit III- SHORT STORY

1. A Retrieved Reformation — O'Henry
2. Engine Trouble — R.K. Narayan

Unit IV – GLIMPSES FROM GREAT MINDS

1. I lived with words — R.L. Stevenson
2. My Vision for India — Dr. APJ Abdul Kalam

Unit V - FUNCTIONAL ENGLISH

Enhancing LSRW Skills through Tasks

Note: Each lesson to be followed by text-based Vocabulary, Grammar, and Usage Exercises

Synonyms, Antonyms- Affixes (prefixes & Suffixes)-Noun- Adjectives, Verb, Tense, Adverb, Preposition, 'if' clause, Articles, discourse markers, Reported and Direct speech- Voice, Degrees of comparison, Interrogatives Comprehension, Précis writing

HEAD, DEPARTMENT OF ENGLISH

COURSE LEARNING OUTCOME:

Students completing the General English course

1. will be able to attain comprehensive knowledge of the four skills of communication viz.LSRW
2. will be able to understand the nuances of English Language as use its vocabulary in appropriate contexts
3. will have acquired the knowledge of the various techniques in language usage
4. will have acquired proficiency in analytical and interpretative skills
5. will be trained in organized and academic and business writing

Text Prescribed: Pushkala R, Padmasani Kannan, Chandrasena Rajeswaran, Anuradha V **Literary Landscapes,** Orient Black Swan, 2017

Text Books, Reference Books and Web Resources

1. Pushkala R, P.A.Sarada, El Dorado: A Textbook of Communication Skills, Orient Blackswan, 2014
2. Padmasani Kannan.S., Pushkala.R. : Functional English
3. Hancock, Mark, English Pronunciation in Use; Cambridge Univ. Press, 2013
4. McCarthy, Michael et.al,, English Vocabulary in Use, Advanced, Cambridge Univ. Press, 2011
5. Wren and Martin: Grammar and Composition, Chand & Co, 2006
6. Part I& Part II from Spring Board by Orient Black Swan Pvt. Ltd.
7. https://learnenglish.britishcouncil.org
8. www.englishpage.com
9. www.writingcentre.uottawa.ca/hypergrammar/preposit.html
10. www.better-english.com/grammar/preposition.html
11. http://www.e-grammar.org/infinitive-gerund/
12. www.idiomsite.com/

HEAD, DEPARTMENT OF ENGLISH
SR EDU... ...ETITUTE
S... ...ACADEMY
Chennai ...

Dr.M.G.R Educational and Research Institute, University, Chennai–95.

	ALLIED MATHEMATICS I	L T P C 3 1 0 4

(Common to all Under Graduate H&S courses)

Course Outcomes:

To understand the Basic concepts in Matrices
To understand the Basic concepts in Trigonometry
To understand the Basic concepts in Integration
To understand the Basic concepts in Probability
To understand the Basic concepts in Standard Distributions

UNIT I MATRICES **(12 hrs)**

Elementary operations on Matrices – Rank of a Matrix – Solving simultaneous equations (atmost three equations with three unknowns).

UNIT II TRIGONOMETRY **(12 hrs)**

Expansions of Sin nθ, Cos nθ in powers of Sinθ and Cosθ – Expansion of Tan nθ – Expansions of $\sin^n\theta$ and $\cos^n\theta$ in terms of Sines and Cosines of multiples of θ – Hyperbolic functions – Separation into real and imaginary parts.

UNIT III INTEGRATION **(12 hrs)**

Basic concepts of Integration – Methods of Integration – Integration by substitution – Integration by parts – Definite Integrals – Properties of Definite Integrals – Problems on finding Area using single integrals (simple problems).

UNIT IV INTRODUCTION TO PROBABILITY **(12 hrs)**

Axioms of Probability – Conditional probability – Total probability – Baye's Theorem – Random variable – Probability mass function – Probability density function – Properties (Definition and simple problems).

UNIT V STANDARD DISTRIBUTIONS **(12 hrs)**

Binomial – Poisson –Exponential –Normal distributions.

Total no. of hrs: 60

Reference Books:

1) Vittal.P.R, *Allied Mathematics*, Margham Publications., Chennai, (2012).
2) Venkatachalapathy.S.G, *Allied Mathematics*, Margham Publications., Chennai, (2007).
3) Singaravelu, *Allied Mathematics*, Meenakshi Agency., Chennai, (2001).
4) Gupta S.C., Kapoor V.K., *Fundamentals of Mathematical Statistics*, S.Chand & Co., (2007).
5) Vittal.P.R, Malini, *Statistical & Numerical Methods*, Margham Publications., Chennai,(2012).

T. Ashwin
(HOD / Maths)
19-5-17

HBCS17G01	FUNDAMENTALS OF COMPUTER AND INTERNET	3	1	0	4

UNIT: I **9 3 0**

Introduction to Computers - Generation of Computers - Classification of Digital Computer - Anatomy of Digital Computer

UNIT: II **9 3 0**

Introduction to Computer Hardware: CPU and Memory - Secondary Storage Devices - Input Devices - Output Devices

UNIT: III **9 3 0**

Introduction to Computer Software: Programming Language - Operating Systems - Introduction to Database Management System.

UNIT: IV **9 3 0**

Introduction to Computer Networks and Internets: Computer Networks - WWW and Internet - Email - Web Design

UNIT: V **9 3 0**

Introduction to Computer applications and Security: Computers at Home, Education, Entertainment, Science, Medicine and Engineering - Introduction to Computer Security - Computer Viruses, Bombs, Worms.

Total Number of Periods : 60

TEXT BOOK:

1. Fundamentals of Information Technology, Alexis Leon And Mathews Leon, Vikas Publishing House Pvt. Ltd, 2nd Edition, 2009

REFERENCE BOOKS:

1. Fundamentals of Computers and Information Technology, M.N Doja, 2005.

HBCS17G02	FUNDAMENTALS OF PROGRAMMING	3	1	0	4

UNIT: I **9 3 0**

C fundamentals Character set - Identifier and keywords - data types - constants - Variables - Declarations - Expressions - Statements - Arithmetic, Unary, Relational and logical , Assignment and Conditional Operators - Library functions.

UNIT: II **9 3 0**

Data input output functions - Simple C programs - Flow of control - if, if-else, while, do-while, for loop, Nested control structures - Switch, break and continue, go to statements - Comma operator.

UNIT: III **9 3 0**

Functions -Definition - prototypes - Passing arguments - Recursion. Storage Classes - Automatic, External, Static, Register Variables.

UNIT: IV **9 3 0**

Arrays - Defining and Processing - Passing arrays to functions - Multi-dimension arrays - Arrays and String. Structures - User defined data types - Passing structures to functions - Self-referential structures - Unions - Bit wise operations.

UNIT: V **9 3 0**

Pointers - Declarations - Passing pointers to Functions - Operation on Pointers - Pointer and Arrays - Arrays of Pointers - Structures and Pointers - Files: Creating, Processing, Opening and Closing a data file.

Total Number of Periods : 60

TEXT BOOK:

1. Ashok N.Kamthane ,Programming with ANSI and Turbo C , Pearson Education, Aug 2009

REFERENCE BOOKS:

1. B.W. Kernighan and D.M.Ritchie, The C Programming Language, 2nd Edition, PHI, 2013.
2. H. Scheldt, C: The Complete Reference, 4th Edition, TMH Edition, 2000.
3. Kanetkar Y., Let us C, BPB Pub., New Delhi, 2016.

HBCS17L01	FUNDAMENTALS OF PROGRAMMING LAB	0	0	6	2

1. Write a C Program to convert Celsius to Fahrenheit and vice versa.
2. Write a C Program to Find Whether the Given Year is a Leap Year or not.
3. Write a C Program to Add Digits & Multiplication of a number.
4. Write a C program to find the length of the String.
5. Write a C program to Reverse String without using Library Function.
6. Write a C Program to Find Whether the Given Number is Prime Number.
7. Write a C Program to Find Whether the Given Number is Armstrong Number.
8. Write a C Program to print Pascal Triangle.
9. Write a C Program demonstrating of parameter passing in Functions and returning values.
10. Write a C Program to find Fibonacci Series using Functions.
11. Write a C Program to find Factorial of a number using Do While Loop.
12. Write a C Program to make a simple Calculator to Add, Subtract, Multiply or Divide Using switch…case.
13. Write a C Program to print numbers from 1 to 10 using FOR loop.
14. Write a C Program to swap the values of two variables without using third variable.
15. Write a C Program to compute the sum of all elements stored in an array using pointers.

டாக்டர். எம்.ஜி.ஆர்.
கல்வி மற்றும் ஆராய்ச்சி நிறுவனம்
பல்கலைக்கழகம்
அடையாளம்பட்டு, சென்னை – 600 095.

தமிழ்த்துறை
இரண்டாம் பருவம் ~ தமிழ்த்தாள்~II
பாடப்பகுதிகள்

அலகு~I

1. சிற்றிலக்கிய வரலாறு
2. கிறித்தவ இலக்கிய வரலாறு
3. இசுலாமிய இலக்கிய வரலாறு

அலகு~II

4. நந்திக் கலம்பகம்
5. முத்தொள்ளாயிரம்
6. தமிழ்விடு தூது

அலகு~III

7. திருக்குற்றாலக் குறவஞ்சி
8. முக்கூடற்பள்ளு
9. இயேசுபிரான் பிள்ளைத்தமிழ்

அலகு~IV

10. நளவெண்பா
11. சீறாப்புராணம்

அலகு~ V

மொழிப்பயிற்சி : பண்புத்தொகை, வினைத்தொகை, உம்மைத்தொகை, உருவகம், உவமைத்தொகை, வேற்றுமைத்தொகை, அன்மொழித்தொகை, இருபெயரொட்டுப் பண்புத்தொகை.

ஒரு பொருள் குறித்த பலசொல், பல பொருள் குறித்த ஒரு சொல், அகரவரிசைப்படுத்துதல், ஒருமை, பன்மை மயக்கம், பிறமொழிச் சொற்களை நீக்குதல்.

பார்வை நூல்கள் :

1. சென்னைப் பல்கலைக்கழக வெளியீடு~2013
2. பொது இலக்கணம்

Prof. Dr. S. DINAKARAN
JOINT REGISTRAR
Dr. M.G.R.
Educational and Research Institute
University
(Decl. u/s.3 of UGC Act, 1956)
Periyar E.V.R. High Road
Maduravoyal, Chennai-600 095

Vice Chancellor
Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
UNIVERSITY

தமிழ்த்துறைத் தலைவர்
டாக்டர் எம்.ஜி.ஆர்.
கல்வி மற்றும் ஆராய்ச்சி நிறுவனம்
பல்கலைக்கழகம்
மதுரவாயல், சென்னை - 600 095

Dr. M.G.R
Educational and Research Institute
University

New Syllabus

Hindi – Semester II – Paper – II (Poetry, Hindi Computing, Alankar)

Unit – I

1. Poetry – VirPooja, Kaidi aur Kokila – Kavi Parichay, Annotation, Summary

Makhanlal Chaturvedi

2. Poetry – Kabirdass – Sakhi – Kantasth 01 – 10 (Doha)

3. Alankar – Aupras and Upama only.

Unit – II

1. Poetry – Aansu, Shradha ka saundarya Annotation, Kavi Parichay, Summary

2. Poetry – Surdas – Two Padhya

Unit – III

1. Poetry – Subramaniya Bharathi – Nachenge – Hum Annotation, Kavi Parichay, Summary

2. Kaam Kaji Hindi Concept of Official Language and Hindi computing theory.

Unit – IV

1. Poetry – Galiv – Chunin da ser – Annotation, Summary, Kavi Parichay

2. Computer Internet in Hindi Latest tools and Packages

Unit – V

1. Kavi parichay, Jaishan kar Prasad, Subramaniya Bharathi and Mirzagalib, Makhanlalchaturvedi

2. Slesha Alankar

(RADHA RAMAKRISHNAN)

Syllabus for French

Semester II – French - II

Unit 1

Cultiver ses relations

- Recevoir, Communiquer, Parler des personnes, Donner des informations, écrire, être à l'aise avec les autres

Unit 2

Découvrir le passé

- Parler du passé, raconter les moments d'une vie, parler de la famille, préciser le moment de la durée, parler des habitudes et des changements, connaître quelques repères de l'histoire

Unit3

Entreprendre

- Parler d'une entreprise, Exprimer un besoin, Parler du futur, Présenter les étapes d'une réalisation, Rapporter des paroles, Faire un projet de réalisation

Unit 4

Prendre des décisions

- Comparer des qualités, Comparer des quantités et des actions, Exprimer la ressemblance ou la différence, Faire des suppositions, Comparer des lieus, Parler de la télévision

Unit 5

Faire face aux problèmes

- Poser un problème, Caractériser une action, Parler de la sante, Interdire-Autoriser, Connaître la vie politique

Recommended book : Campus 1 – méthode de française by Jacky Girardet, Jacques Pécheur

12/06/2017

S. MANINEGALAI

Dr. M.G.R.
Educational and Research Institute
University
(Declared as Deemed to be university u/s.3 of UGC Act 1956)
Maduravoyal, Chennai - 95
(An ISO 9001 : 2008 Certified Institution)

Faculty of Humanities and science
Department of English
Syllabus for English
Semester II Paper II
Common to All UG Courses (H&S)

(i.e. B.B.A., B.C.A.(General), B.C.A.(Animation & Multimedia), B.Com. (General), B.Com. (A&F), B.Com. (C.S), B.Sc. (Comp. Sci.), B.Sc. (I.Sc.& Cyber Forensics), B.Sc.Comp.,(Science & Networking), B.Sc. (Electronics), B.Sc. (Media & Vis. Com.), B.Sc. (Bio.Tech), B.Sc. (Maths), B.Sc. (Physics), B.Sc. (Chemistry) etc)

Proposed for implementation from the Academic Year 2017-2018

Code: HBEN14002 **L T P C**

3 0 0 3

UNIT I

Prose: Literary Landscapes (Orient Black Swan)

UNIT II

Poetry: Literary Landscapes (Orient Black Swan)

UNIT III

Short Stories: Literary Landscapes (Orient Black Swan)

UNIT IV

One Act Plays: Literary Landscapes (Orient Black Swan)

UNIT V

Functional English

HEAD, DEPARTMENT OF ENGLISH
DR.M.G.R EDUCATIONAL & RESEARCH INSTITUTE
Chennai - 600 095

Total: 45 Periods

SEMESTER II
FROM THE ACADEMIC YEAR 2017-2018

COURSE OBJECTIVES:

1. to prepare students to attain a comprehensive knowledge of the communication skills
2. to make them understand the nuances of the English language and use the vocabulary in appropriate contexts
3. to develop in students a knowledge of the various techniques in language usage
4. to develop in them analytical and interpretative skills
5. to train learners in organized, academic and business writing

Unit I- PROSE- For Detailed Study

1. Spoon Feeding	W.R. Inge
2. Disaster Management	B.M. Hegde
3. If You are Wrong Admit it	Dale Carnegie

Unit II – POETRY- For Detailed Study

1. Psalm of Life	H.W. Longfellow
2. Anthem for Doomed Youth	Wilfred Owen
3. Street Cries	Sarojini Naidu

Unit III – SHORT STORY

1. How Much Land does a Man Need?	Leo Tolstoy
2. Uncle Podger Hangs the Picture	Jerome K. Jerome

Unit IV - DRAMA

1. Excerpts from The Merchant of Venice	William Shakespeare
2. Monkey's Paw	W.W. Jacob

Unit V – FUNCTIONAL ENGLISH

Enhancing LSRW Skills through Tasks

Note: Each lesson to be followed by text-based Vocabulary, Grammar, and Usage Exercises

HEAD, DEPARTMENT OF ENGLISH
M.G.R EDUCATIONAL & RESEARCH INSTITUTE
UNIVERSITY
Chennai - 600 095

COURSE LEARNING OUTCOME:

Students completing the General English course

1. will be able to attain comprehensive knowledge of the four skills of communication viz.LSRW
2. will be able to understand the nuances of English Language as use its vocabulary in appropriate contexts
3. will have acquired the knowledge of the various techniques in language usage
4. will have acquired proficiency in analytical and interpretative skills
5. will be trained in organized and academic and business writing

Text Prescribed: Pushkala R, Padmasani Kannan, Chandrasena Rajeswaran, Anuradha V **Literary Landscapes,** Orient Black Swan, 2017

Text Books, Reference Books and Web Resources

1. Pushkala R, P.A.Saradá, El Dorado: A Textbook of Communication Skills, Orient Blackswan, 2014
2. Padmasani Kannan.S., Pushkala.R. : Functional English
3. Hancock, Mark, English Pronunciation in Use; Cambridge Univ. Press, 2013
4. McCarthy, Michael et.al,, English Vocabulary in Use, Advanced, Cambridge Univ. Press, 2011
5. Wren and Martin: Grammar and Composition, Chand & Co, 2006
6. Part I& Part II from Spring Board by Orient Black Swan Pvt. Ltd.
7. https://learnenglish.britishcouncil.org
8. www.englishpage.com
9. www.writingcentre.uottawa.ca/hypergrammar/preposit.html
10. www.better-english.com/grammar/preposition.html
11. http://www.e-grammar.org/infinitive-gerund/
12. www.idiomsite.com/

HEAD, DEPARTMENT OF ENGLISH
SR EDUCATIONAL INSTITUTE
Chennai

Dr.M.G.R Educational and Research Institute, University, Chennai–95.

	ALLIED MATHEMATICS II	L T P C 3 1 0 4

(Common to all Under Graduate H&S courses)

Course Outcomes:

To understand the Basic concepts in Ordinary Differential equations
To understand the Basic concepts in Partial Differentiation
To understand the Basic concepts in Multiple integrals
To understand the Basic concepts in Linear programming
To understand the Basic concepts in Transportation and Assignment

UNIT I ORDINARY DIFFERENTIAL EQUATIONS **(12 hrs)**

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), x f(x) where f(x) is Sin bx or Cos bx (simple problems).

UNIT II PARTIAL DIFFERENTIATION **(12 hrs)**

Partial derivatives – Jacobians – Maxima and Minima of functions of two variables – Lagrange's multipliers.

UNIT III MULTIPLE INTEGRALS **(12 hrs)**

Double integral in Cartesian and Polar Co-ordinates – Change of order of integration – Triple integral in Cartesian Co-ordinates (simple problems).

UNIT IV LINEAR PROGRAMMING **(12 hrs)**

Formulation of LPP – Standard form of LPP – Graphical method – Simplex method – Big M method.

UNIT V TRANSPORTATION AND ASSIGNMENT **(12 hrs)**

Formulation of Transportation problem – North West corner method – Least cost method – Vogel's approximation method – Optimality test – MODI method – Degeneracy – Assignment problem: Hungarian method.

Total no. of hrs: 60

Reference Books:

1) Vittal.P.R, *Allied Mathematics*, Margham Publications., Chennai, (2012).
2) Venkatachalapathy.S.G, *Allied Mathematics*, Margham Publications., Chennai, (2007).
3) Singaravelu, *Allied Mathematics*, Meenakshi Agency., Chennai, (2001).
4) Hamdy A. Taha, *Operations Research: An Introduction (10th ed.)*, Pearson, (2017).
5) Hira D.S., Gupta P.K., *Operations Research*, S.Chand & Co., (2014).

T. John
(HOD / Maths)
19-5-17

HBCS17G03	OBJECT ORIENTED PROGRAMMING	3	1	0	4

UNIT: I **9 3 0**

Principles of Object Oriented Programming (OOP) : Evolution of C++ -Programming Paradigms - Key Concepts of OOP - Advantages of OOP - Usage of OOP and C++ .Input and Output in C++-Streams-Stream classes Unformatted console I/O operations-Member functions of istream class-manipulators-manipulators with parameters

UNIT: II **9 3 0**

Introduction to C++ - Tokens, Keywords, Identifiers, Variables, Operators, Expressions and Control Structures: If, If...Else, Switch - Repetitive Statements- for, while, do…while - Pointers and arrays

UNIT: III **9 3 0**

Functions in C++ - Main Function - Function Prototyping - Parameters Passing in Functions - Values Return by Functions - inline Functions - Function Overloading Classes and Objects; Constructors and Destructors; and Operator Overloading - Type of Constructors

UNIT: IV **9 3 0**

Inheritance: Single Inheritance - Multilevel inheritance - Multiple inheritances - Hierarchical Inheritance - Hybrid Inheritance. Pointers - Virtual Functions and Polymorphism

UNIT: V **9 3 0**

Working with Files: Classes for File Stream Operations - Opening and Closing a File - End-of-File Detection - File Pointers - Updating a File - Error Handling during File Operations - Command-line Arguments

Total Number of Periods : 60

TEXT BOOKS:

1. Ashok N.Kamthane, Object Oriented Programming with ANSI & Turbo C ++, Pearson Education, Aug 2009

REFERENCE BOOK:

1. E. Balagurusamy, Object Oriented Programming with C++, Mc Graw Hill, 4th edition, 2008.

HBCS17G04	DATA STRUCTURES	3	1	0	4

UNIT: I **9 3 0**

Definition of a Data structure - primitive and composite Data Types, Arrays, Operations on Arrays, Ordered lists.

UNIT: II **9 3 0**

Stacks - Operations - Applications of Stack - Infix to Postfix Conversion, Recursion, Queue-operations.

UNIT: III **9 3 0**

Singly Linked List - Operations, Application - Representation of a Polynomial, Polynomial Addition; Doubly Linked List - Operations.

UNIT: IV **9 3 0**

Trees and Graphs: Binary Trees - Operations - Recursive Tree Traversals- Graph - Definition, Types of Graphs, Graph Traversal - DFS and BFS

UNIT: V **9 3 0**

Searching- linear and binary search – **Sorting:** Insertion, Bubble, Quick and Merge sort.

Total Number of Periods : 60

TEXT BOOKS:

1. C++ plus Data structure by N. Dale, publishers narosa publishing, Edition 2016.

REFERENCE BOOKS:

1. Data Structures, A. Chitra, P.T. Rajan, Tata McGraw Hill Education 2007.
2. Fundamentals of Data Structures, Ellis Horowitz, Sartaj Sahni, Dinesh Mehta, Universities Press,2008.

HBCS17L02	DATA STRUCTURE LAB USING C++	0	0	6	2

1. Implement PUSH, POP operations of stack using Arrays.
2. Implement enqueue and dequeue operations of a queue using Arrays.
3. Implement PUSH, POP operations of stack using Pointers.
4. Implement enqueue and dequeue operations of a queue using Pointers.
5. Implement Creation, insertion, and deletion operations in Singly linked list.
6. Implementation of breadth first search for given graph.
7. Implementation of depth first search for a given graph.
8. Sorting - Quick sort.
9. Implementation of Merge Sort using template.
10. Implementation of heap sort method in c++.

	ALLIED ELECTRONICS-I	3	1	0	4

Unit – I **9 3 0**

Number Systems: Number systems - Decimal, Binary, Octal, Hexadecimal - conversion from one to another. **Characters and codes:** ASCII code, Excess-3 code, gray code - binary addition, subtraction,multiplication and division - unsigned binary numbers - signed magnitude numbers - complements in number systems.

Unit – II **9 3 0**

Logic Gates: AND, OR, NOT, NOR & NAND gates, EX-OR gates. **Boolean Algebra and Boolean laws and theorems:** De Morgan's theorems - Duality theorem - simplification of sum of product and product of sum expressions - Karnaugh map and simplifications.

Unit –III **9 3 0**

Simple arithmetic circuits: Half and Full adders - Binary adder/ subtracter - BCD adder **Data processing circuits:** Multiplexers - Demultiplexers -Encoders and Decoders.

9 3 0

Unit – IV

Sequential Logic Design: Flip-flops - RS, JK, D & T Flip flops - Master/Slave Flip flop - Shift Registers - Counters - Asynchronous and Synchronous Counters. Digital to Analog Converters - Analog to Digital converters.

Unit – V **9 3 0**

Memory Elements: RAM - static RAM - Dynamic RAM - ROM - Magnetic Disk memories - Magnetic tape – Cache Memory – Error detection & Correction using Parity & Hamming code.

Total Number of Periods : 60

TEXT BOOK:

1. Digital Logic and Computer Design: M. Morris Mano 2nd Edition, Pearson Education, First Edition, 2008

REFERENCE BOOKS:

1. Virendra Kumar, "Digital Technology Principles and Practice", New Age International, New Delhi, 2015.
2. Donald P.Leach and Albert Paul Malvino, "Digital Principles and Application", Fifth Edition, Tata McGraw-Hill Publishing Company Ltd.,New Delhi, 7th Edition, 2010.

HBCS17G05	PROGRAMMING IN JAVA	3	1	0	4

UNIT: I **9 3 0**

Introduction to Java - Features of Java - Object Oriented Concepts - Data Types - Variables - Arrays - Operators - Control Statements-Input and output-Scanner and System class-print(),println(), and printf() methods.

UNIT: II **9 3 0**

Classes - Objects - Constructors - Overloading method - Access Control - Static and fixed methods - Inner Classes - String Class - Inheritance - Overriding methods - Using super- Abstract class – Type Wrapper classes for primitive types- Auto boxing and Auto Unboxing – Recursion.

UNIT: III **9 3 0**

GUI components – Common GUI Event types and Listener Interfaces- JoptionPane – JLabel, JTextfield, JButton, JCheckBox, JTextarea, JComboBox, JList, JPannel – Mouse Event Handling - Adapter Classes- Key Event Handling.

UNIT: IV **9 3 0**

Layout Managers – Flow Layout, Border Layout, Grid Layout - Graphics and Java 2D – Graphics contexts and Graphics objects – Color control – Font Control – Drawing Lines, Rectangles and Ovals – JSlider – Using menus with Frames.

UNIT: V **9 3 0**

Packages - Access Protection - Importing Packages - Interfaces - Exception Handling - Throw and Throws - Thread - Synchronization - Runnable Interface - Inter thread Communication – Multithreading - I/O Streams - File Streams - Applets – Introduction to Java API Packages(java.lang and java.util)

Total Number of Periods : 60

TEXT BOOK:

1. Programming in Java – 2nd Edition by C.Muthu, TMH Publication, 2008.

REFERENCE BOOKS:

1. Java How to Program by Deitel & Deitel - 6th Edition- PHI Publication 2005.
2. Object Oriented Programming through JAVA, P Radha Krishna, Universities Press, Feb 2011.

HBCS17G06	OPERATING SYSTEM	3	1	0	4

UNIT: I **9 3 0**

Introduction – Types of operating systems - operating system services - system calls and system programs

UNIT: II **9 3 0**

Process management - Process concepts - process scheduling - operation on process Inter process communication - CPU scheduling - scheduling algorithms - Deadlocks

UNIT: III **9 3 0**

Memory Management - Single and multiple partitioned allocation – paging -segmentation - Virtual Memory Management - Demand paging and Page Replacement Algorithms

UNIT: IV **9 3 0**

Information management - File concept - Access methods - Directory structure - allocation methods - free space management - disk scheduling.

UNIT: V **9 3 0**

UNIX: UNIX system - A Case Study.

Total Number of Periods : 60

TEXT BOOK:

1. Abraham Silberschatz and P. B. Galvin - Operating system concepts - Addison Wesley Publication, 9th Edition, 2013

REFERENCE BOOK:

1. Modern Operating System by Tanenbaum fourth edition Pearson Education, 2015.

HBCS17G07	COMPUTER ARCHITECTURE AND ORGANIZATION	3	1	0	4

UNIT: I **9 3 0**

Basic Structure of Computers: Introduction–Computer types–Functional Units: Input, Output, Memory, Control unit and Arithmetic and Logic Unit–Basic Operational Concepts – Bus Structures: Single, Multiple Bus Structure

UNIT: II **9 3 0**

Software Performance: Processor Clock, Clock Rate and Performance Measurement Memory Locations and Addresses – Memory operations – Instruction and Instruction Sequencing – Addressing modes – Assembly Language

UNIT: III **9 3 0**

Control Unit: Hardwired Control –Micro programmed Control – Comparison between Hardwired and Micro programmed Control – Instruction Pipelining: Hazards in Instruction Pipelining, Influence on Instruction sets. ALU and its operations

UNIT: IV **9 3 0**

Memory System I: Functions of Memory – Characteristics of memory – Types of Memory – Primary or Main memory: Random Access Memory and its types, Read Only Memory and its types, Cache memory and its design.

UNIT: V **9 3 0**

Memory System II: Secondary memory: Magnetic Disk: Floppy Disk, Hard Disk – Basics of RAID – Optical Memory: CD, DVD – Magnetic Tapes: Applications, Advantages and Disadvantages

Total Number of Periods : 60

TEXT BOOK:

1. A.P.Godse, D.A.Godse, Computer Architecture, Technical Publications, Pune. First Edition 2010

REFERENCE BOOKS:

1. John P.Hayes, Computer Architecture and Organization, 3rd Edition, McGraw – Hill International Editions, 2012
2. C.V.Suresh Babu, Computer Architecture and Organization, Anniyappa Publications.

HBCS17G08	COMPUTER NETWORKS	3	1	0	4

UNIT: I **9 3 0**

Introduction – Network Hardware – Software – Reference Models – OSI and TCP/IP models – Example networks: Internet, ATM, Ethernet and Wireless LANs - Physical layer – Theoretical basis for data communication - guided transmission media

UNIT: II **9 3 0**

Wireless transmission - Communication Satellites – Telephones structure –local loop, trunks and multiplexing, switching. Data link layer: Design issues – error detection and correction.

UNIT: III **9 3 0**

Elementary data link protocols - sliding window protocols – Data Link Layer in the Internet - Medium Access Layer – Channel Allocation Problem – Multiple Access Protocols.

UNIT: IV **9 3 0**

Network layer - design issues - Routing algorithms - Congestion control algorithms – IP protocol – IP Address – Internet Control Protocol.

UNIT: V **9 3 0**

Transport layer - design issues - Connection management - Addressing, Establishing & Releasing a connection – Simple Transport Protocol – Internet Transport Protocol (TCP) - Network Security: Cryptography.

Total Number of Periods : 60

TEXT BOOK:

1. A.S. Tanenbaum, Computer Networks, Fourth Edition, - Pearson Education, Inc, (Prentice hall of India Ltd), Delhi, Fifth Edition 2014

REFERENCE BOOKS:

1. Data Communications and Networking By Behrouz A. Forouzan, Tata McGraw Hill, 4th Edition, 2006.
2. Computer Networks by M.Bhanumathi, Charulatha Publications, 2013.

HBCS17L03	PROGRAMMING IN JAVA LAB	0	0	6	2

1. Finding area and Perimeter of a circle. Use Scanner class.
2. Determining the order of numbers generated randomly using Random Class.
3. String Manipulation (Substring removal, string replacement etc.)
4. Drawing Rectangles, Ovals etc using Applet.
5. Implementing Thread based applications & Exception Handling.
6. Application using synchronization such as Thread based, Class based and synchronized statements.
7. Implementing GUI based applications using swing components (JLabel, JButton, and JTextfield)
8. Implementing GUI based application using Layout managers and menus.
9. Application using file streams (sequential file)
10. Application using file streams (Random file)

Dr. M.G.R.
Educational and Research Institute
University
(Declared as Deemed to be university u/s.3 of UGC Act 1956)
Maduravoyal, Chennai - 95
(An ISO 9001 : 2008 Certified Institution)

FACULTY OF HUMANITIES AND SCIENCE
DEPARTMENT OF ENGLISH
CAREER AND CONFIDENCE BUILDING
SYLLABUS (2017- 2018)

HBMG14L01

L T P C
0 1 1 2

CURRICULUM
SOFT SKILL-I
Common to All UG Courses (H&S) (50+ 50)

(i.e. B.B.A., B.C.A.(General), B.C.A.(Animation & Multimedia), B.Com. (General), B.Com. (A&F), B.Com. (C.S), B.Sc. (Comp. Sci.), B.Sc. (I.Sc.& Cyber Forensics), B.Sc.Comp.,(Science & Networking), B.Sc. (Electronics), B.Sc. (Media & Vis. Com.), B.Sc. (Bio.Tech), B.Sc. (Maths), B.Sc. (Physics), B.Sc. (Chemistry) etc)

COURSE OBJECTIVES:

1. to diagnose the strength and weakness of the student in Functional English
2. to develop the functional grammar
3. to prepare them to use Functional English through LSRW
4. to make them learn through practice and activity
5. to use English Language as a life skill

Prelude

Diagnostic Test- Articles, Forms of 'be' verbs, Tense, Preposition, Gerunds & Infinitives, Reported Speech, Active &Passive Voice, Letter Writing

Unit I **6 hours**

Job and career- three types- Govt.,pvt and public sector-Bank, govt.offices, navy, defense, govt.institutions-IT and,BPo and corporate-semi govt like ISRO etc- requirements- advt- skills needed (download the details)

Delivery

Audio and video cassettes

Unit II **6 hours**

Technical skill- Communication skill especially in English- strengthening communicative English-Listening, Reading, speaking and writing- Listening- sounds of vowels and consonants and writing them-functional English –difference between functional and theoretical English

HEAD DEPARTMENT OF ENGLISH

Unit III **6 hours**

Listening and writing
Activity based exercises on articles, modals, prepositions and infinitives
The above topics are chosen as we don't find equivalents' in L1

Unit IV **6 hours**

Reading and writing
Vocabulary-synonm, antonym, collocations, confused words, homonym, odd man out, words with correct spelling, avoid redundancy –Inferential comprehension (basede on BEC and Blog on Soft Skills BY me)-browsing , skimming and scanning note- making

Unit V **6 hours**

Speaking
Introducing yourself (giving questions)- collecting information in pairs and presenting it for 2 minutes – story telling through picture- interpretation of psychometric pictures through question and answer – PPT preparation and presentation-developing the story in pairs as game

Total: **30 Periods**

Text Book , Reference Books and Web Resources:

1. Soft Skill for Everyone-Jeff Butterfield,Part-1; Unit-D&E
2. EFA (English For All)- Dr. Padmasanni Kannan, Libin Roy Thomas
3. English for Competitive Exam- R.P. Bhatnagar,Rajul Bhargava
4. Soft Skill Blog
5. Jobsearch.about.com
6. www.exsearch.in/interview.html

COURSE LEARNING OUTCOME:

Students completing the course Soft Skill-I will be able to
1. know their weakness in the use of English Language.
2. understand the functionality of the language in simple context.
3. improve their communication skill through LSRW.
4. improve the functional grammar through practice and activity.
5. understand the necessity of English Language.

HEAD, DEPARTMENT OF [illegible]
DR M.G.R EDUCATIONAL & RESEARCH
[illegible] UNIVERSITY
Chennai 600 095

	ALLIED ELECTRONICS-II	**3**	**1**	**0**	**4**

UNIT – I : SINGLE SIDEBAND AND COMMUNICATIONS SYSTEMS 9 3 0

Introduction - Definitions - Theory of amplitude modulation and modulation index - sidebands produced in amplitude modulation – Power distribution on an AM Waves - Methods of amplitude modulation – Phase modulation - INtroduction - Definition - Express for FM wave – sideb and terms produced in frequency modulation - Phase modulation – Frequency Modulation method - Comparative advantages, disadvantages and merits of FM, PM and AM.

UNIT – II: 9 3 0

RADIO RECEIVERS: Introduction - classification fo radio receivers – Superheterodyne receivers - AM Receivers - Receiver Charactertics - Receiver Noise – SSB Receivers - FM Receiver - Effect of Noise - Amplitude and Frequency modulation.

UNIT – III : 9 3 0

DIGITAL AND DATA COMMUNICATION: Introduction - Types of analog pulse modulation - Generation and demodulation of PAM waves - pulse duration (width) modulation (PWM) - Pulse Position Modulation (PPM) - Generation and demodulation of PPM - Pulse Code Modulation (PCM) - Generation and demodulation of PCM - Multiplex Transmission - Frequency Division Multiplexing - Time Division Multiplexing.

UNIT IV : BASEBAND DATA TRANSMISSION 9 3 0

History of wireless communication - A simplified reference model - Frequencies for radio transmission - multiplexing - frequency division multiplexing - time division multiplexing - code division multiplexing - modulation - amplitude shift keying - frequency shift keying - phase shift keying - advanced frequency shift keying - advanced phase shift keying - multi carrier modulation.

UNIT – V : CELLULAR TELEPHONE COMMUNICATION SYSTEM 9 3 0

GSM - Mobile Services - System Architecture - Radio Interface - Protocols - Localisation and calling - Handover - Security - New Data Services.

Total Number of Periods : 60

TEXT BOOK:

1. N.D. Deshpande, D.A. Deshpande, P.K. Rangole, Communication Electronics, Tata McGraw Hill Publishing Company Limited, Seventh Reprint, New Delhi.,1989.

REFERENCE BOOKS:

1. Jochen H. Schiller, Mobile Communication, Pearson Education Ltd., Seventh Impression 2008, New Delhi.
2. B. Basavaraj, H.N. Shivashankar, “Basic Electronics”, 2nd Edition, Universities Press 2015.

HBCS17G09	DATABASE MANAGEMENT SYSTEM	3	1	0	4

UNIT: I **9 3 0**

Purpose of Database - Overall System Structure - Entity Relationship Model - Mapping Constraints - Keys - E-R Diagrams - **Relational Model** - Structure

UNIT: II **9 3 0**

Structured Query Language - Basic Structure - Set Operations - Aggregate Functions - Date, Numeric, and Character Functions - Nested Sub queries -Modification Of Databases - Joined Relations-DDL - Embedded SQL.

UNIT: III **9 3 0**

Relational Database Design - Pitfalls - Normalization Using Functional Dependencies - First Normal Form-Second Normal Form-Third Normal Form-Fourth Normal Form And BCNF.

UNIT: IV **9 3 0**

Indexing & Hashing - File and system structure – overall system structure file transaction – data dictionary – indexing and hashing basic concepts. static and dynamic hash functions
Transaction Management

UNIT: V **9 3 0**

Transactions - Transaction Concept- Properties of a Transaction- A Simple Transaction Mode-Concurrent Executions- Schedules- Serial and Non Serial types-Serialization of schedules and views-locks based protocols-time based protocols.

Total Number of Periods : 60

TEXT BOOKS:

1. Abraham Silberschatz, H.F.Korth and S.Sudarshan-Database System Concepts McGraw Hill Publication., 6th Edition, 2013
2. Singh-Database systems: Concepts, Design & applications, Pearson Education, 2nd Edition, 2011

REFERENCE BOOKS:

1. Gerald V.Post - DBMS-Designing and Business Applications - McGraw Hill Publications
2. Michael Abbey and Michael.J.Corey-Oracle- A Beginners guide TMH

HBCN17G01	DATA COMMUNICATIONS	3	1	0	4

Unit –I **9 3 0**

Introduction: Networks – Protocols and standards – Standards organizations – Line configurations – Topology – Transmission mode – Categories of networks – Inter networks.

Unit-II **9 3 0**

Encoding and modulating: Digital-to-digital conversion – Analog-to-digital conversion – Digital-to-analog conversion – Analog-to-analog conversion.Transmission media: Guided media – Unguided media – Transmission impairment – Performance.

Unit -III **9 3 0**

Error detection and correction: Types of errors – Detection – Vertical Redundancy Check (VRC) – Longitudinal Redundancy Check (LRC) – Cyclic Redundancy Check (CRC) – Check sum – Error correction.

Unit-IV **9 3 0**

Data link control: Line discipline – Flow control – Error control.Data link protocols: synchronous protocols – Synchronous protocols – Character oriented protocols – BIT oriented protocols – Link access procedures.

Unit-V. **9 3 0**

Networking and internetworking devices: Repeaters – Bridges – Gateways – Other devices – Routing algorithms – Distance vector routing – Link state routing. TCP / IP protocol suite: Overview of TCP/IP.Network layers: Addressing – Subnetting – Other protocols and network layers.

Total Number of Periods : 60

TEXT BOOK:

1. Behrouz A.Forouzan, ‘Data Communication and Networking’, Second Edition, Tata McGrawHill, 2000.

REFERENCE BOOKS:

1. William Stallings, ‘Data and Computer Communication’, 8th Edition, Pearson Education, 2003PHI.
2. Andrew Tannenbaum.S. ‘Computer Networks’, Pearson Education, 4th Edition, 2003 / PHI.

HBCN17G02	NETWORK ROUTING	3	1	0	4

UNIT- I Networking and Network Routing: An Introduction: 9 3 0

Addressing and Internet Service: An Overview, Network Routing: An Overview, IP Addressing, On Architectures, Service Architecture, Protocol Stack Architecture, Router Architecture, Network Topology Architecture

UNIT-II Routing Algorithms: Shortest Path and Widest Path: 9 3 0

Bellman–Ford Algorithm and the Distance Vector Approach, Dijkstra's Algorithm, Comparison of the Bellman–Ford Algorithm and Dijkstra's Algorithm, Shortest Path Computation with Candidate Path Caching, Widest Path Computation with Candidate Path Caching, Widest Path Algorithm.

UNIT- III Routing Protocols: Framework and Principles: 9 3 0

Routing Protocol, Routing Algorithm and Routing Information, Representation and Protocol Messages, Distance Vector Routing Protocol, Link State Routing Protocol, Path Vector Routing Protocol, Link Cost

UNIT – IV Router Architectures: 9 3 0

Functions of a Router, Types of Routers, Elements of a Router, Packet Flow, Packet Processing: Fast Path versus Slow Path, Router Architectures

UNIT- V Introduction to IP Packet Filtering and Classification: 9 3 0

Importance of Packet Classification, Packet Classification Problem, Packet Classification Algorithms Background of QoS and QoS Routing, QoS Attribues

Total Number of Periods : 60

TEXT BOOK :

1. Deepankar Medhi, Kartikeyan Ramasamy , "Network Routing – Algorithms, Protocols, Architecture", Morgan Kauffman Series Publication

HBCS17L05	DBMS LAB	0	0	6	2

I. Program to learn SQL commands

1. Execution of DDL Commands
2. Execution of DML Commands
3. Insert Command
4. Select, From and Where Clause
5. Set Operation [Union, Intersection, Except]
6. Nested Queries
7. Join Operation
8. Modification of the Database

HBCN17L01	DATA COMMUNICATION LAB	0	0	6	2

1. To Study about different physical equipment used for networking

2. To Study OSI reference model and TCP/IP reference model

3. To Connect two pc using peer to peer communication.

4. To Study & Network topologies with advantages & disadvantages.

5.Write a program to generate CRC code for checking error

6 To Study RSA – Public Key Cryptography Algorithm

7. To Study the Network Simulator (NS2).

8. To Implement wired network topology and wireless network topology in ns2.

9. To Implement UDP protocol and study performance using network simulator (ns2).

10. To Connect the computers in Local Area Network.

Dr. M.G.R.
Educational and Research Institute
University
(Declared as Deemed to be university u/s.3 of UGC Act 1956)
Maduravoyal, Chennai - 95
(An ISO 9001 : 2008 Certified Institution)

FACULTY OF HUMANITIES AND SCIENCE
DEPARTMENT OF ENGLISH
QUALITATIVE AND QUANTITATIVE SKILLS
SYLLABUS – 2017 – 2018

HBMG14L02

L T P C
0 1 1 2

CURRICULUM
SOFT SKILL-II

Common to All UG Courses (H&S) **(50+ 50)**

(i.e. B.B.A., B.C.A.(General), B.C.A.(Animation & Multimedia), B.Com. (General), B.Com. (A&F), B.Com. (C.S), B.Sc. (Comp. Sci.), B.Sc. (I.Sc.& Cyber Forensics), B.Sc.Comp.,(Science & Networking), B.Sc. (Electronics), B.Sc. (Media & Vis. Com.), B.Sc. (Bio.Tech), B.Sc. (Maths), B.Sc. (Physics), B.Sc. (Chemistry) etc)

COURSE OBJECTIVES:

1. to strengthen the students with the needed vocabulary
2. to infer information from the given passage through reasoning
3. to train them in attending Group Discussion
4. to face the Technical and HR interview of the corporate
5. to raise communication proficiency to global standards

HBMG14L02

L T P C
0 1 1 2

Unit 1 **6 hours**

Preparation of resume-functional resume with objective according to different advts.-how to have interview file—how to send it by email-concept of writing email-practise through BEC method(questions and answer)

Unit 2 **6 hours**

Writing secretarial letters like intra-mail and inter-mail, agenda, memo and business reports-introducing GD through video-conduct of GD on a topic and also case studies

Unit 3 **6 hours**

Body language-grooming –Interview skill- Dos and Donts- mock interview –exchange of interviewer and interviewee practical session

HEAD, DEPARTMENT OF ENGLISH

Unit 4 (Department of Mathematics)
6 hours

Number system – H.C.F & L.C.M – Problem on ages – Percentage – Profit & Loss – Ratio & Proportion – Partnership.

Unit 5 **6 hours**

Time & Work – Time & Distance – Clocks – Permutations & Combinations – Heights & Distances – Odd man out and Series.

Total: **30 Periods**

TEXT BOOKS, REFERENCE BOOKS AND WEB RESOURCES:

1. Soft Skill for Everyone-Jeff Butterfield,Part-1; Unit-D&E
2. EFA (English For All)- Dr. Padmasanni Kannan, Libin Roy Thomas
3. English for Competitive Exam- R.P. Bhatnagar,Rajul Bhargava
4. Placement Interview- S.Anandamurugan,Chapter-2&3
5. Alex K, Soft Skills ; S. Chand & Company Pvt Ltd, 2009
6. Rizvi Ashraf M, Effective Technical Communication ; Tata McGraw – Hill ; 2005
7. Thorpe, Edgar, Course in Mental Ability and Quantitative Aptitude : Tata McGraw – Hill, 2003
8. Agarwal, R.S, A Modern Approach to Verbal and Non-verbal Reasoning, S. Chand & Co ;2004
9. R.S.Agarwal, Quantitative Aptitude for Competitive Examinations, S.Chand & Co., (2017)
10. Jobsearch.about.com
11. www.exsearch.in/interview.html

COURSE LEARNING OUTCOME:

Students completing the course Soft Skill-II will
1. be strengthened in the vocabulary
2. improve their reasoning and finding a logical sequence in the passage given
3. be prepared to face Group Discussion
4. know the nuances of the interview of the corporate
5. raise communication proficiency to global standards

HEAD, DEPARTMENT OF ENGLISH

HBCS17E07	MOBILE APPLICATION DEVELOPMENT	3	1	0	4

UNIT I: INTRODUCTION **9 3 0**

Introduction to Mac, XCode, Objective C- Mobile Devices Profiles - Mobile Software - Options for development

UNIT II : INTRODUCTION TO SOFTWARE AS A SERVICE **9 3 0**

Service Oriented Computing Examples- Google Maps- Amazon Web Services

UNIT III : USER INTERFACE (UI) DEVELOPMENT FOR MOBILE APPS **9 3 0**

UI elements views-User Interface Frameworks

UNIT IV : GOOGLE ANDRIOD PLATFORM **9 3 0**

The Eclipse Simulator - Google Application Architecture - Event based programming

UNIT V : APPLE IPHONE PLATFORM **9 3 0**

UIKit for Interfaces - Event Handling - Layer Animation

Total Number of Periods : 60

TEXT BOOK:

1. Ed Burnette (2009) Hello, Android: Introducing Google's Mobile Development Platform,Pragmatic Bookshelf 2. Marko Gargenta (2011) Learning Android ,O'Reilly Media.

REFERENCES:

Richard Rodger (2012) Beginning Mobile application development in the cloud, Wrox Publication

HBCF17G02	CRYPTOGRAPHY	3	1	0	4

UNIT – I INTRODUCTION 9 3 0

Computer Security concepts – OSI Security architecture– security attacks – security services- security mechanisms – classical encryption techniques

UNIT – II BLOCK CIPHERS AND ENCRYPTION STANDARDS 9 3 0

Block cipher – design principles – Data Encryption Standard (DES) – Strength of DES- Differential and Linear Cryptanalysis - Triple DES – AES

UNIT – III ASYMMETRIC CIPHERS 9 3 0

Principle of public key cryptosystems – RSA Algorithm – Diffie – Hellman Key Exchange Elliptic curve arithmetic- Elliptic curve cryptography

UNIT – IV DATA INTEGRITY ALGORITHMS 9 3 0

Simple hash functions-Requirements and security-Secure Hash algorithm(SHA)- Message authentication requirements, functions and codes- Digital Signatures

UNIT – V INTERNET SECURITY 9 3 0

Pretty Good Privacy PGP – S/MIME- Domain Keys Identified Mail DKIM – IP Security overview- IP Security Policy – Encapsulating Security payload

Total Number of Periods : 60

TEXT BOOK:

1. William Stallings, “Cryptography and Network Security: Principles and practice”, Pearson Education Inc., 2000.

REFERENCES

1. Baxer, “Networking Security”, McGraw Hill, 1996.
2. Derek Atkins, “Internet Security”, Techmedia, 1998.

ENVIRONMENTAL STUDIES

L	T	P	C
3	0	0	3

UNIT I ENVIRONMENT AND ECOSYSTEMS

Definition, scope and importance of environment – need for public awareness – concept, structure and function of an ecosystem – producers, consumers and decomposers – energy flow in the ecosystem. Biodiversity at National and local levels – India

UNIT II ENVIRONMENTAL POLLUTION

Definition – causes, effects and control measures of: (a) Air pollution (b) Water pollution (c) Soil pollution (d) Marine pollution (e) Noise pollution (f) Nuclear hazards (g) E-Wastes and causes, effects and control measures

UNIT III NATURAL RESOURCES

Forest resources: Use and over-exploitation, deforestation. Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems.

UNIT IV 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 climate change, global warming, acid rain, ozone layer depletion, nuclear accidents ,central and state pollution control boards- Public awareness.

UNIT V HUMAN POPULATION AND THE ENVIRONMENT:

Population growth, variation among nations – population explosion, environment and human health – human rights – value education – HIV / AIDS – women and child welfare – role of information technology in environment and human health

TOTAL: 45 Hrs

PERIODS TEXT BOOKS: 1. Gilbert M.Masters, 'Introduction to Environmental Engineering and Science', 2nd edition, Pearson Education (2004). .

Benny Joseph, 'Environmental Science and Engineering', Tata McGrawHill,NewDelhi, (2006).

Approved in Biotech BOS Regd. no. 4

HBCN17L02	**MOBILE APPLICATION DEVELOPMENT LAB**	**0**	**0**	**6**	**2**

To develop mobile applications for various Mobile Operating systems such as

1. Android ,
2. Windows ,
3. Symbian ,
4. iOS,
5. Blackberry

HBCN17L03	CRYPTOGRAPHY LAB	0	0	6	2

Using Cryp Tool Portal perform the following the following Encryption Techniques

1. Symmetric Encryption
    - Ceaser Cipher
    - Playfair Cipher
    - Hill Cipher
    - Vigenère Cipher
2. Block Ciphers and Data Encryption Standards
    - DES
    - Triple DES
    - AES

3. Implementation of Digital Signature and PKI
4. Cryptanalysis of algorithms
    - Vigenère
    - RSA
    - AES

	ENTERPRENEURIAL DEVELOPMENT	L T P C

Unit – I Concept of Entrepreneurship

Entrepreneurship – Meaning – Types – Qualities of an Entrepreneur – Classification of Entrepreneur – Factors influencing Entrepreneurship – Functions of Entrepreneurships.

+

Unit – II Entrepreneurial Development Agencies

Commercial Banks – District Industries Centre – National Small Industries Corporation – Small Industries Development Organisation – Small Industries Service Institute, All India Financial Institutions – IDBI – IFCI – ICICI – IRDBI.

Unit – III Project Management

Business idea generation techniques – Identification of Business Opprtunities – Feasibility study – Marketing, Finance, Technology and Legal Formalities – Preparation of project report – Tools of Appraisal.

Unit – IV Entrepreneurial Development Programmes

Entrepreneurial Development Programmes (EDP) – Role, relevance and achievements – Role of Governemnt in organisind EDPs – Critical Evaluation.

Unit – V Economic Development and Entrepreneurial Growth

Role of Entrepreneurs in Economic Growth – Strategic approaches in the changing Economic scenario for small scale Entrepreneurs – Networking. Niche play, Georgraphic Concentration. Franchising / Dealership – Development of Women Entrepreneurship.

Books:

1. ***Dr. V. Balu – ENTREPRENEURIAL DEVELOPMENT***
2. ***Dr. P.T. Vijayashree & Dr. M. Alagammai – ENTREPRENEURIAL DEVELOPMENT***

C.B. 5/6/17.

HBCN17G03	AD-HOC NETWORKS	3	1	0	4

Unit-1. **7 hrs**

Introduction - Fundamentals of Wireless Networks - Wireless Internet - Cellular and Ad Hoc wireless network - Technical and Research Challenges - Issues in Ad Hoc Wireless Networks.

Unit-2. **8 hrs**

MAC Layer Protocols – Introduction - Classification of MAC Protocols - Multiple-Channel MAC Protocols - Power-Aware or Energy-Efficient MAC Protocols

Unit-3. **10 hrs**

Routing Protocols - Introduction - Design Issues of Routing Protocols - Classification of Routing Protocols - Proactive Routing Protocols - Reactive Routing Protocols - Hybrid Routing Protocols.

Unit-4. **10 hrs**

Multicast Routing Protocols – Introduction - Issues in Designing a Multicast Routing Protocol - Classification of Multicast Routing Protocols – MAODV - Mesh-Based Routing Protocols – SRMP - Multicasting with Quality-of-Service - Energy-Efficient Multicast Routing Protocols - Application-Dependent Multicast Routing.

Unit-5. **10 hrs**

Transport Protocols – Introduction – TCP Challenges andDesign Issues - TCP Performance over MANET - Ad Hoc Transport Protocols - Application-Controlled Transport Protocol (ACTP).

Total Number of Periods : 60

TEXT BOOK:

1. Ad Hoc Mobile Wireless Networks Principles, Protocols, and Applications by Subir Kumar Sarkar, T G Basavaraju , C Puttamadappa , Auerbach Publications Taylor & Francis Group

REFERENCE BOOKS:

1. C.K.Toh, “Ad Hoc Mobile Wireless Systems”, Prentice Hall, PTR, 2002.
2. Charles E.Perkins, “Ad Hoc Networking”, Addison – Wesley, 2001.
3. Feng Zhao, Leonidas Guibas, “Wireless Sensor Networks – AnInformation processing Approach”, Elseivier 2002

HBCN17P01	NETWORK BASED PROJECT	0	0	12	10

Students are expected to carry out the following:

(i) Implement the Design using suitable technologies.

(ii) Generate the test cases.

(iii) Demonstrate the solution with suitable user interface.

(iv) Prepare a project report consolidating the phase-I and II activities.

ELECTIVES

HBCN17E01	NETWORK MANAGEMENT	3	1	0	4

UNIT-I Introduction to network management **9 3 0**

Network Management Requirements - Network Management Systems - Network Management Fundamentals – Network Monitoring – Network Control.

UNIT-II SNMPv1 Management **9 3 0**

SNMP network management concepts - SNMP management information – standard MIB – SNMP protocol specification – SNMP Group

UNIT-III Monitoring Methods **9 3 0**

RMON1: Basic Concepts–Groups: Statistic, History, Host, hostTopN, Matrix – RMON2: Overview, groups: Directory, Distribution, Address, Host, Matrix group.

UNIT-IV SNMPv2 **9 3 0**

Protocol operations–SNMPv2 Management Information Base–Conformance Statements

UNIT-V SNMPV3 **9 3 0**

SNMPV3 Overview– SNMP Architecture – SNMPv3 Applications

Total Number of Periods : 60

REFERENCE BOOKS:

1. William Stallings,(2009)"SNMP, SNMPV2, SNMPV3, RMON1&2", (3rd ed.), Addison Wesley
2. Mani Subramanian, (2010)"Network Management Principles and Practice", Pearson education

HBCN17E02	HIGH SPEED NETWORKS	3	1	0	4

Unit-1. High Speed Networks **9 3 0**

Frame Relay Networks – Asynchronous transfer mode – ATM Protocol Architecture, ATM ogical Connection – ATM Cell – ATM Service Categories –AAL. High Speed LAN's: Fast Ethernet – Gigabit Ethernet– Fibre Channel –Wireless LAN's: applications, requirements – Architecture of 802.11.

Unit-2. Congestion And Traffic Management **9 3 0**

Queuing Analysis – Queuing Models – Single Server Queues – Effects of Congestion – Congestion Control – Traffic Management – Congestion Control in Packet Switching Networks – Frame Relay Congestion Control.

Unit-3. TCP And ATM Congestion Control **9 3 0**

TCP Flow control – TCP Congestion Control – Retransmission – Timer Management – Exponential RTO backoff – KARN's Algorithm – Window management – Performance of TCP over ATM. Traffic and Congestion control in ATM – Requirements – Attributes – Traffic Management Frame work, Traffic Control – ABR traffic Management – ABR rate control, RM cell formats – ABR Capacity allocations – GFR traffic management.

Unit-4. Integrated And Differentiated Services **9 3 0**

Integrated Services Architecture – Approach, Components, Services- Queuing Discipline – FQ – PS – BRFQ – GPS – WFQ – Random Early Detection – Differentiated Services.

Unit-5. Protocols For QoS Support **9 3 0**

RSVP – Goals & Characteristics, Data Flow, RSVP operations – Protocol Mechanisms – Multiprotocol Label Switching – Operations, Label Stacking – Protocol details – RTP – Protocol Architecture – Data Transfer Protocol– RTCP.

Total Number of Periods : 60

TEXT BOOK:

1. William Stallings, "High speed networks and internet", Second Edition, Pearson Education, 2002.

REFERENCE BOOKS:

1. Warland, Pravin Varaiya, "High performance communication networks", Second Edition , Jean Harcourt Asia Pvt. Ltd., , 2001.
2. Irvan Pepelnjk, Jim Guichard, Jeff Apcar, "MPLS and VPN architecture", Cisco Press, Volume 1 and 2, 2003.

HBCN17E03	WIRELESS NETWORKS	3	1	0	4

UNIT: I WIRELESS LAN 9 3 0

Introduction-WLAN technologies: Infrared, UHF narrowband, protocol architecture, physical layer, Hiper LAN: WATM, BRAN, HiperLAN2 – Bluetooth: Architecture, Radio Layer, Baseband layer, Link manager Protocol, MAC, Spectrum allocation for WIMAX

UNIT: II MOBILE NETWORK LAYER 9 3 0

Introduction – Mobile IP: IP packet delivery, Agent discovery, tunneling and encapsulation, Mobile IP session initiation protocol – mobile ad-hoc network: Routing, Destination Sequence distance vector, Dynamic source routing

UNIT: III MOBILE TRANSPORT LAYER 9 3 0

TCP enhancements for wireless protocols – Traditional TCP: Congestion control, fast retransmit/fast recovery, Classical TCP improvements: Indirect TCP, Mobile TCP, Time out freezing, Transaction oriented TCP – TCP over 3G wireless networks**.**

UNIT: IV WIRELESS WIDE AREA NETWORK 9 3 0

Overview of UTMS Terrestrial Radio access network-UMTS Core network Architecture: 3G-MSC, 3G-SGSN, 3G-GGSN, Firewall, DNS/DHCP- LTE network architecture and protocol.

UNIT: V 4G NETWORKS 9 3 0

Introduction – 4G vision – 4G features and challenges – Applications of 4G – 4G Technologies: Multicarrier Modulation, Smart antenna techniques, Adaptive Modulation and coding with time slot scheduler, Cognitive Radio.

Total Number of Periods : 60

TEXT BOOKS:

1. Jochen Schiller, “Mobile Communications”, Second Edition, Pearson Education 2012.(Unit I,II,III)
2. Vijay Garg , “Wireless Communications and networking”, First Edition, Elsevier 2007.(Unit IV,V)

REFERENCE BOOKS:

1. Erik Dahlma n, Stefan Parkvall, Johan Skold and Per Beming, “3G Evolution HSPA and LTE for Mobile Broadband”, Second Edition, Academic Press, 2008.
2. Anurag Kumar, D.Manjunath, Joy kuri, “Wireless Networking”, First Edition, Elsevier 2011.
3. Simon Haykin , Michael Moher, David Koilpillai, “Modern Wireless Communications”,

HBCN17E04	CLIENT SERVER COMPUTING	3	1	0	4

Unit I **9 3 0**

Introduction -Client server computing basics-classification of client server systems-Two tier Client server model-Three tier Client server model-N tier Client Server model-Advantages – disadvantages.

Unit II **9 3 0**

DRIVING FORCES BEHIND CLIENT SERVER COMPUTING- Driving forces-Development of client Server Systems-Standards-Security-Organizational Expectations-Applications-Single system image-Downsizing and Rightsizing-Methodology.

Unit III **9 3 0**

ARCHITECTURE AND DATABASES - Components-Principles-Middleware components-BIS Architecture-Existing Client/server architecture-client Server databases-Architecture-Database middleware-Acccess to multiple Databases-Distributed Database architecture

Unit IV **9 3 0**

APPLICATION COMPONENTS - Technologies for client server applications-Services-Categories-Client Services-Server Services-Connectivity-Role of middleware-Layered Architecture-Design approach-Interface in three layers.

Unit V **9 3 0**

TECHNOLOGY AND WEBSERVICES - Web services-Role of Java-Browser-server technology-Web Applications-Technology of next generation-Enabling technology-Intranet-Future perspectives-transformational systems.

Total Number of Periods : 60

TEXT BOOK:

1. Chandra Yadav Subhash ,Introduction to Client Server Computing-New Age International, 2009

REFERENCE BOOKS:

1. Alex Berson ,Client/Server Architecture. 2nd edition,Mc Graw hill,1996.
2. Patrick smith,Client-Server computing-Sams publications,Digitalized year 2009.
3. Bruce R Elbert,Client server computing,Artech publications,1994.

HBCS17G14	FUNDAMENTALS OF CLOUD COMPUTING	3	1	0	4

UNIT: I **9 3 0**

O**verview of Cloud Computing:** Introduction- NIST Cloud Model- Benefits of Cloud Computing- Challenges of Cloud Computing- Cloud-Enabling Technologies- Cloud Standards and References

UNIT: II **9 3 0**

Cloud Deployment and Service Models- Cloud Deployment Models- Cloud Service Delivery Models- Software as a Service- Platform as a Service- Infrastructure as a Service-X as a Service

UNIT: III **9 3 0**

Cloud Reference Architecture: Introduction to Reference Framework - Role-based Cloud Computing Reference Architectures - Layer-based Cloud Computing Reference Architectures

UNIT: IV **9 3 0**

Cloud Storage System - Basics of Cloud Storage - Cloud Storage Models - Mobile Cloud Storage - Advantages and Limitations of Cloud Storage - Cloud Storage Architecture - Cloud Storage Devices - Cloud File Systems

UNIT: V **9 3 0**

Introduction to Virtualization - Need for Virtualization -Benefits of Virtualization -Limitations of Virtualization - Approaches to Virtualization - Types of Virtualization -Computer System Architecture

Total Number of Periods : 60

TEXT BOOK:

1. Kannammal, "Fundamentals of Cloud computing", Cengage Learning India Private Limited, Edition (2015)

REFERENCE BOOKS:

1. Arshdeep Bahga, "Cloud Computing: A Hands-on Approach", Universities Press, 2014.
2. Michael Miller, "Cloud Computing", Pearson Education, New Delhi, 2009.

HBCF17G01	INTRODUCTION TO INFORMATION SECURITY	3	1	0	4

UNIT I INTRODUCTION 9 3 0

Key Information Security Concepts - Critical Characteristics of Information - Components of an Information System – Systems Development Life Cycle - Security Systems Development Life Cycle - Security Professionals and the Organization

UNIT II NEED FOR SECURITY 9 3 0

Business needs – Threats: Compromises to Intellectual Property, Deliberate Software Attacks, Deviations in Quality of Service, Espionage or Trespass, Forces of Nature Human Error or Failure, Information Extortion, Missing, Inadequate, or Incomplete Organizational Policy Planning and controls, Sabotage or Vandalism Theft, Technical Hardware and Software Failures, Technological Obsolescence - Attacks

UNIT III RISK MANAGEMENT 9 3 0

Overview of risk management – Identification – Assessment – Control Strategies- Selecting a risk control strategy

UNIT IV PLANNING FOR SECURITY 9 3 0

Information security planning and governance- policy standards and practices- security blue print- Education, training and awareness

UNIT V SECURITY TECHNOLOGY 9 3 0

Access Control: Identification, Authentication, Authorization and Accountability – Firewalls: Processing modes, categories, architecture, configuring and maintaining, content filters

Total Number of Periods : 60

TEXT BOOKS:

1. Michael E Whitman and Herbert J Mattord, “Principles of Information Security”, Vikas Publishing House, New Delhi, 2003
2. Micki Krause, Harold F. Tipton, “Handbook of Information Security Management”, Vol 1-3 CRC Press LLC, 2004.

REFERENCE BOOKS:

1. Stuart Mc Clure, Joel Scrambray, George Kurtz, “Hacking Exposed”, Tata McGraw-Hill, 2003
2. Matt Bishop, “Computer Security Art and Science”, Pearson/PHI, 2002.

HBCN17E06	SATELLITE COMMUNICATION	3	1	0	4

UNIT I **9 3 0**

Satellite Systems, Orbital description and Orbital mechanics of LEO, MEO and GEO, Placement of a Satellite in a GSO, Satellite – description of different Communication subsystems, Bandwidth allocation.

UNIT II **9 3 0**

Different modulation and Multiplexing Schemes, Multiple Access Techniques – FDMA, TDMA, CDMA, and DAMA, Coding Schemes.

UNIT III **9 3 0**

Basic link analysis, Interference analysis, Rain induced attenuation and interference, Ionospheric characteristics, Link Design with and without frequency reuse.

UNIT IV **9 3 0**

Radio and Satellite Navigation, GPS Position Location Principles, GPS Receivers and Codes, Satellite Signal Acquisition, GPS Receiver Operation and Differential GPS

UNIT V **9 3 0**

Satellite Packet Communications, Intelsat series – INSAT series –VSAT, mobile satellite services, IMMERSAT, Satellite and Cable Television, DBS (DTH), VSAT, Satellite Phones, Set-Top box.

Total Number of Periods : 60

TEXT BOOK:

1. Louis J. Ippolito Jr ,(2008)"Satellite Communications Systems Engineering, ", John wiley & sons Ltd.

REFERENCE BOOKS:

1. Dharma Raj Cheruku,(2009)"Satellite Communication",.I.K.International Publishing House Pvt Ltd,March 2017, 2nd Edition.

2. Wilbur L. Pritchard, H.G. Suyderhoud ,Robert A.Nelson,(2006), Satellite Communication Systems Engineering, Prentice Hall, New Jersey

3. Timothy Pratt and Charles W.Bostain, (2003) Satellite Communications, John Wiley and Sons

4. D.Roddy, (2006) Satellite Communication, McGrawHill

HBCN17E07	OPTICAL COMMUNICATION & NETWORK	3	1	0	4

UNIT I - INTRODUCTION **9 3 0**

Tele communication network architecture, services, circuit switching and packet switching, optical networks, optical layer, optical packet switching, transmission basics, optical amplifier, propogation of signals in optical fiber

UNIT II -TRANSMISSION SYSTEM **9 3 0**

Modulation, Demodulation, Transmission system engineering-model, Transmitter, Receiver, Amplifier, Crosstalk, Dispersion, Design consideration.

UNIT III - NETWORKS **9 3 0**

SONET / SDH Optical Transport network-Ethernet, IP, Multiprotocol label switching, Resilient Packet ring, Storage area network, WDM Network Elements.

UNIT IV- CONTROL AND MANAGEMENT **9 3 0**

Network Management functions - service interface- performance management - fault management – optical layer overhead- configuration Management - optical safety, Network Survivability

UNIT V - ACCESS NETWORKS & SWITCHING **9 3 0**

WDM Network Design, Access network, Photonic packet switching-optical TDM, synchronization, header processing, Buffering, Burst switching, testbeds-Deployment consideration.

Total Number of Periods : 60

REFERENCE BOOKS:

1. Rajiv Ramaswamy and Kumar N.Sivarajan,(2010) “Optical Networks – A Practical Persepctive”, (3rd ed.), Morgan Kauffman
2. D.W.Smith,(1995) Optical Network Technology, Chapman and Hall, London

HBCN17E08	FUNDAMENTALS OF NETWORK INFRASTRUCTURE MANAGEMENT	3	1	0	4

Unit I: Introduction to Networking **9 3 0**

Network Characteristics – components – Network location – Local area Network - Wide area Network – Network topologies – Network security – Classes of attacks – common threats and Migration – OSI reference Model – Encapsulation and De-encapsulation

Unit II: Layer 2 LAN Technologies **9 3 0**

Ethernet Evolution and standards – addressing – Ethernet connections – Switches – Limitation of Ethernet – Collision problems – bridges versus switches – methods of switching - switching functions – Learning function and forwarding function.

Unit III: Wireless Technologies & TCP/IP Suite **9 3 0**

Wireless LAN Technologies – WLAN standards – WLAN Security – WLAN Implementation – WLAN Devices – Access points – troubleshooting – TCP/IP protocol stack – TCP/IP Internet protocols – TCP/IP tools – ipconfig – ping – tracert.

Unit IV: IP Addressing, VLSM and Transport Layer **9 3 0**

IP Address components – subnet masks – subnet mask values – IP address planning – IP Address components – VLSM – Features of VLSM – Addressing with VLSM – Route summarization – Transport layer functions – Transport layer protocols – TCP and UDP application – Session Establishment.

Unit V: IOS, Switch configuration, VLANs and Trunks **9 3 0**

IOS Basics -Device configuration – CLI – Basic IOS Configuration – Basic IOS Security configuration – IOS operation and verification – 2960 overview – switch startup – Basic switch configuration – MAC address table – port security – VLAN overview – VLAN connections – VLAN Trunk Protocol VLAN configuration

Total Number of Periods : 60

TEXT BOOKS:

1. Richard Deal, “CCNA Cisco Certified Network Associate study guide” Tata McGraw-Hill – 2013
2. Brian Hill, “The complete Reference - Cisco ” Tata McGraw-Hill – 2013

REFERENCE BOOKS:

1. Todd Lammle, “CCNA Cisco Certified Network Associate study guide – Wiley India 2011
2. Steven Latre et al “Intelligent Mechanism for Network Component and Security” Springer - 2015