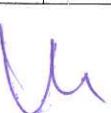


Appendix - XXIX

B.Voc. (Software Development), Generic Component				
Semester - 1		Credits	Skill Acquired	Department
1	GEC1.1	English Communication (AECC, University Syllabus)	4	Communication Skill (English/MIL)
2	GEC1.2	Computer Fundamentals (Computer Application BA(P))	4	Basic Computer Skill
3	GEC1.3	Soft Skill (B.A(H) English)	4	Personality Development
Semester – 2				
1	GEC2.1	Environmental Studies (AECC, University syllabus)	4	Environment Awareness
2	GEC2.2	Internet Technology (Computer Application BA(P))	4	Information Management Skill
3	GEC2.3	Business Communication (B.Com(P) CBCS)	4	Communication Skill(English), Personality Development
Semester – 3				
1	GEC3.1	Hindi/MIL (AEEC, B.A/B.Com)	4	Communication Skill(Hindi)
2	GEC3.2	Statistical Data Analysis Using Software Packages (AECC, B.Sc. Statistics)	4	Data Analysis Skill
3	GEC3.3	Life Skills (AEEC, B.Sc. Home Science)	4	Soft Skill
Semester – 4				
1	GEC4.1	Management Information System (AEEC, B.A. Voc. OM&SP)	4	Writing Skill (English)
2	GEC4.2	Cyber Crime and laws (AEEC, B.Com)	4	Cyber Awareness
3	GEC4.3	Quantitative Techniques (AEEC, Operations Research)	4	Management Skill
Semester - 5				
1	GEC5.1	Organizational Behaviour B.Com(P) CBCS	4	Personality Development
2	GEC5.2	Geographical Information System (AEEC, B.A. Geography)	4	Emerging Application
3	GEC5.3	Programming in Robotics	4	Emerging Application


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Appendix - XXIX

Year

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(Teaching)

**B.Voc –Software Development
English Communication
Paper Code: GEC1.1**

Credit - 4

Max Marks: 100 Hours:3

Preamble:

The purpose of this course is to introduce students to the theory, fundamentals and tools of communication and to develop in them vital communication skills which should be integral to personal, social and professional interactions. One of the critical links among human beings and an important thread that binds society together is the ability to share thoughts, emotions and ideas through various means of communication: both verbal and non-verbal. In the context of rapid globalization and increasing recognition of social and cultural pluralities, the significance of clear and effective communication has substantially enhanced.

The present course hopes to address some of these aspects through an interactive mode of teaching-learning process and by focusing on various dimensions of communication skills. Some of these are:

Language of communication, various speaking skills such as personal communication, social interactions and communication in professional situations such as interviews, group discussions and office environments, important reading skills as well as writing skills such as report writing, note-taking etc.

While, to an extent, the art of communication is natural to all living beings, in today's world of complexities, it has also acquired some elements of science. It is hoped that after studying this course, students will find a difference in their personal and professional interactions.

The recommended readings given at the end are only suggestive; the students and teachers have the freedom to consult other materials on various units/topics given below. Similarly, the questions in the examination will be aimed towards assessing the skills learnt by the students rather than the textual content of the recommended books.

1. **Introduction:** Theory of Communication, Types and modes of Communication
2. **Language of Communication:** Verbal and Non-verbal
(Spoken and Written)
Personal, Social and Business Barriers and Strategies
Intra-personal, Inter-personal and Group communication
3. **Speaking Skills:**
Monologue
Dialogue
Group Discussion


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Effective Communication/ Communication Interview Public Speech

4. Reading and Understanding

Close Reading Comprehension Summary Paraphrasing Analysis and Interpretation

Translation(from Indian language to English and vice-versa) Literary/Knowledge Texts

5. Writing Skills

Documenting Report Writing Making notes Letter writing

Recommended Readings:

1. *Fluency in English* - Part II, Oxford University Press, 2006.
 2. *Business English*, Pearson, 2008.
 3. *Language, Literature and Creativity*, Orient Blackswan, 2013.
 4. *Language through Literature* (forthcoming) ed. Dr. Gauri Mishra, Dr Ranjana Kaul, Dr Brati Biswas

**B.Voc –Software Development
Computer Fundamentals
Paper Code: GEC1.2**

Credit - 4 **Max Marks: 100** **Hours:3**

Introduction: Introduction to computer system, uses, types. 6L

Data Representation: Number systems and character representation, binary arithmetic 10L

Human Computer Interface: Types of software, Operating system as user interface, utility programs

10L

Devices: Input and output devices (with connections and practical demo), keyboard, mouse, joystick, scanner, OCR, OMR, bar code reader, web camera, monitor, printer, plotter

Memory: Primary, secondary, auxiliary memory, RAM, ROM, cache memory,

hard disks, optical disks	10L
Computer Organisation and Architecture: C.P.U., registers, system bus, main memory unit, cache memory, Inside a computer, SMPS, Motherboard, Ports and Interfaces, expansion cards, ribbon cables, memory chips, processors.	8L
Use of Computers in Education and Research: Data analysis, Heterogeneous storage, e-Library, Google Scholar, Domain specific packages such as SPSS, Mathematica etc.	4L

Reference Books:

1. A. Goel, Computer Fundamentals, Pearson Education, 2010.
2. P. Aksoy, L. DeNardis, Introduction to Information Technology, Cengage Learning, 2006
3. P. K. Sinha, P. Sinha, Fundamentals of Computers, BPB Publishers, 2007

Practical :

The practical assignment must include connecting parts of a computer and assembling it to an extent, media formatting and installation of some software. Practical exercises based on Open Office tools using document preparation and spreadsheet handling packages.

Text Editor

1. Prepare a **grocery list** having four columns (Serial number, The name of the product, quantity and price) for the month of April, 06.
 - Font specifications for Title (Grocery List): 14-point Arial font in bold and italics.
 - The headings of the columns should be in 12-point and bold.
 - The rest of the document should be in 10-point Times New Roman.
 - Leave a gap of 12-points after the title.
2. Create a **telephone directory**.
 - The heading should be 16-point Arial Font in bold
 - The rest of the document should use 10-point font size
 - Other headings should use 10-point Courier New Font.
 - The footer should show the page number as well as the date last updated.
3. Design a **time-table form** for your college.
 - The first line should mention the name of the college in 16-point Arial Font and should be bold.
 - The second line should give the course name/teacher's name and the department in 14-point Arial.
 - Leave a gap of 12-points.
 - The rest of the document should use 10-point Times New Roman font.
 - The footer should contain your specifications as the designer and date of creation.

Appendix - XXIX

4. BPB Publications plans to release a new book designed as per your syllabus. Design the first page of the book as per the given specifications.

The title of the book should appear in bold using 20-point Arial font.

The name of the author and his qualifications should be in the center of the page in 16-point Arial font.

At the bottom of the document should be the name of the publisher and address in 16-point Times New Roman.

The details of the offices of the publisher (only location) should appear in the footer.

- Create the following one page documents.

Compose a note inviting friends to a get-together at your house, including a list of things to bring with them.

Design a certificate in landscape orientation with a border around the document.

Design a Garage Sale sign.

Make a sign outlining your rules for your bedroom at home, using a numbered list.

6. Create the following documents:

(a) A newsletter with a headline and 2 columns in portrait orientation, including at least one image surrounded by text.

(b) Use a newsletter format to promote upcoming projects or events in your classroom or college.

7. Convert following text to a table, using comma as delimiter

Type the following as shown (do not bold).

Color, Style, Item

Blue, A980, Van

Red, X023, Car

Green, YL724, Truck

Name, Age, Sex

Bob, 23, M

Linda, 46, F

Tom, 29, M

9. Enter the following data into a table given on the next page.

Salesperson	Dolls	Trucks	Puzzles
Kennedy, Sally	1327	1423	1193
White, Pete	1421	3863	2934

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Pillar, James	5214	3247	5467
York, George	2190	1278	1928
Banks, Jennifer	1201	2528	1203
Atwater, Kelly	4098	3079	2067

Add a column Region (values: S, N, N,S,S,S) between the Salesperson and Dolls columns to the given table Sort your table data by Region and within Region by Salesperson in ascending order:

In this exercise, you will add a new row to your table, place the word "Total" at the bottom of the Salesperson column, and sum the Dolls, Trucks, and Puzzles columns.

1. Wrapping of text around the image.
2. Create your resume by incorporating most of the options learned till now.
7. Following features of menu option must be covered

FILE	Complete menu
EDIT	Complete menu
VIEW	Complete menu
INSERT	Complete menu
FORMAT	Complete menu
TABLE	Complete menu
WINDOW	Complete menu
HELP	Complete menu
TOOLS	All options except Online collaboration, Tools on Macro, Templates

1. Enter the Following data in Excel Sheet



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REGIONAL SALES PROJECTION

State	Qtr1	Qtr2	Qtr3	QTR4	Qtr Total	Rate	Amount
Delhi	2020	2400	2100	3000	15		
Punjab	1100	1300	1500	1400	20		
U.P.	3000	3200	2600	2800	17		

Appendix - XXIX

Harayana	1800	2000	2200	2700	15
Rajasthan	2100	2000	1800	2200	20

TOTAL
AVERAGE

(a) Apply Formatting as follow:

- I. Title in TIMES NEW ROMAN
- ii. Font Size - 14
- iii. Remaining text - ARIAL, Font Size -10
- iv. State names and Qtr. Heading Bold, Italic with Gray Fill Color.
- v. Numbers in two decimal places.
- vi. Qtr. Heading in center Alignment.
- vii. Apply Border to whole data.

(b) Calculate State and Qtr. Total

(c) Calculate Average for each quarter

(d) Calculate Amount = Rate * Total.

2. Given the following worksheet

	A	B	C	D
1	Roll No.	Name	Marks	Grade
2	1001	Sachin	99	
3	1002	Sehwag	65	
4	1003	Rahul	41	
5	1004	Sourav	89	
6	1005	Har Bhajan	56	

Calculate the grade of these students on the basis of following guidelines:

If Marks	Then Grade
≥ 80	A+
$\geq 60 < 80$	A
$\geq 50 < 60$	B
< 50	F

3. Given the following worksheet

1	Salesman	Sales in (Rs.)					F	G
		2	3	4	5	6		
Dean	No.	Qtr1	Qtr2	Qtr3	Qtr4	Total	Commission	
University of Applied Social Sciences and Humanities University of Delhi South Campus New Delhi - 110021	S001	5000	8500	12000	9000			
	S002	7000	4000	7500	11000			
	S003	4000	9000	6500	8200			
	S004	5500	6900	4500	10500			
	S005	7400	8500	9200	8300			
	S006	5300	7600	9800	6100			


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Calculate the commission earned by the salesmen on the basis of following Candidates:

If Total Sales	Commission
< 20000	0% of sales
> 20000 and < 25000	4% of sales
> 25000 and < 30000	5.5% of sales
> 30000 and < 35000	8% of sales
>= 35000	11% of sales

The total sales is sum of sales of all the four quarters.

4. A company XYZ Ltd. pays a monthly salary to its employees which consists of basic salary, allowances & deductions. The details of allowances and deductions are as follows:

Allowances

- HRA Dependent on Basic
 - 30% of Basic if Basic ≤ 1000
 - 25% of Basic if Basic > 1000 & Basic ≤ 3000
 - 20% of Basic if Basic > 3000
- DA Fixed for all employees, 30% of Basic
- Conveyance Allowance Rs. 50/- if Basic is ≤ 1000 Rs. 75/- if Basic > 1000 & Basic ≤ 2000
Rs. 100 if Basic > 2000
- Entertainment Allowance NIL if Basic is ≤ 1000
Rs. 100/- if Basic > 1000

Deductions

- Provident Fund 6% of Basic
- Group Insurance Premium Rs. 40/- if Basic is ≤ 1500
Rs. 60/- if Basic > 1500 & Basic ≤ 3000
Rs. 80/- if Basic > 3000

Calculate the following:

$$\text{Gross Salary} = \text{Basic} + \text{HRA} + \text{DA} + \text{Conveyance} + \text{Entertainment}$$

$$\text{Total deduction} = \text{Provident Fund} + \text{Group Insurance Premium}$$

$$\text{Net Salary} = \text{Gross Salary} - \text{Total Deduction}$$

1. Create Payment Table for a fixed Principal amount, variable rate of interests and time in the format below:

No. of Instalments	5%	6%	7%	8%	9%
1	XX	XX	XX	XX	XX
2	XX	XX	XX	XX	XX
3	XX	XX	XX	XX	XX
4	XX	XX	XX	XX	XX



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- a) Use an array formula to calculate Simple Interest for given principal amounts given the rate of Interest and time

Rate of Interest	8%
Time	5 Years
Principal	Simple Interest
1000	?
18000	?
5200	?

- (i) The following table gives year wise sale figure of five salesmen in Rs.

Salesman	2000	2001	2002	2003
S1	10000	12000	20000	50000
S2	15000	18000	50000	60000
S3	20000	22000	70000	70000
S4	30000	30000	100000	80000
S5	40000	45000	125000	90000

- (a) Calculate total sale year wise.
- (b) Calculate the net sale made by each salesman
- (c) Calculate the maximum sale made by the salesman
- (d) Calculate the commission for each salesman under the condition.
 - (i) If total sales >4,00,000 give 5% commission on total sale made by the salesman.
 - (ii) Otherwise give 2% commission.
- (e) Draw a bar graph representing the sale made by each salesman.

- (f) Draw a pie graph representing the sale made by salesman in 2000.

8. Enter the following data in Excel Sheet

PERSONAL BUDGET FOR FIRST QUARTER

Monthly Income (Net): 1,475

EXPENSES	JAN	FEB	MARCH	QUARTER	QUARTER
				TOTAL	AVERAGE
Rent	600.00	600.00			
Telephone	48.25	43.50	60.00		
Utilities	67.27	110.00	70.00		
Credit Card	200.00	110.00	70.00		
Oil	100.00	150.00	90.00		
AV to Insurance	150.00				
Cable TV	40.75	40.75	40.75		
Monthly Total					

- (a) Calculate Quarter total and Quarter average.
- (b) Calculate Monthly total.
- (c) Surplus = Monthly income - Monthly total.
- (d) What would be total surplus if monthly income is 1500.
- (e) How much does telephone expense for March differ from quarter average.

- (f) Create a 3D column graph for telephone and utilities.
 (g) Create a pie chart for monthly expenses.

9. Enter the following data in Excel Sheet

TOTAL REVENUE EARNED FOR SAM'S BOOKSTALL

Publisher name	1997	1998	1999	2000	total
A	Rs. 1,000.00	Rs. 1100.00	Rs. 1,300.00	Rs. 800.00	
B	Rs. 1,500.00	Rs. 700.00	Rs. 1,000.00	Rs. 2,000.00	
C	Rs. 700.00	Rs. 900.00	Rs. 1,500.00	Rs. 600.00	
D	Rs. 1,200.00	Rs. 500.00	Rs. 200.00	Rs. 1,100.00	
E	Rs. 800.00	Rs. 1,000.00	Rs. 3,000.00	Rs. 560.00	

- (a) Compute the total revenue earned.
 (b) Plot the line chart to compare the revenue of all publisher for 4 years.
 (b) Chart Title should be 'Total Revenue of sam's Bookstall (1997-2000)'
 (c) Give appropriate categories and value axis title.

10. Generate 25 random numbers between 0 & 100 and find their sum, average and count. How many no. are in range 50-60

**B.Voc –Software Development
Soft Skills
Paper Code: GEC1.3**

Credit - 4
Soft Skills

Max Marks: 100 Hours:3

Teamwork
 Emotional Intelligence
 Adaptability
 Leadership
 Problem solving

Suggested Readings

1. *English and Soft Skills*. S.P. Dhanavel. Orient BlackSwan 2013
English for Students of Commerce: Precis, Composition, Essays, Poems eds.
 Kaushik,et al.

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**B.Voc –Software Development
Environment Studies**
Paper Code: GEC2.1

Credit - 4

Max Marks: 100 Hours:3

AECC, University Syllabus.

**B.Voc –Software Development
Computer Network and Internet Technology**
Paper Code: GEC2.2

Credit - 4

Max Marks: 100 Hours:3

Computer Networks: Introduction to computer network, data communication, components of data communication, data transmission mode, data communication measurement, LAN, MAN, WAN, wireless LAN, internet, intranet, extranet. **6L**

Network Models: Client/ server network and Peer-to-peer network, OSI, TCP/IP, layers and functionalities. **8L**

Transmission Media: Introduction, Guided Media: Twisted pair, Coaxial cable, Optical fiber. Unguided media: Microwave, Radio frequency propagation, Satellite. **4L**

LAN Topologies: Ring, bus, star, mesh and tree topologies. **2L**

Internet Terms: Web page, Home page, website, internet browsers, URL, Hypertext, ISP, Web server, download and upload, online and offline. **2L**

Internet Applications: www, telnet, ftp, e-mail, social networks, search engines, Video Conferencing, e-Commerce, m-Commerce, VOIP, blogs. **6L**

Introduction to Web Design: Introduction to hypertext markup language (html) Document type definition, creating web pages, lists, hyperlinks, tables, web forms, inserting images, frames, hosting options and domain name registration. Customized Features: Cascading style sheet (css) for text formatting and other manipulations. **16L**

JavaScript Fundamentals: Data types and variables, functions, methods and events, controlling program flow, JavaScript object model, built-in objects and operators. **14L**

Network Devices: NIC, repeaters, hub, bridge, switch, gateway and router. **2L**


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1. Andrew S. Tanenbaum, David J. Wetherall Computer Networks (5th Edition), PHI, 2010
2. B. A. Forouzan, Data Communication and Networking , TMH,2003.
3. D.R. Brooks, An Introduction to HTML and Javascript for Scientists and Engineers, Springer
4. HTML A Beginner's Guide, Tata McGraw-Hill Education, 2009.


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5. J. A. Ramalho, Learn Advanced HTML 4.0 with DHTML, BPB Publications, 2007

Practical :

Networking exercises in a trial lab, where effects of different connectors, topologies in practical could be demonstrated.

Before moving to JavaScript practicals, students must get an idea about fundamental programming using Scratch (<https://scratch.mit.edu>). Students should be encouraged to learn Scratch on their own and work on assignments available online such as <https://sites.google.com/site/christopherscfahs/scratch-programming/scratch-assignments> or <http://scratched.gse.harvard.edu/resources/uw-catapult-project>.

Alternatively, students may use Alice (<http://www.alice.org/index.php>) and learn basic programming. A lot of online assignments and spoken tutorials on YouTube would be helpful.

Practical exercises based on concepts listed in theory using HTML.

1. Create HTML document with following formatting – Bold, Italics, Underline, Colors, Headings, Title, Font and Font Width, Background, Paragraph, Line Breaks, Horizontal Line, Blinking text as well as marquee text.
2. Create HTML document with Ordered and Unordered lists, Inserting Images, Internal and External linking
3. Create HTML document with Table:

				Some image here

4. Create Form with Input Type, Select and Text Area in HTML.
5. Create an HTML containing Roll No., student's name and Grades in a tabular form.
6. Create an HTML document (having two frames) which will appear as follows:

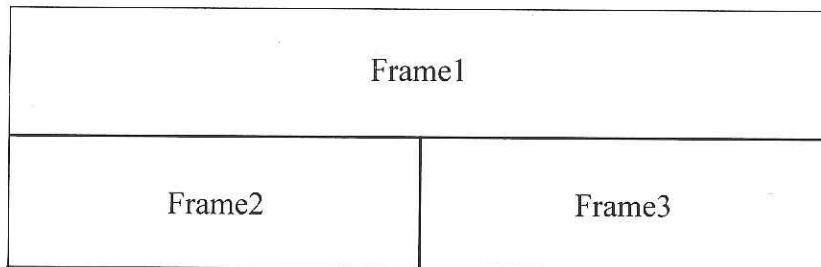
About Department 1 Department 2 Department 3	This frame would show the contents according to the link clicked by the user on the left frame.
---	---

7. Create an HTML document containing horizontal frames as follows:

Department Names (could be along with Logos)	Principal Ramanujan College (University of Delhi) Kalkaji, New Delhi-110019
Contents according to the Link clicked	

8. Create a website of 6 – 7 pages with different effects as mentioned in above problems.
9. Create HTML documents (having multiple frames) in the following three formats:

Frame1
Frame2



10. Create a form using HTML which has the following types of controls:

- I. Text Box
- II. Option/radio buttons
- III. Check boxes
- IV. Reset and Submit buttons

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List of Practicals using Scratch : (self-learning by students)

1. Join the Scratch community on scratch.mit.edu. Explore featured projects and modify any one of them.
2. Create a game using SCRATCH similar to that of Beach Baby Volleyball. The game MUST meet the following objectives.
 - Have at least 3 sprites. All of which move, bounce, fall, etc. 10 pts.
 - Edit at least one of the sprites in some way to make it your own. 10 pts.
 - Make some or all sprites move with the use of certain keys. 15 pts.
 - Create or use a given background on your game. 10 pts.
 - Incorporate sound into your game. 10 pts.
 - Use a counter or score keeper in your game. 15 pts.
 - Must include a forever loop, show, hide, and "when I receive." 30 pts.

List of Practicals using Javascript :

Create event driven program for following:

1. Print a table of numbers from 5 to 15 and their squares and cubes using alert.
2. Print the largest of three numbers.
3. Find the factorial of a number n.
4. Enter a list of positive numbers terminated by Zero. Find the sum and average of these numbers.
5. A person deposits Rs 1000 in a fixed account yielding 5% interest. Compute the amount in the account at the end of each year for n years.

Read n numbers. Count the number of negative numbers, positive numbers and zeros in the list.

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B.Voc –Software Development

Business Communication

Paper Code: GEC2.3

Credit - 4

Max Marks: 100 Hours:3

Objective: To acquire skills in reading, writing, comprehension and communication, and also to use electronic media for business communication.

Unit I: Introduction

Lectures 6

Nature, Process and Importance of Communication, Types of Communication (verbal & Non Verbal), Different forms of Communication. Barriers to Communication: Linguistic Barriers, Psychological Barriers, Interpersonal Barriers, Cultural Barriers, Physical Barriers, Organizational Barriers.

Unit II: Business Correspondence

Lectures 8

Letter Writing, presentation, Inviting quotations, Sending quotations, Placing orders, Inviting tenders, Sales letters, claim & adjustment letters and social correspondence, Memorandum, Inter -office Memo, Notices, Agenda, Minutes, Job application letter, preparing the resume.

Unit III: Report Writing

Lectures 8

Identify the types of reports, define the basic format of a report, identify the steps of report writing, write a report meeting the format requirements, determine the process of writing a report, importance of including visuals such as tables, diagrams and charts in writing report, apply citation rules (APA style documentation) in reports.

Unit IV: Business language and presentation

Lectures 4

Importance of Business language, Vocabulary Words often confused, Words often misspelt, Common errors in English. Oral Presentation Importance, Characteristics, Presentation Plan, Power point presentation, Visual aids.

Unit V: Technology and Business Communication

Lectures 4

Role, effects and advantages of technology in Business Communication like email, text messaging, instant messaging and modern techniques like video conferencing, social networking. Strategic importance of e-communication.

Suggested Readings:

3. Lesikar, R.V. & Flatley, M.E.; *Basic Business Communication Skills for Empowering the Internet Generation*, Tata McGraw Hill Publishing Company Ltd. New Delhi.
4. Bovee, and Thill, *Business Communication Today*, Pearson Education
5. Shirley, Taylor, *Communication for Business*, Pearson Education
6. Locker and Kaczmarek, *Business Communication: Building Critical Skills*, TMH

Note: Latest edition of text books may be used.

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**B.Voc –Software Development
Hindi/MIL**

Paper Code: GEC3.1

Credit - 4

Max Marks: 100 Hours:3

As per University Syllabus.(B.A.(P) Hindi)

**B.Voc –Software Development
Statistical-Data Analysis Using Software Packages**

Paper Code: GEC3.2

Credit - 4

Max Marks: 100 Hours:3

This course will review and expand upon core topics in statistics and probability, particularly by initiating the beneficiaries of the course to at least one of the software packages viz., SPSS, Minitab, Matlab, for statistical computing.

UNIT I

Learn how to load data, plot a graph viz. histograms (equal class intervals and unequal class intervals), box plot, stem-leaf, frequency polygon, pie chart, ogives with graphical summaries of data

UNIT II

Generate automated reports giving detailed descriptive statistics, correlation and lines of regression.

UNIT III

Random number generation and sampling procedures. Fitting of polynomials and exponential curves. Application Problems based on fitting of suitable distribution, Normal probability plot.

UNIT IV

Simple analysis and create and manage statistical analysis projects, import data, code editing, Basics of statistical inference in order to understand hypothesis testing and compute p-values and confidence intervals.

SUGGESTED READING:

1. Moore, D.S. and McCabe, G.P. and Craig, B.A. (2014): Introduction to the Practice of Statistics, W.H. Freeman
2. Cunningham, B.J (2012):Using SPSS: An Interactive Hands-on approach
3. Cho, M.J., Martinez, W.L. (2014) Statistics in MATLAB: A Primer, Chapman and Hall/CRC

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B.Voc –Software Development

LIFE SKILLS EDUCATION

Paper Code: GEC3.3

Credit - 4

Max Marks: 100 Hours:3

Unit 1: Concept and Meaning of life skills

Definitions and concept of life skills and life skills education.

Importance in daily living; Criteria for using life skills.

Evolution of Life Skills

Core Life Skills- classification and concept

Theoretical perspectives and models to understand life skills education.

Unit 2: Components for Planning & Organizing Life Skills Programs

Understanding group characteristics and needs

Life skills in context: importance of focusing on contextual specificities and cultural ideologies as important aspects affecting individual ideas.

Focusing on cultural practices that govern everyday life.

Analyzing the gender nuances that exist within the group.

Self components to imparting life skills program: critical thinking skills, decision making skills, interpersonal communication skills, coping with stress and emotions; self-management skills, etc.

Importance of communication in imparting life skills education

Concept and Importance of communication

Aspects to develop social potentials (effective listening, speaking, building and maintaining relationships, understanding group dynamics and functioning in groups, delegating responsibilities)

Core Approaches and Strategies to Implement Life Skills Program

Understanding and developing self-skills/potential: self-awareness, self-esteem self-confidence, creative thinking, interpersonal skills, etc.

Use of participatory techniques and methods: Individual exercises, Group activities, games etc.

Communicating with the audience: receiving feedback, handling questions, etc.

Organizing a Life Skills Program

Planning a need based viable life skills program (select components)

Determining the purpose, collecting materials, organizing content.

Getting prepared for the presentation: psychological level

Delivering the presentation

Life Skills Assessment

Scales and quantitative techniques

Qualitative approaches

Unit 2: Life Skills and Youth Development

Adolescence and Youth- Definitions, Conception- socio cultural perspectives

Youth demographics and role in society

Challenges of adolescence and youth development

- Formal and Non formal approaches to youth development
- Positive Youth Development
- Learning Experiences**
 - Students may be given several in house experiences to observe and evaluate existing life skills programs. They may also get experiences to interact with experts in the discipline through panel discussions and similar organized experiences.
 - Visiting and observing Life skills education programme
 - Critique formal and non-formal life skills programmes
 - Evaluate approaches and activities of life skills education for different target groups.

RECOMMENDED READINGS

- Agochiya D. 2010, life competencies for adolescents. Training manual for facilitators, teachers and parents. Sage Publications.
- Dakar Framework for Action,(2000).Education for All: Meeting our Collective Commitments, Dakar, Senegal
- Peace Corps, OPATS.2001, Life Skills Manual.
- Robbins S.P, Hunsaker P.L, Training in Interpersonal Skills (5th eds), PHI Learning Pvt. Ltd.
- National Aids Control Organization, 2008, Adolsecence Education Programme, Life Skills Development.
- Nair. A. Radhakrishnan, (2010). Life Skills Training for Positive Behaviour , Rajiv Gandhi National Institute of Youth Development, Tamil Nadu.
- Nair .V. Rajasenan, (2010). Life Skills, Personality and Leadership , Rajiv Gandhi National Institute of Youth Development, Tamil Nadu.
- Url: multimedia.peacecorps.gov/.../pdf/.../M0063_lifeskillscomplete.pdf
- Url: www.nacoonline.org/.../AEP%20-%20Teachers%20Workbook.pdf

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Credit - 4

**B.Voc –Software Development
Management Information System**
Paper Code: GEC4.1

Max Marks: 100 Hours:3

Objective: To provide the understanding and use of management information systems in an office and organization.

Unit I

12

Management Information Systems - Need, Purpose and Objectives - Contemporary Approaches to MIS - Information as a strategic resource - Use of information for competitive advantage - MIS as an instrument for the organizational change

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Information, Management and Decision Making - Models of Decision Making Classical, Administrative and Herbert Simon's Models - Attributes of information and its relevance to Decision Making - Types of information

Unit II

12

Information Technology - Definition, IT Capabilities and their organizational impact - Telecommunication and Networks - Types and Topologies of Networks - IT enabled services such as Call Centers, Geographical Information Systems etc.

Data Base Management Systems - Data Warehousing and Data Mining, Systems Analysis and Design - Systems Development Life Cycle - Alternative System Building Approaches - Prototyping - Rapid Development Tools - CASE .

Unit III

12

Tools – Object Oriented Systems (Only introduction to these tools & techniques), Decision Support Systems - Group Decision Support Systems - Executive Information Systems - Executive Support Systems - Expert Systems and Knowledge Based Expert Systems - Artificial Intelligence.

Unit IV

12

Management Issues in MIS - Information Security and Control - Quality Assurance - Ethical and Social Dimensions - Intellectual Property Rights as related to IT Services / IT Products - Managing Global Information Systems .

Unit V

12

Applications of MIS in functional areas as well as in the service sector should be covered with the help of minimum 5 case studies. Emphasis should be given on management oriented problems and cases as compared to technical problems expected from computer science/ computer management students.

Suggested Readings:

2. Management Information Systems, Laudon and Laudon, 7th Edition, Pearson Education Asia
3. Management Information Systems, Jawadekar, Tata McGraw Hill
4. Management Information Systems, Davis and Olson, Tata McGraw Hill
5. Analysis and Design of Information Systems, Rajaraman, Prentice Hall
6. Decision Support Systems and Intelligent Systems, Turban and Aronson, Pearson Education Asia
7. Management Information Systems, Schulthesis, Tata McGraw Hill
8. Management Information Systems - Sadagopan, Prentice Hall

Management Information Systems – JayantOke



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B.Voc –Software Development Cyber Crimes and Laws

Paper Code: GEC4.2

Credit - 4

Max Marks: 100 Hours:3

B.Com CBCS

Department of Commerce, University of Delhi, Delhi

**B. Com.: Semester III
Paper GEC4.2: Cyber Crimes and Laws**

Duration: 2 hrs

Objective: This paper intends to create an understanding towards the cyber crimes and to familiarize the students with the application of cyber laws in general.

CONTENTS

Unit I: Cyber Crimes

Introduction: Computer crime and cyber crimes; Distinction between cyber crime and conventional crimes; Cyber forensic; Kinds of cyber crimes: cyber stalking; cyber terrorism; hackers and fraud crimes related to HR; computer vandalism; Privacy of online data; Cyber jurisdiction; Copyright issues; Intellectual property dispute etc.

Unit II: Definition and Terminology (Information Technology Act, 2000)

Concept of Internet; Internet Governance; E-Contract; E-forms; Encryption; Data Security; Access; Addressee; Adjudicating Officer; Affixing Digital Signatures; Appropriate Government; Certifying Authority; Certification Practice Statement; Computer; Computer Network; Computer Resources; Computer System; Cyber Appellate Tribunal; Data; Digital Signature; Electronic Form; Electronic Record; Information; Intermediary; Key Pair; Originator; Public Key; Secure Systems; Verify; Safeguard as defined in the Information Technology Act, 2000.

Unit III: Electronic Records

Affirmation of Electronic Records; Legal Recognition of Electronic Records; Legal Recognition of Digital Signatures; Use of Electronic Records and Digital Signatures in Government and its Agencies; Retention of Electronic Records; Attribution; Acknowledgement and Dispatch of Electronic Records; Secure Electronic Records and Digital Signatures.

Unit IV: Regulatory Framework

Regulation of Certifying Authorities; Appointment and Functions of Controller; License to issue Digital Signatures Certificate; Renewal of License; Controller's Powers; Procedure to be followed by Certifying Authority; Issue, Suspension and Revocation of Digital Signatures Certificate; Duties of Subscribers; Penalties and Adjudication; Appellate Tribunal; Offences.

Suggested Readings:

1. Elham Turbag, Jae Lee, King, David, and Chang, H.M. *E-commerce: A managerial perspective*. Pearson Education.
2. Joseph, P.T. *E-commerce in India Perspective*. PHI.
3. Chaffey, Diane. *E-business and E-commerce Management*. Pearson Education.
4. Paulwitz, Dr. *Law of Information Technology*. New Delhi, Taxmann Publications Pvt. Ltd.
5. Dient, Blaney M., Uebel, Paul J., and Schmidler, Kate. *E-Business and E-commerce Law*. Pearson Education.

**B.Voc –Software Development
Quantitative Techniques**
Paper Code: GEC4.3

Credit - 4**Max Marks: 100 Hours:3**

Basics of project management, feasibility and technical analysis: materials and equipment, project costing & financing, financial aspects, cost benefit analysis, success criteria and success factors, risk management.

Mathematical models: project selection, project planning, cost-time trade-off, resource handling/leveling.

References /Suggested Readings:

1. Ravi Ravindran: Operations Research and Management Science Handbook, CRC Press, 2008.
2. Harold Kerzner: Applied Project Management: Best Practices on Implementation, John Wiley & Sons, Inc., 2000.
3. Goodpasture, J. C.: Quantitative Methods in Project Management, J Ross Publishing, Boca Raton, Florida, USA. 2003.
4. Meredith, J. R. and Mantel Jr., S. J.: Project Management: A Managerial Approach. John Wiley, New York. 2004.

**B.Voc –Software Development
ORGANIZATIONAL BEHAVIOUR**

Paper Code: GEC5.1

Credit - 4**Max Marks: 100 Hours:3**

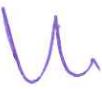
Objectives:

1. To develop an awareness of the concepts related to organizational behavior.
2. Help the students develop connectivity between concepts and practices of organizations.

Unit 1: Introduction: Historical antecedents of Organizational Behaviour: Scientific management & Human Relations Movement; Contemporary Trends and Challenges; Organizational Behavior: Challenges in the Indian Setting

Unit 2: Individual level processes: Employee attitudes: Job satisfaction, Organizational Commitment, Organizational Citizenship Behaviour; Work Motivation; Early theories: Maslow, McClelland, Two factor; Contemporary theories and applications: Goal setting & MBO, Equity, Expectancy, Job Characteristics Model & Job Redesign

Unit 3: Dynamics of Organizational Behavior: Organizational culture; Power and Politics: Influence, sexual harassment, organizational politics; Positive Organizational Behaviour: Optimism, Emotional Intelligence


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Unit 4: Leadership: Basic approaches: Trait theories, Behavioral theories, Contingency theories; Contemporary Issues: Inspirational approaches to leadership, Challenges to the leadership construct; Indian perspective on leadership

Practicum: Any two practicum based on topics in C-PSY-13

Readings:

Chadha, N.K. (2007). *Organizational Behavior*. Galgotia Publishers: New Delhi.

Greenberg, J. & Baron, R.A. (2007). *Behaviour in Organizations* (9th Ed.). India: Dorling Kindersley.

Griffin, R.W. & Moorhead, G. (2009). *Organizational Behavior: Managing People & Organizations*. New Delhi :Biztantra publishers.

Landy, F.J. & Conte,J.M. (2007).*Work in the 21st Century: An Introduction to Industrial and Organizational Psychology*. New York: Wiley Blackwell.

Luthans, F. (2009).*Organizational behavior*. New Delhi: McGraw Hill.

Muchinsky, P. (2006). *Psychology applied to work: An introduction to industrial and organizational psychology*. NC: Hypergraphic Press.

Pareek, U. (2010). *Understanding organizationalbehaviour*. Oxford: Oxford University Press.

Prakash, A. (2011). Organizational behavior in India: An indigenous perspective. In G. Misra (Ed.), *Handbook of Psychology*. New Delhi: Oxford University Press.

Robbins, S. P. & Judge, T.A. (2007).*Organizational Behavior* (12th Ed). New Delhi: Prentice Hall of India.

Schermerhorn, J.R. , Hunt,J.G. & Osborn,R.N. (2008). *Organizational Behavior* (10th Ed.) New Delhi: Wiley India Pvt. Ltd.

Singh, K. (2010). *Organizational Behavior: Texts & Cases*. India: Dorling

Kindersley Sinha, J.B.P. (2008). *Culture and Organizational Behavior*. New Delhi: Sage.

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**B.Voc –Software Development
Geographical Information System (Practical)**

Paper Code: GEC5.2

Credit - 4

Max Marks: 100 Hours:3

Geographical Information System (GIS): Definition and Components.
Global Positioning System (GPS) – Principles and Uses; DGPS.
GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure.
GIS Data Analysis: Input; Geo-Referencing; Editing, Output and Query; Overlays.
Application of GIS: Land Use Mapping; Urban Sprawl Analysis; Forests Monitoring.

Practical Record: A project file consisting of 5 exercises on using any GIS Software on above mentioned themes.

Reading List

1. Bhatta, B. (2010) Analysis of Urban Growth and Sprawl from Remote Sensing, Springer, Berlin Heidelberg.
2. Burrough, P.A., and McDonnell, R.A. (2000) Principles of Geographical Information System-Spatial Information System and Geo-statistics. Oxford University Press
3. Chauniyal, D.D. (2010) Sudur Samvedan evam Bhoglik Suchana Pranali, Sharda Pustak Bhawan, Allahabad
4. Heywood, I., Cornelius, S and Carver, S. (2006) An Introduction to Geographical Information system. Prentice Hall.
5. Jha, M.M. and Singh, R.B. (2008) Land Use: Reflection on Spatial Informatics Agriculture and Development, New Delhi: Concept.
6. Nag, P. (2008) Introduction to GIS, Concept India, New Delhi.
7. Sarkar, A. (2015) Practical geography: A systematic approach. Orient Black Swan Private Ltd., New Delhi
8. Singh, R.B. and Murai, S. (1998) Space Informatics for Sustainable Development, Oxford and IBH, New Delhi.

**B.Voc –Software Development
Robotics**

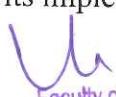
Paper Code: GEC5.3

Credit - 4

Max Marks: 100 Hours:3

Programming Environments: Integrated Development Environment (IDE) for AVR microcontrollers, free IDEs like AVR Studio, WIN AVR. Installing and configuring for Robot programming, In System Programmer (ISP), loading programmes on Robot

Actuators: DC Motors, Gearing and Efficiency, Servo Motors, Stepper motors, Motor Control and its implementations


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Sensors: White line sensors , IR range sensor of different range, Analog IR proximity sensors , Analog directional light intensity sensors , Position encoders , Servo mounted sensor pod/ Camera Pod, Wireless colour camera , Ultrasound scanner , Gyroscope and Accelerometer , Magnetometer, GPS receiver, Battery voltage sensing, Current Sensing

LCD interfacing with the robot (2 x 16 Characters LCD)

Other indicators: Indicator LEDs, Buzzer

Timer / Counter operations: PWM generation, Motor velocity control, Servo control, velocity calculation and motor position Control, event scheduling

Communication: Wired RS232 (serial) Communication, Wireless ZigBee Communication, USB Communication, Simplex infrared Communication (IR remote to robot)

Suggested Books:

1. Saha, S.K., Introduction to Robotics, 2nd Edition, McGraw-Hill Education, New Delhi, 2014
2. R.K. Mittal, I.J. Nagrath, —Robotics & Control, Tata McGraw & Hills, 2005.

**B.Voc –Software Development
EFFECTIVE DECISION MAKING**

Paper Code: GEC6.1

Credit - 4

Max Marks: 100 Hours:3

Objective: Students will learn various strategies which will enable them to make good decisions in life.

Unit 1: Introduction: What is decision making? Importance of making good decisions.

Unit 2: Decisions regarding career: Discovering self and creating a healthy acceptance of self; Learning to connect with self with vocational choices/career.

Unit 3: Decision making in interpersonal context: Learning about conflict management in interpersonal relations; negotiation in interpersonal conflict, handling difficult people and finding solutions

Unit 4: Decision making at the workplace: developing competencies and skills required for effective decision making

Readings:

Adler, R.B & Proctor, R.F (2009).Communication Goals and Approaches. Wadsworth cengage Learning, India

Chadha, N.K. & Bhatia, H. (2014).Career Development-different voices, different choices. The Readers Paradise: New Delhi.

Sherfield, R.M., Montgomery, R.J., & Moody, P.G. (2009).Developing soft skills. Pearson Education, India.

**B.Voc –Software Development
E-Commerce & Marketing**
Paper Code: GEC6.2

Credit - 4**Max Marks: 100 Hours:3**

Objective: To enable the students to become competent to understand the mechanism for excelling in e-commerce based employments and self-employment opportunities.

Contents

Unit I: Introduction

7 Lec

Introduction to E Commerce and Definition, E-Commerce based activities, Goals of E-Commerce,

Technical Components of E-Commerce, Functions, Advantages and disadvantages of E-Commerce, Scope

of E-Commerce, Electronic Commerce Applications, Framework of E-Commerce, Management, Electronic Commerce and Electronic Business.

Supply

Unit II: Planning Online-Business

7 Lec

Nature and dynamics of the internet. Electronic business models: B2B, B2C, C2C, C2B. Web-site Design: Web sites as market place. E –commerce, pure online vs. brick and click business; assessing requirement for an online business designing, developing and deploying the system.

Unit III: Technology for Online-Business

5 Lec

Internet and its Evolution, IT Infrastructure, Middleware, Domain names, Contents: Text and Integrating E-business applications. Component of Internet Information technology structure, Development of Intranet, Extranet and their Difference.

Unit IV: Operations of E Commerce

4 Lec

Online-payment mechanism; Electronic Payment systems; payment Gateways; Visitors to website; Tools for promoting websites; Risk management options for e - payment systems.

Unit VI: Security and Legal Aspects of E-Commerce

7 Lec

Threats in E-Commerce, Security of Clients and Service-Provider; Cyber Laws – Relevant provisions of Information Technology Act 2000, offences, secure electronic records and digital signatures penalties and adjudication.

Suggested Readings:

1. Agarwala, Kamlesh N., Amit Lal and Deeksha Agarwala, Business on the Net: An Introduction to the Whats and Hows of E -Commerce, Macmillan India Ltd.
2. Bajaj, Deobyan Nag, E-Commerce, Tata McGraw Hill Company, New Delhi.
3. Turban, E., et. al., Electronic commerce: A Managerial Perspective, Pearson Education Asia.
4. Diwan, Prag and Sunil Sharma, Electronic Commerce -A Manager's Guide to E-Business, Vanity Books International, Delhi.



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5. Dietel, Harvey M., Dietel, Paul J., and Kate Steinbuhler., E-business and E-commerce for managers, Pearson Education.
6. Greenstein, M. and T.M. Feinman, Electronic Commerce: Security, Risk Management and Control, Tata McGraw hill.
7. Kosiur, David, Understanding Electronic Commerce, Prentice Hall of India Private Ltd., New Delhi.
8. Whiteley, David, E-commerce, McGraw Hill, New York.

Note: Latest edition of text books may be used.

B.Voc –Software Development

ENTREPRENEURSHIP

Paper Code: GEC6.3

Credit - 4

Max Marks: 100 Hours:3

Unit I: The Entrepreneurial Mindset

Concept of an entrepreneur, Concept and Evolution of entrepreneurship, Distinction between entrepreneur and manger, Distinction between entrepreneur and intrapreneur, Attributes of entrepreneurs, Core elements of entrepreneurship, Entrepreneurship in a Developing economy, Factors affecting Entrepreneurship development, Entrepreneurship as a Process, Role of entrepreneurship in the developing economy.

Unit II: Launching Entrepreneurial Ventures

Generation of ideas: Methods and process of generating ideas, sources of ideas and screening process
Assessing opportunities: Challenges, pitfalls and critical factors of new venture; Business and Entrepreneurial development organizations

Determining and acquiring required resources (Financial, Physical and Human): Search for entrepreneurial capital- Debt vs. Equity; Venture Capital Market; Angel Financing and Alternative sources of finance for Entrepreneurs

Business Plan Preparation for new Ventures: Meaning of a business plan, benefits, elements and presentation

Unit III:Role of Innovation & Creativity

Creativity: Concept and process of creativity; role and importance of creativity and mental blocks to creativity

Innovation: Meaning and importance of innovation; Types of innovation; Sources of innovation; Conditions for effective innovation at Organization level and Methods of protecting innovation and creativity: branding, trademarks, patents, copyrights and registered design protection

Unit IV: Case Study of selected Indian Business Houses

Note: Case Studies and examples of successful entrepreneurs and entrepreneurial ventures should be discussed at relevant places.

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Appendix - XXIX

Suggested Readings:

3. Entrepreneurship: A South Asian Perspective, Donald. F Kuratko& T.V Rao, Cengage Learning Publications, 2012
 4. Family Business, Ernesto J. Poza, 3rd ed., 2010
 5. Entrepreneurship and Small Business Management, C.B Gupta and S.S Khanka, Sultan Chand Publications, 2014
- Entrepreneur Development, Taneja& Gupta, Galgotia Publishing Company, 2nd ed., 2012

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