

# **Gondwana University, Gadchiroli**



## **Choice Based Credit System (CBCS)**

### **Syllabus of Diploma in Hardware and Networking Technology (DHNT) (One Year Diploma Course)**

**2017-2018**

## DHNT (Semester I)

Subject	Paper Code	Paper Name	Total Period /Week	Credit	% of Assessment			
					IA	UE	Total	Min. Passing (35%)
Ability Enhancement Compulsory Course (AECC)	DHNTT101	English (Business Communication – I)	4	4	20	80	100	35
Core Course	DHNTT102	Information and Communication Technology	4	4	20	80	100	35
	DHNTT103	Computer Hardware and Peripherals	4	4	20	80	100	35
Elective Course (EC)	DHNTT104.1 DHNTT104.2	<u>Elective</u> 1. Digital Electronics 2. Computer Architecture and Organization	4	4	20	80	100	35
Core based Lab1	DHNTTP105	Lab on DHNTT102	4 Prac. Per Batch	2	20	30	50	20
Core based Lab2	DHNTTP106	Lab on DHNTT 103	4 Prac. Per Batch	2	20	30	50	20
EC based Lab	DHNTTP107	Lab on DHNTT104.1 or DHNTT104.2	4 Prac. Per Batch	2	20	30	50	20
<b>Total</b>				<b>22</b>	<b>140</b>	<b>410</b>	<b>550</b>	<b>200</b>

**Note:** Student must appear for University Practical Examination.

**Note :** Direction and scheme of course is available in the website of Gondwana University, Gadchiroli ([www.gondwana.digitaluniversity.ac](http://www.gondwana.digitaluniversity.ac))

## DHNT (Semester II)

Subject	Paper Code	Paper Name	Total Period /Week	Credit	% of Assessment			
					IA	UE	Total	Min. Passing (35%)
Ability Enhancement Compulsory Course (AECC)	DHNTT201	English (Business Communication – II)	4	4	20	80	100	35
Core	DHNTT202	Network Essential and Management	4	4	20	80	100	35
	DHNTT203	Introduction to Operating System	4	4	20	80	100	35
Elective Course (EC)	DHNTT204.1 DHNTT204.1	<u>Elective</u> 1. PC-Maintenance 2. Computer Hardware and Interfacing	4	4	20	80	100	35
Core based Lab1	DHNTTP205	Lab on DHNTT202	4 Prac. Per Batch	2	20	30	50	20
Core based Lab2	DHNTTP206	Lab on DHNTT 103	4 Prac. Per Batch	2	20	30	50	20
EC based Lab	DHNTTP207	Lab on ( DHNTT204.1 or DHNTT204.1 )	4 Prac. Per Batch	2	20	30	50	20
<b>Total</b>				<b>22</b>	<b>140</b>	<b>410</b>	<b>550</b>	<b>200</b>

### Pattern of Question Paper other than Language

General Rules and Regulations regarding pattern of question paper for the semester end examination is as given below:

1. There will be four units in each paper.
2. Maximum marks of each theory paper will be 80.
3. Question paper will consist of five questions, each of 16 marks.
4. Four questions will be based on four units with internal choice.
5. Fifth question will be compulsory with questions from each of the four units having equal weightage and there will be no internal choice.

<b>Diploma in Hardware and Networking Technology</b>	
<b>DHNT</b>	<b>Semester – [ I / II]</b>
<b>Paper Code :</b>	<b>Paper : Name of Paper</b>
<b>Time: 3 Hours ]</b>	<b>[ Max. Marks: 80</b>
<b>Note:</b> 1) All questions are compulsory and carry equal marks. 2) Draw Neat and Labeled diagram and use supporting data wherever necessary. 3) Avoid vague answers and write specific points/answer related to questions.	
<hr style="border-top: 1px dashed black;"/>	
<b>Q1 Either (From Unit 1)</b>	
a)	8
b)	8
<b>Or</b>	
c)	8
d)	8
<b>Q2 Either (From Unit 2)</b>	
a)	8
b)	8
<b>Or</b>	
c)	8
d)	8
<b>Q3 Either (From Unit 3)</b>	
a)	8
b)	8
<b>Or</b>	
c)	8
d)	8
<b>Q4 Either (From Unit 4)</b>	
a)	8
b)	8
<b>Or</b>	
c)	8
d)	8
<b>Q5 Solve all questions</b>	
a)(From Unit 1)	4
b) (From Unit 2)	4
c)(From Unit 3)	4
d) (From Unit 4)	4

## Pattern of Question Paper For English

### DHNT Semester- I English

#### Pattern of Question Paper-

**Time : Three Hours**

**Total Marks :80**

- Que. 1. A) One Long Answer Question out of Two to be answered in about 150 words  
(Based on Prescribed Prose) 10  
B) One Long Answer Question out of Two to be answered in about 150 words  
(Based on Prescribed Poems) 10
- Que. 2. A) Three Short Answer Questions out of Four to be answered in about 75 wordseach  
(Based on Prescribed Prose) 3X5=15  
B) One Short Answer Question out of Two to be answered in about 75 words each  
(Based on Prescribed Poems) 1X5=5
- Que. 3. A) Fill in the Blanks with appropriate Articles 3X1 = 3  
B) Fill in the Blanks with appropriate Prepositions 3X1 = 3  
C) Fill in the Blanks with appropriate Tense forms of Verbs 4X1 = 4  
D) Correction of Sentences 4X1= 4  
E) i) Synonyms 3X1 = 3  
ii) Antonyms 3X1 = 3
- Que. 4. A) Paragraph Writing with the help of given points 10
- Que. 5. A) Two Short Answer Questions out of Four with internal choice on Leadership Skills Team Work Skills, Time Management and Goal Setting. 2X5= 10

#### Unit Wise Allotment of Marks

Sr. No.	Unit	Portion	Marks Allotted
1	I	Prose	25
2	II	Poetry	15
3	III	Grammar	20
4	IV	Writing Skills, Communication Skills and Personality Development Skills	20

## Pattern of Question Paper for English

### DHNT Semester- II English

#### Pattern of Question Paper-Sem-II

**Time : Three Hours**

**Total Marks :80**

- Que. 1. A) One Long Answer Question out of Two to be answered in about 150 words  
(Based on Prescribed Prose) 10
- B) One Long Answer Question out of Two to be answered in about 150 words  
(Based on Prescribed Poems) 10
- Que. 2. A) Three Short Answer Questions out of Four to be answered in about 75 words  
each (Based on Prescribed Prose) 3X5=15
- B) One Short Answer Question out of Two to be answered in about 75 words  
(Based on Prescribed Poems) 1X5=5
- Que. 3. A) Question Tags 2X2=4
- B) Change the Voice (Three out of Five) 3X2= 6
- Que. 4. A) Writing Advertisements (One out of Two) 10
- B) Dialogue Writing (One Long Answer Question out of Two) 10
- Que. 5. A) Giving Personal Information or Describing Daily Routine (Any One) 5
- B) One Short Answer Question out of Two on Notices, Agenda & Minutes 5

#### Unit Wise Allotment of Marks

Sr. No.	Unit	Portion	Marks Allotted
1	I	Prose	25
2	II	Poetry	15
3	III	Grammar	10
4	IV	Writing Skills,	30

# **DHNT**

## **(SEMESTER – I)**

**DHNT (Semester-I)**  
**Paper I :English (Business Communication – I)**

**[Max. Marks: 80]**

---

**UNIT I : NATURE OF COMMUNICATION**

Definition, Need and importance of communication skills, Basic types of communication-Reading-Writing-Listening-Speaking, Forms of communication-Verbal-Written-Oral-Non verbal, The Communication Process, Barriers of communication and ways in overcoming barriers.

**UNIT II : Written Communication**

The process of formal written Communication (deciding purpose, analyzing audience, designing a message, organizing, selecting, arranging ideas and preparing outlines, developing message). The qualities of good writing - clarity-consciousness-conciseness-correctness-coherence-courteousness.

**UNIT III : Business Correspondence In Organization**

Business Letters: Enquiry, letter of reply, letter of order, letter of execution, letter of complaint, letter of collection.

**Common errors in business communication**

Errors with pronouns, adjectives, verbs adverbs, participles and prepositions.

**UNIT IV: REPORT WRITING**

**Principles report writing:** Types of reports, structure of report, Presentation of report

**Reference Books**

- 1) Business Communication-Urmlila Rai , S. M. Rai –Himalayas Publishing House, Asha Kaul-Hall Of India
- 2) Business Correspondence & Communication Skills-Kapoor (S. Chand & Co)
- 3) Effective Skills:-Ravi Agrawal –Sublime Publishing Jaipur
- 4) Developing Communication Skills-Mohan –Macmillan Publishing
- 5) The Communicator Orient Blackswan
- 6) Business Communication – Om P Juneja Aarati Mujumdar
- 7) Business Correspondence & Report Writing- R. C. Sharma & Krishna Mohan



## DHNT (SEMESTER – I)

### Paper II :INFORMATION AND COMMUNICATION TECHNOLOGY

[Max. Marks: 80

---

#### Unit-I: Introduction to IT and Computers

Block Diagram of Computer, Functioning of Computer, Generations of Computer, Classification of Computers, Characteristics, Advantages & Limitations of Computer. Computer Memory: Primary Secondary, Types of Primary Memory, Registers.

#### Unit –II: I/O Device and Storage Devices

**Input Devices:** Keyboard **Locator Device:** Mouse, Joy Stick Digitizing Tablet, **Pick Device:** Light Pen, Touch Screen TrackBall, **Voice Recognition:** Microphone, Scanning: MICR, OCR, OMR, Barcode Reader, **Vision Capturing:** Webcam, Digital Camera, Point of Scale, Touchpad, Smart Card, **Output Devices:** VDU, Dot Matrix, Line, Laser, Inkjet Printers, Plotters, **Storage Devices:** Pen Drive, Hard Disk, and Optical Disk, Blue Ray Disc.

#### Unit – III: Windows

Features of Windows, GUI, Operating with Windows, Desktop, Taskbar, Windows Explorer, Control Panel, My Computer, My Documents, Recycle Bin, **Windows Accessories:** Calculator, Notepad, Paint, System tools, System Information, Disk Management, Disk Defragmentation, Disk Cleanup

#### Unit-IV: Network & Internet

Computer Communication, Networks, Communication Device, Types of Network-LAN, WAN, MAN, Concept of Network Topology, Types of Topologies and Its Advantages and Limitations. OSI Model.

**Internet:** Basic Internet Terms, Internet Addressing, Services Provided By Internet, Detail About E-Mail, Search Engine, Basic of Intranet. Social and Ethical Issue, You Tube, FaceBook, LinkedIn, Orkut

**Open Source Terminologies:** Open Source Software, Freeware, Shareware, Proprietary Software, FLOSS, GNU, FSF, OSI.

#### Text Books:

- 1) Peter Nortorn's, "Introduction to Computer", TMH, 2004, ISBN-0-07-05-3142-0
- 2) Chetan Shrivastava "Fundamentals of Information Technology", Kalyani publishers, 2002, ISBN-81-7663-576-6
- 3) Dr. S. B. Kishor, "Information and Communication Technology", Das GanuPrakashan

#### Reference Books:

- 1) Sanjay Saxena and Prabhpreet Chopra, "IT Tools and Applications", 2008
- 2) Akshay Kumar, "Information Technology and Info Guide", Authors press, 2000, ISBN-81-7273-040-3

**DHNT(Semester-I)**  
**Paper III :COMPUTER HARDWARE AND PERIPHERALS**

**[Max. Marks: 80**

---

**Unit-I: Introduction to Computer**

Concept of Digital Computer, Types of Software –System software, Application software /Utility Software. Compilers, Interpreters, Assemblers, Linker, Loader

**Data Representation and Boolean Algebra: Binary, Octal, Hexadecimal and their inter-conversion, 1's and 2's complement. Binary Arithmetic& Number Systems – BCD, EBCDIC, ASCII, De-Morgan's Theorem, Duality Theorem, K-Map, Sum of product, Product of Sum, Algebra Rules, Laws, Logic Circuits, NOT,AND, OR, NAND, NOR, XOR, XNOR, Gated diagrams.**

**Unit-II :Combinational Circuits & Sequential Circuits**

Half / Full Adder , Decoder / Encoder , Multiplexer / Demultiplexer, Flip Flops - SR, D, JK, Master – Slave, Edge Triggered D flip-flop with timing diagram , Shift Registers, Introduction to Counters, Synchronous & Asynchronous counter, Binary counter, mod-10 counter .

**Memory System:** Memory Hierarchy, Primary Memory – DRAM, SDRAM, DDR, RDRAM. ROM, PROM, EPROM, EEPROM, Cache memory Structure, DMA, DMA interfacing with processor.

**Unit-III: CPU Organization**

CPU Building Blocks , CPU Registers, System bus Characteristics, Interface basics with interface block diagram, concept of local bus with name of different local buses (only types) , Addressing Modes , Interrupt Concept, Interrupt types , Instruction and Execution cycle, Hardwired and Micro Program control , RISC vs. CISC , Pipelining – Data Path, Time Space Diagram, Hazards .

**Unit-IV: Microcomputer System Peripherals**

CRT terminals, Graphic terminals, choice of display cards MGA, CGA, EGA and monitors (monochrome and colors). Floppy disk, Hard disk, Optical disk, data storage, printer mechanism, Speech synthesis and recognition with a computer.

**Text Books:**

- 1) Computer Organization &Architecture Carpinell, Pearson,ISBN -8177587676
- 2) Computer System Architecture, Morris Man, Pearson, 3rd Edition.
- 3) Advanced Computer Architecture,Kaithwang, Tata McGraw-Hill.
- 4) Digital Computer Electronics,Malvino, Tata McGraw-Hill,4th Edition
- 5) Micro Computer Systems, Yu Cheng Liu &Glann Gibson

**Reference Books:**

- 1) Microprocessor Architecture, Ramesh Gaonkar, Penram International Publishing, 6th Edition.
- 2) Computer Architecture & Organization, J.P. Hayes, McGraw-Hill,3rd Edition
- 3) Computer Organization,Hemchar, Tata McGraw-Hill, 5th Edition

**DHNT(Semester – I)**  
**Elective –I**  
**Paper IV :DIGITAL ELECTRONICS**

**[Max. Marks: 80**

---

**Unit – I: Number System and Data Representation**

**Number System:** Binary, Octal, Decimal and Hexadecimal Number System and their Inter Conversion.

**Binary Codes:** BCD, Excess3, Parity, Gray, ASCII, EBCDIC Codes and their Advantages and Disadvantages.

**Data Representation:** Positive, Negative, Maximum and Minimum Number Representation (Related to 8 bit Number), Real Number Representation, Underflow, Overflow, Range and Accuracy.

**Unit – II: Binary Arithmetic**

**Binary Arithmetic:** Binary Addition, Decimal Subtraction Using 9's and 10's Complement Binary Subtraction Using 1's and 2's Complement Multiplication and Division.

**Logic Gates:** Truth Table, Properties and Symbolic Representation of NOT, AND, OR, NOR, NAND, EX-OR, EX-NOR Gates. NOR and NAND Gates as Universal Gates.

**Unit–III: Boolean Algebra and Combinational Circuits**

**Boolean Algebra:** Laws and Identities of Boolean Algebra, Demorgan's Theorem, Use of Boolean Algebra for Simplification of Logic Expression, K-Map for 2,3,4 Variables, Simplification of SOP and POS Logic Expression Using K-Map.

**Combinational Circuits:** Half Adder, Full Adder, Parallel Adder, Half Subtractor, Full Subtractor, 4-Bit Binary Adder, Subtractor, Multiplexer, Demultiplexer, Decoder, Encoder, Parity Detector.

**Unit – IV: Sequential Circuits and Counters**

**Sequential Circuits:** Flip-Flops Construction and Working of RSFF, JKRSFF, DFF, TFF, JKFF and JKMSFF.

**Counters:** Construction and Working of Asynchronous, Synchronous, Up-Down Counter, Shift Registers and Their Types, Ring Counter, Johnson Counter with their Time Diagram.

**Text Books:**

- 1) Gothman, "Digital Electronics", PHI.
- 2) Navaneeth, Kale and Gokhale, "Digital and Analog Technique". ISBN-81-225-0153-2

**Reference Books:**

- 1) Soumitra Mandal, "Digital Electronics", TMH, ISBN 0-07015382-5
- 2) B Ram, "Fundamental of Microprocessor and Microcomputer", Dhanpat Rai Pub.
- 3) Liu. Gibson, "Microcomputer System" The 8086/8088 Family, ISBN-1-55623-874-6

**DHNT (Semester-I)**  
**Elective – II**  
**Paper IV :COMPUTER ARCHITECTURE AND ORGANIZATION**  
**[Max. Marks: 80]**

---

**Unit–I:Principles to Computer Design**

Software, Hardware interaction, layers in computer architecture, Central processing and machine language Instruction, addressing modes, instruction types, Instruction set selection, Instruction and execution cycle.

**Unit–II:Control Unit**

Data path and control path design, Microprogramming v/s hardwired control Pipelining in CPU design, RISC v/s CISC, Superscalar processors.

**Unit–III:Memory Subsystems**

Storage technologies, memory array organization, memory hierarchy, interleaving, cache memory and virtual memory including aids to implement these.

**Unit–IV:Input-Output Processing**

Bus interface, data transfer techniques, I/O interrupts and channels. SPEC marks, Transaction Processing Benchmarks.

**Text Books:**

- 1) Computer Architecture and Organization by Tanenbaum.
- 2) Computer Architecture and Organization by J.P.Hayes.

**Reference Books:**

- 1) Parallel Processing By Hwang.

**Practical based on IT, Office Automation**

**A) Information Technology**

1. Study of various input devices with troubleshooting.
2. Study of various output devices.
3. Study of booting process.
4. To study assembling and disassembling the PC.
5. To study and installation of antivirus software
6. Procedure to clean-up Disk, Disk fragmentation

**B) LibreOffice Writer/Ms-Word**

1. a) Type the Content Heading and then set the Index option using Tab setting. Finally take a print out.

**CONTENTS**

<b>Chapter</b>	<b>Page No.</b>
Windows .....	1
Ms-Word .....	18
Ms-Excel .....	27
Power-Point.....	98
Ms-Access.....	131

[Chapter names at 1” with left alignment while Page number at 4.5” with right alignment and with leader .....

b) Draw a Block diagram of computer system using auto-shapes, and name them using textbox and join each parts using line-style. At the end give the page border to it. Finally take a print out.

c) Type the following set of equation. Finally take a printout.

1.  $B^2 - 4AC = 0$
2.  $H_2SO_4$
3. If  $(A^2 \geq 0)$
4.  $f(x) = \sum_{i=1}^{i=5} 5 * X^i$
5.  $k^2 - 4 = 0$ , if  $b_0 \neq 0$
6.  $e^{i\theta} + e^{-i\theta} = 2\cos\theta$

2. Type the following letter and take printout

☎020-1111111

Dear Sir,

Kindly provide the **rate** of following set of peripherals,

- Computer 🖥 with following configuration
  - Intel<sup>®</sup> Pentium<sup>®</sup> Processor T4400 ( 2.2 Ghz, 1MB L2 Cache, 800 MHz FSB)
  - 250 GB HDD, DVD RW, 35.56cms (14) CSV LED Backlit, 1GB DDR3 RAM
- Floppy disk 🖨 of 1.44 MB of 12 Box
  - Sony
  - Verbatin
- 3-Button mouse 🖱 of following 5 each
  - a) i-ball
  - b) Logitech

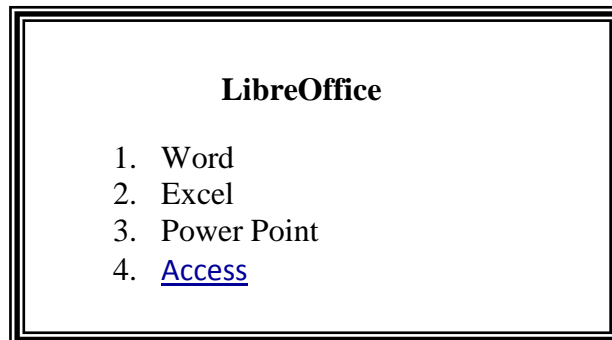
Thanking you,

Date : &lt; Insert System Date &gt;

Your

**XYZ**

3. Type the following

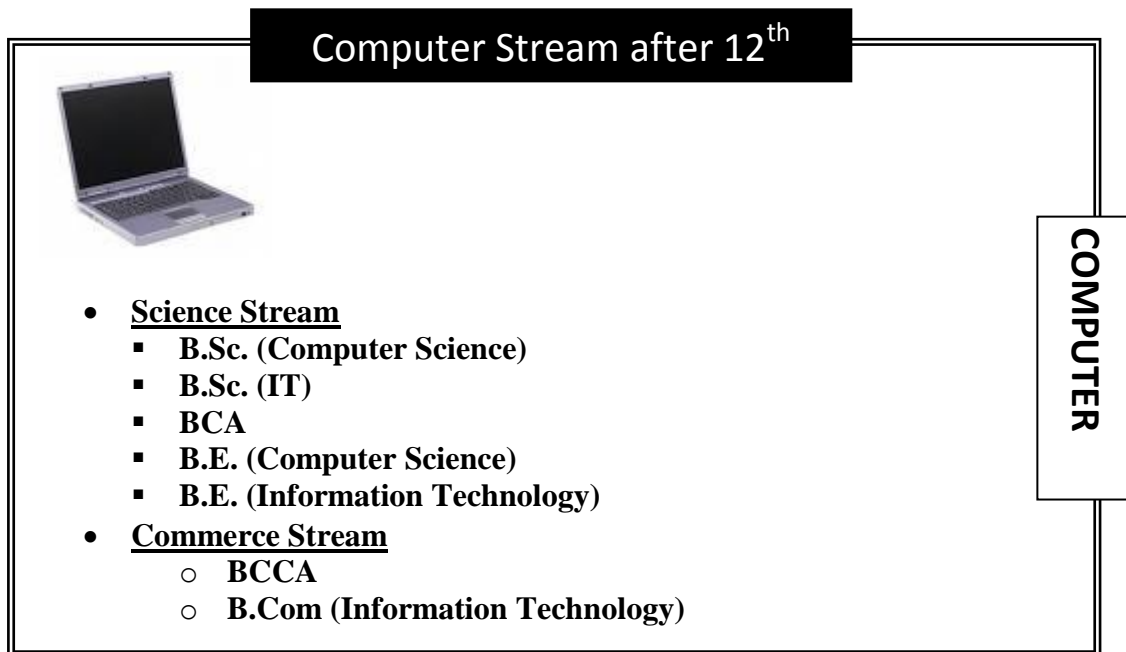


- a) **Ms-Word:** MS-Word is the application software and one of the most powerful word processor in Windows operating system. It is used for formatting of letters or the text. In simple meaning it is a word processor having various functions for text you may insert different objects like pictures, sound and video or calendar in word file.
- b) **Ms-Excel:** Ms-Excel is a powerful spreadsheet or worksheet application that can use for managing, analyzing and presenting data in tabular format. It also helps to display data in graphical format using charts.
- c) **Ms-Power Point:** Ms-Powerpoint is a powerful tool to create professional looking presentation and slide shows.
- d) **Ms-Access:** Ms-Access is a powerful program to create and manage database.

**Perform the following operation,**

- i. When user presses on Access it should jump to Access Paragraph within page.
  - ii. Similarly create a hyperlink for other option within a page.
  - iii. Print it.
4. Define and write the characteristic of computer and perform following operation,
- a. Divide the text in two columns
  - b. Insert the picture of computer in the background in each column.
  - c. Insert header with your name
  - d. In footer write name of your college
  - e. Give proper heading for phrase.
  - f. Use Drop Cap for 1<sup>st</sup> letter of each paragraph
  - g. Define line spacing 1.5 with left margin 1.25” and right margin 0.75”
  - h. Font : Courier New, Font size for heading 14 and for normal text 11
  - i. Finally take a print out.
5. Type the following letter exactly as given below,  
Before start of typing, set up page in the following format

- 1) Page Size : A4 with Landscape Orientation
- 2) Left Margin: 2” Right Margin: 1” Top Margin: 0.5”



[If Computer Picture is not loaded on your computer then simply select one of the pictures loaded in clip-art]

6. Write a letter to publisher for supplying the list of books along with book details.  
For ex.

To,  
Publisher,  
Das GanuPrakasan,  
Nagpur.

R/Sir,  
Supply following title of books at the earliest.

Sr.No.	Title	Author	No. of Copies
1	Information System	S.Kishor	10
2	Information Technology	S. Kishor	15
3	Principle of Business Management	S. Kishor	12
4	Financial Accounting	Dr.KishorMohrir	13

Thanking you,

Date: < Insert System Date >

Yours

Principal  
(Dr. WWW)

Perform Following option

- 1) Take a printout
- 2) Assume Librarian forget to enter one of the entry of book so, kindly add it between number 3 and 4 say,  
4 Business Economics GurbirKaurKhalsa 10
- 3) Replace author name S. Kishor by S.B. Kishor at once.
- 4) Finally print the copy of this document with following settings,
  - Left Margin = 1.75"
  - Right Margin = 1"
  - Top Margin = 1.5"
  - Bottom Margin = 1"

7. Using Mail-Merge write a letter to all selected candidate for their final admission on specific date say (30-June) at XYZ Institute, with necessary documents at 10 AM. Name should be highlighted while course and date of commencing class should be underlined

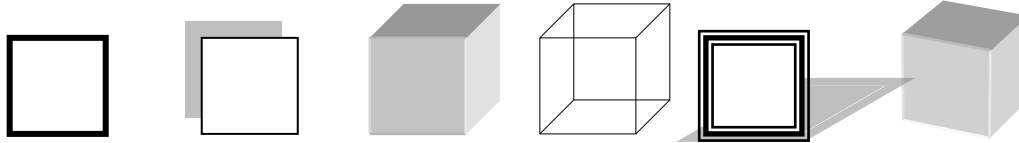
8. Create a document and while saving give a security to open the saved document. Take a screen shot while opening it.



9. Draw the following shape using rectangle option found in Drawing Toolbar



And generate following types of box by copying and formatting above box



### C) LibreOfficeCalc/MS-Excel

1) Prepare following table in a worksheet using MS-Excel.

Name	Basic	DA	HRA	Gross Pay	PF	Net Pay
Rahul	10000					
Sachin	20000					
Nilesh	15000					
Bharti	25000					

Perform following operations:-

1. Complete the table using formulas
  - $DA = \text{Basic} * 27 \%$
  - $Hra = \text{Basic} * 10 \%$
  - $PF = \text{Basic} * 12.5 \%$
  - $Gross\ Pay = \text{Basic} + DA + HRA$
  - $Net\ Pay = \text{Gross Pay} - PF$
2. Give the Proper Heading.
3. Take the printout in landscape orientation

2) Enter following data in MS-Excel worksheet.

Name	Date of joining	Salary	Designation
Rahul	Jan-05	10000	Peon
Sachin	Oct-10	20000	Accountant
Nilesh	Jan-05	15000	Clerk
Bharti	Dec-09	25000	Manager

Perform following operations:-

1. Copy the above data and place in sheet2 and sort the table in the ascending order or date of joining and give proper heading.
2. Copy the above data and place in sheet3 and sort the table in the ascending order or date of joining followed by order of name and give proper heading.
3. Copy all the above data to sheet4 and take printout

3) Prepare following using MS-Excel.

Players	Match 1	Match 2	Match 3	Average	Highest Score	Sum
Sehwag	78	43	91			
Sachin	45	77	62			
Yuvraj	65	80	37			
Dhoni	34	15	46			
Raina	23	75	55			

Perform following:-

- a. Calculate Average and High score of each player using AVERAGE & MAX function
  - b. Calculate total score of each match using SUM function.
  - c. Sort above records in descending order on the basis of average.
  - d. Take the printout in landscape orientation
- 4) Prepare the Mark sheet of IT subject on the basic of 3 Unit test. Each of 30 Marks and perform following,
1. Calculate total marks, Average and Grade
  2. Auto format to the above table.
  3. Take the printout
- 5) Prepare the multiplication using
- 1) Relative cell reference
  - 2) Absolute cell reference.

Multiplicand	Multiplier	Product using Relative	Product using Absolute
13	1		
	2		
	3		
	:		
	:		
	10		

- 6) Create profit and prepare a column chart in MS-EXCEL using the data.

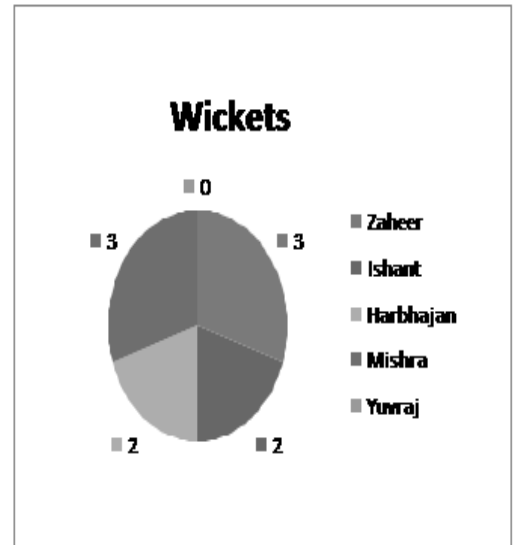
Month	Net Sales	Actual Cost	Profit
Jan. 10	22000	18000	
Feb. 10	245005	9555	
Mar. 10	32450	24850	

Perform following operations:-

- a. Find the profit
- b. Give a chart title "Profit Report"
- c. Take the printout.

7) Draw Pie chart of following excel sheet.

Bowler	Over	Maiden	Runs	Wickets
Zaheer	10	2	22	3
Ishant	10	1	36	2
Harbhajan	10	0	48	2
Mishra	10	0	37	3
Yuvraj	10	0	43	0



#### D) LibreOffice Impress/Ms-Powerpoint

1. Prepare the following slides with the information given below:

- Select the slide of your choice and write about yourself.
- Write about your family members name with relation.

**Tip:** By using Title and 2 column text

- Using Title Content and text slide insert the picture of your favourite hero with the list of their movies.
- Finally run the slide continuously until Esc key is not pressed.

At last, write the steps that you have perform.

2. Create the following slide.

ICAT PVT LTD	
• COURSES	• FEES STRUCTURE
✓ C	❖ 1500
✓ C++	❖ 2500
✓ VB	❖ 2000
✓ ORACLE	❖ 3000
✓ JAVA	❖ 4000

1. Change the bullet style in the first and the second level.
2. Change the case of the first level text to upper case and second level text to lower case.(By using Change Case option)
3. Change the attribute of the text to: Font : Arial, Font Style : Italics, Size:20
4. Justify the text.

3. Select the 10 slides of your choice. Apply the following settings and write the steps you have perform in each options.

- Insert page number in each slide
- Timer should be displayed during execution.
- Change the background color of each slide.
- Set the interval time for each slide to be displayed.
- Use Flash bulb animation in your presentation.
- Select a Color Schemes of your choice.
- Insert Chart in one of your slide.
- Insert a table in your presentation

**DHNT (Semester-I)**  
**Core Course based Lab-II**

**[Max. Marks: 50]**

---

**Minimum Five practical's should be under take under the Guidance of Faculty Members**

**DHNT (Semester-I)**  
**Elective Course based Lab**

**[Max. Marks: 50]**

---

**Practical List DIGITAL ELECTRONICS**

- 1) To Study and Design the characteristics of basic gates (AND, OR, NOT).
- 2) To Study and Design the characteristics of Universal gates (NAND, NOR).
- 3) To Study and Design the Derived gates (EX-OR, EX-NOR)
- 4) To Study and Design the basic gates (AND, OR, NOT) using Universal NAND gate.
- 5) To Study and Design the basic gates (AND, OR, NOT) using Universal NOR gate.
- 6) To Study and Design the basic gates (EX-OR, EX-NOR) using Universal NAND gate.
- 7) To Study and Design the derived gates (EX-OR, EX-NOR) using Universal NOR gate.
- 8) To Study and Design NOR gate using NAND gate.
- 9) To Study and Design NAND gate using NOR gate.
- 10) To Study and Design RS FLIP FLOP using NAND gate.
- 11) To Study and Design RS FLIP FLOP using NOR gate.
- 12) To Study and Design JK FLIP FLOP.
- 13) To Study and Design JKMS FLIP FLOP.
- 14) To Study and Design the Half-adder.
- 15) To Study and Design the Full-adder.
- 16) To Study and Design the Half subtractor.

# **DHNT**

## **(SEMESTER – II)**

**DHNT (Semester-II)**  
**Paper I :English (Business Communication – II)**

**[Max. Marks : 80**

---

**UNIT I : Greeting and Salutation**

Introducing yourself, Greetings, Making Request and Responding to Request

**Business interaction**-Various situation in business world, Interviews, conducting interviews, Meeting-notice, agenda, minutes and drafting resolutions.

**UNIT II: Oral Communication**

Nature, characteristics, public speech, prepared speech.

**INVITATION:** Inviting, Accepting invitation, Refusing invitation.

**Business Manners:** Body Language, Gestures, Dialogues Skill, Feedback Skill, Telephone Dialogue, Telephone Etiquette and Participating In Business Meeting.

**UNIT III: Inter Departmental Communication**

Internal Memo, Office circulars, orders, notes, communication with branch office and regional office.

**Basic Writing Skill**

Punctuation, Words often frequently misspells, Words-multiple meaning, foreign words and phrases commonly used.

**UNIT IV: Modern Office Communication**

Electronic communication, Telephone, Tele-conferencing, answering machines, Email, voice mail, Fax-Internet, Audio-Visual aids etc.

**Reference Books**

- 1) Business Communication - Urmlila Rai , S. M. Rai –Himalayas Publishing House, Asha Kaul-Hall Of India
- 2) Business Correspondence & Communication Skills- Kapoor (S. Chand & Co)
- 3) Effective Skills:-Ravi Agrawal –Sublime Publishing Jaipur
- 4) Developing Communication Skills-Mohan –Macmillan Publishing
- 5) The Communicator Orient Blackswan
- 6) Business Communication – Om P Juneja Aarati Mujumdar
- 7) Business Correspondence & Report Writing- R. C. Sharma & Krishna Mohan

## DHNT (SEMESTER – II)

### Paper II :NETWORK ESSENTIAL AND MANAGEMENT

[Max. Marks: 80]

---

#### **Unit –I: Introduction to Computer Networks**

Basic functions of a computer, storage components, personal computer hardware, computer boot procedure, Network Components, Steps of Network Communication, layers of network communication process, LANs, Internetworks, WANs & MANs, Packets and Frames, Clients and Servers, Peer-to-Peer/Workgroup Model, Server/Domain-based Model, Storage Area Networks, Wireless Personal Area Networks.

#### **Unit –II: Network Hardware Essentials**

Network Repeaters & Hubs, Multipoint Repeaters and Hubs, **Network Switches**, Basic Switch Operation, **Wireless Access Points**, Basic AP Operation, **Network Interface Cards**, NIC Basics, Selecting a NIC, NIC Drivers, Wireless NICs, **Routers**, Routers connect LANs, Routers create broadcast domains, routers work with IP addresses and Routing Tables

#### **Unit –III: Network Topologies, Technologies & Media**

**Physical Topologies**, Physical Bus, Star, Ring, P2P Topologies, **Logical Topologies**, **Network Technologies**, Network Technologies and Media, Ethernet Networks, Ethernet Standards, 802.11 Wi-Fi, Token Ring Network, Internet Access Technologies, **Network Media**, Wired Networking, Coaxial Cable, Twisted-Pair Cable, Structured Cabling, **Fiber-Optic Cable**, Fiber-Optic Connectors, Installation, Cable Types, **Wireless Networking**, Wireless benefits, types of wireless networks, wireless LAN components & LAN transmission, LAN Media selection criteria.

#### **Unit–IV: Network Management: An Overview**

Defining Network Management, Importance of Network Management, Network Management complexities: Technical, Organization and Operations, Business challenges, Job of Network Manager, Basic Ingredients of Network Management: Network Devices, Management System, Management Network, Management support organization, Management Perspectives, Dimensions of Management.

#### **Text Books:**

- 1) Gregory Tomsho, “Guide to Networking Essentials”, Cengage Learning Publication, 6<sup>th</sup> Edition, 2011, ISBN-13: 978-1-111-31252-7, ISBN-10: 1-111-31252-4.
- 2) Alexander Clemm, “Network Management Fundamentals”, Cisco press publication, 1<sup>st</sup> Edition, Nov. 2006, ISBN: 1-58720-137-2.

#### **Reference Books:**

- 1) Larry L. Peterson and Bruce S. Davie, Computer Networks- a systems approach, Morgan Kaufmann Publication, 5<sup>th</sup> Edition, 2012, ISBN: 978-0-12-385059-1



## DHNT (Semester-II)

### Paper III :INTRODUCTION TO OPERATING SYSTEM

[Max. Marks:-80

---

#### Unit –I : Introduction Operating System

**Operating System:** Introduction, Purpose, Functions of Operating System, **Types of OS:** Batch System, Multiprogramming, Time Sharing System, Personal Computer System , Parallel System, Distributed System, Real Time System, Online & Offline Processing, Memory Management Technique.

#### Unit – II: Disk Operating System

Introduction Disk Operating System, Booting Process, Structure of DOS , DOS Booting Sequence, System Files, Internal and External Dos Commands :- DIR , MD, RD, Tree, Path **File Management Command** - Copy, Del, Erase, Ren, Attrib, Xcopy, Backup & Restore, Format, Fdisk, General Command : Type, Date, Time, Prompt, CLS

#### UNIT –III: Introduction Linux

Structure of Linux Operating System, Exploring the directory structure, Naming files and directories.

**Shell:** Bourne, Korn and C-Shells

**File System Commands:**ls, mkdir, rmdir, cd, cat, mv, cp, rm, ln, pwd, more

Text editing with vi editor

#### Unit – IV: Installation and Configure Linux

Introductions of Linux , Installing Linux In Server Configuration – Install Red Hat Linux Linux System Administration - Linux configuration, Manage Users , Add User, Remove User , Edit User , Change Root's Password , Configure Common Network Setting , Change Your Host Name , Change Your IP Address .

#### Text Books:

- 1) Andrew S.Tanenbaum, “Modern Operating Systems”, Second Edition, PHI.
- 2) Dr. S. B. Kishor,” Introduction to Operating System”, Second Edition, GanuPrakashan.

#### Reference Books:

- 1) Inside Commodore Dos – Gerald G. Neufeld, Publisher : Brady Publishing , ISBN : 0835930912
- 2) Dos for Dummies - Gookin Dan , ISBN : 0764503618

**DHNT (Semester-II)**  
**Elective – I**  
**Paper IV :PC MAINTENANCE**

**[Max. Marks: 80**

---

**Unit–I: Preventive Maintenance**

Introduction, Need, Tools, Materials. Procedures: Active Hardware Maintenance, Active Software Maintenance, Passive Maintenance Procedure, Heat and Temperature Control, Dust and Pollution Control, Ventilation Control, EMI Electrostatic Discharge Control, Humidity and Corrosion Control, Shock and Vibration Control.

Preventive Maintenance Schedule. BIOS and CMOS, Working with the BIOS Setup Program.

**Unit – II: Monitor**

Video Cards and Monitors, Display Resolution, Feature, Video Driver, CTs Working, LCDs Working, Monitor Resolution, Interfacing, Refresh Rate, Monitor Driver, Adjusting Display Settings in Windows.

**Unit – III: Study of Drives**

Study of Different Types of Drives, Hard Drive Interfaces- IDE, SCSI, SATA Hard Drive Performance, Installing Hard Drives, Partitioning, Disk Formatting, Common Hard Drive Problems.

**Unit – IV: Formatting and Trouble Shooting**

**Formatting:** Formatting PC, Backup of Data Before Formatting, System Restore, Precautions for Formatting, Role of Technician.

**Trouble Shooting:** Introduction, Types of PC Faults: Solid Faults, Intermittent Faults, Developing Strategy. Diagnostic and Repair Tools – Diagnostic Software Tools, Diagnostic Hardware Tools, Advanced Testing Tools, Hand Tools for Service Engineers, Disassembling PC, Troubleshooting Display Problems, Memory Troubleshooting, Power Supply Testing and Problems Troubleshooting. Cleaning and Trouble Shooting of Keyboards, Mouse, Front Panel Indicators and Speakers Troubleshooting.

**Text Books:**

- 1) Fundamentals of Computers – Raja Raman (Prentice Hall Of India), ISBN 81-203-2581-8
- 2) Basics of Computer Hardware –BPB Publication
- 3) Troubleshooting Your PC's for Dummies 3<sup>rd</sup> Edition – Dan Gooin, Willey Publishing Inc. ISBN:9780470230770

**Reference Books:**

- 1) Microprocessor and Interfacing by Douglas Hall.
- 2) Inside the IBM PC by Peter Norton.
- 3) IBM PC/XT Hardware: Reference Manual.

**DHNT (Semester-II)**  
**Elective – II**  
**Paper IV : COMPUTER HARDWARE AND INTERFACING**

**[Max. Marks: 80]**

---

**Unit-I: Multiple Microprocessor System and Buses:**

8086/8088 maximum and minimum modes, DMA Data transfer, Interfacing and refreshing dynamic RAM, math coprocessor-8087 and I/O processor-8089, Buses-Industry Standard Architecture (ISA), Peripheral Component Interconnect (PCI), Accelerated Graphics Port(AGP), Plug-and-play devices, SCSI concepts, USB Architecture

**Unit – II: Data Communication:**

Asynchronous serial data communication (Intel 8251 chip study), serial data transmission methods and standards: RS-232, RS-422, RS-423 AND RS-499.

**Unit – III: Microcomputer System Peripherals**

CRT terminals, Graphic terminals, choice of display cards MGA, CGA, EGA and monitors (monochrome and colours). Floppy Disk, Magnetic Storage, Magnetic Recording Principles, Data & Disk organization, Hard disk, Optical disk, Data storage, Printer Mechanism, Speech Synthesis and Recognition with a computer.

**Unit – IV: Hardware Layout of IBM PC/XT**

Motherboard, Motherboard BIOS-POST-BIOS features, BIOS and Boot Sequences, BIOS shortcoming and compatibility issues, Power Supplies and Power Management CMOS-Configuring the standard CMOS setup, Disk Control, Multi-serial I/O Card, Fax and Telex card EGA/VGA.

**Text Books:**

- 1) Microprocessor and Interfacing by Douglas Hall.
- 2) Stephen J. Bigelow, “Trouble Shooting, maintaining and Repairing PCs”, Tata McGraw-Hill, New Delhi, 2001.
- 3) Mike Meyers, “Introduction to PC Hardware and Troubleshooting”, Tata McGraw-Hill, New Delhi, 2003.

**Reference Books:**

- 1) Microprocessor Systems: The 8086/8088 Family Architecture, Programming and Design by Liu and Gibson.
- 2) Craig Zacker & John Rourke, “The Complete Reference : PC hardware”, Tata McGraw-Hill, New Delhi, 2001.
- 3) IBM PC/XT Hardware: Reference Manual.

**A) Practical on DOS**

1) Working on following Basic Commands

Dir, Md, Cd, Copy con, type, Copy, Rename, Del, Rd

2) Write a batch file which display all current date, time followed by current version of the operating system

3) Write a batch file which copies all files including sub directory if any from BCA1 directory to MCM1 directory. At the end display all the files that have been copied.

4) Write a batch file which will copy all the files from the subdirectory BCA1 directory to pen drive at the end display all the files that have been copied in the pen drive.

5) Write a batch file which will copy the file having extension CPP from c:\BCA1\CPP directory to MCM1 directory if exist otherwise display the message of non existence of file.

**B) Practical on Linux**

Perform the following Directory Commands

a) pwd b) ls c) mkdir d) cd e) rmdir

Perform the following File management Commands

a) Cat b) cp c) ln d) rm e) more f) mv

**Minimum Five Practical should be under take under the Guidance of  
Faculty Members**

**DHNT (Semester-II)**  
**Elective Course based Lab**

**[Max. Marks: 50]**

---

**A) Practical based on PC Maintenance and Troubleshooting**

- 1) Study of various Input devices.
- 2) To study and Installation of Keyboard.
- 3) To study and Installation of Mouse.
- 4) Study of various Output devices.
- 5) To study and Installation of Scanner.
- 6) To study and Installation of Printer.
- 7) To study and Installation of Multimedia.
- 8) Study of different operating system.
- 9) Study of booting process.
- 10) To study assembling and disassembling the PC.
- 11) To study and Installation of configuring motherboard.
- 12) To study and Installation of VGA adaptor.
- 13) To study and Installation of SMPS.
- 14) To study and Installation of Software.
- 15) To study and Installation of antivirus software.
- 16) Procedure to clean-up Disk, Disk fragmentation.
- 17) Things to know while purchasing the computer.

**B) Practical based on Computer Hardware and Interfacing**

- 1) To make the comparative study of various motherboards.(Intel 80386, Intel 80486, Pentium Processor, Pentium Pro, Pentium II, Celeron, PentiumIII).
- 2) To study various cables used in computer communication. (Patch Cables , EthernetCrossover Cables , USB cable , Unshielded Twisted Pair (UTP) Cable, Shielded Twisted
- 3) Pair (STP) , Coaxial Cable , Fibre Optic Cable).
- 4) To study various connections and ports used in computer communication. PS/2 port and its specification, VGA Port and its specification, Serial port and its specification and applications, Parallel Ports and its specification, USB Port and its specification, RJ45 connector, Ethernet port, DVI Monitor port, Most DVI connector types, Modem RJ-11 port, DB-9 connector, DB-25 connector.
- 5) To study various cards used in a Computer System. (Ethernet Card, Soundcard, Video/Graphics Card, Network Interface card ,TV TunerCard, Accelerator card)

- 6) To study rotational and loading mechanisms of the following drives: (Floppy disk drive,
- 7) Hard disk, CD ROM, CD-R/RW, DVD-ROM, DVD recordable drives, DUAL LAYER
- 8) DVD+/-RW)
- 9) To study monitor and its circuitry (CRT (Cathode Ray Tube), LCD (Liquid Crystal Display), LED (Light-Emitting Diodes), Plasma OLED )
  
- 10) To make the comparative study of various Printers
  - a. Daisy Wheel Printer
  - b. Dot Matrix Printer
  - c. Inkjet Printer
  - d. Laser Printer
  - e. Bubble Jet Printer
- 11) To make the comparative study of various Keyboard
  - a. Membrane keyboard
  - b. Dome Switch keyboard
  - c. Mechanical Switch keyboard
  - d. Buckling Spring keyboard
  - e. Hall-effect Switch keyboard
  - f. Laser keyboard
  - g. Roll-up keyboard
  - h. Optical keyboard
- 12) To make the comparative study of various Mouse
  - a. Mechanical mouse
  - b. Trackball mouse
  - c. Optical mouse
  - d. Infrared mouse
  - e. Stylus mouse