

FOUR YEAR UNDERGRADUATE PROGRAM (NEP-2020)

Program: Bachelor in Science (2024 -28)

DISCIPLINE – INFORMATION TECHNOLOGY

SESSION – 2024-25

| DSC -01 to 08 | | DSE -01 to 12 | |
|---------------|---|---------------|---|
| Code | Title | Code | Title |
| ITSC-01T | Fundamental of IT and MS-Office | ITSE -01 | Data Structure |
| ITSC-01P | Lab 1: MS-Office | ITSE -02 | Internet and E-Commerce |
| ITSC-02T | Programming in C++ | ITSE -03 | Information and Network Security |
| ITSC-02P | Lab 2: Programming in C++ | ITSE -04 | Introduction to Artificial Intelligence |
| ITSC-03T | Relational Database Management System | ITSE -05 | Computer System Architecture |
| ITSC-03P | Lab 3: Relational Database Management System (Oracle / MySQL) | ITSE -06T | Mobile Application Development |
| ITSC-04T | Programming in . Net | ITSE -06P | Lab 8: Mobile Application Development |
| ITSC-04P | Lab 4: Programming in . Net | ITSE -07 | Software Engineering |
| ITSC-05T | Programming in Java | ITSE -08 | Theory of Computation |
| ITSC-05P | Lab 5: Programming in Java | ITSE -09 | Soft Computing |
| ITSC-06T | Web Technology | ITSE -10 | Computer Graphics |
| ITSC-06P | Lab 6: Web Technology | ITSE -11 | Cloud Computing |
| ITSC-07T | Programming in Python | ITSE -12 | Major Project |
| ITSC-07P | Lab 7: Programming in Python | | |
| ITSC-08T | Fundamental of IoT and Applications | | |
| ITSC-08P | Lab 9: Fundamental of IoT and Applications | | |
| DGE -01 & 02 | | VAC | |
| ITGE -01T | Fundamental of IT and MS-Office | ITVAC-01 | Artificial Intelligence |
| ITGE -01P | Lab 1: MS-Office | | |
| ITGE -02T | Programming in C++ | ITSEC-01 | MS OFFICE |
| ITGE -02P | Lab 2: Programming in C++ | | |

Program Outcomes (PO):

- Gain a complete exposure to the theories and practices of Information Technology.
- Get transformed into a skilled learner and active programmer, enabling the students to focus on their higher studies.
- Value IT professionals and programmers.
- Explore how the concepts and applications of Information technology lead to innovative thinking with a problem-solving attitude.

Program Specific Outcomes (PSO):

- Understand the basic IT knowledge and practical application in MS Office.
- Understanding the concept of programming and develop program in C++.
- Understanding the concept of data structure and implementation with C / C++.

Dr. H. S. Hota
Chairman

(Dr. K. B. Dubey)

(Dr. S. K. Saha)

(Dr. S. Jain)

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Chairman
Studies
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Vishwavidyalaya, Raigarh (C.G.)

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- Understanding the concept of DBMS and implementation in MySQL / Oracle.
- Understanding the concept of Dot Net technology with practical implementation.
- Understanding the concept of OOPs and Java programming and develop program in Java.
- Understanding the concept of web technology and its implementation with HTML / CSS / DHTML / PHP.
- Understand the basic concept of internet and E-commerce.
- Understanding the basic concept of information and network security.
- Understanding the basic concept of Artificial Intelligence.

Dr. H.S. Hota Kripa Dr. K.B. Dubay Dr. S.K. Saha Dr. S.K. Saha Dr. Anil Kumar Dr. Swadesh
 Chairman (Dr. K.B. Dubay) (Dr. S.K. Saha) (Dr. S.K. Saha) (Dr. Anil Kumar) (Dr. Swadesh)
Dr. Khushboo Sushil Kumar Saha Dr. Anil Kumar Dr. Anil Kumar Dr. Anil Kumar Dr. Anil Kumar
 (R. Khushboo) (Sushil Kumar Saha) (Dr. Anil Kumar) (Dr. Anil Kumar) (Dr. Anil Kumar) (Dr. Anil Kumar)
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 11-06-2024
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 ANJETA KUTOR

Officer-In-Charge (Academic)
 Shalood Nandkumar Patel
 Vishwavidyalaya, Raigarh (C.G.)

Dr. Anil Kumar
 Dr. Anil Kumar
 Dr. Anil Kumar

Discipline: Information Technology

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| | | | | | | |
|-----------------------------|---------------------|----------|--|---|-----|----|
| | | ITSE-06T | Mobile Application Development | 3 | 100 | 40 |
| | | ITSE-06P | Lab 8: Mobile Application Development | 1 | 50 | 20 |
| | | ITSE-07 | Software Engineering | 4 | 100 | 40 |
| | | ITSE-08 | Theory of Computation | 4 | 100 | 40 |
| 8 th Semester | DSC (Major/Core) | ITSC-08T | Fundamental of IoT and Applications | 3 | 100 | 40 |
| | | ITSC-08P | Lab 9: Fundamental of IoT and Applications | 1 | 50 | 20 |
| | DSE | ITSE-09 | Soft Computing | 4 | 100 | 40 |
| | | ITSE-10 | Computer Graphics | 4 | 100 | 40 |
| | | ITSE-11 | Cloud Computing | 4 | 100 | 40 |
| | | ITSE-12 | Major Project | 4 | 100 | 40 |
| | | | | | | |

Dr H.S. Hota
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Dr. K. B. Dubey
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Dr. Anand Kumar Sahu
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Shailendra Singh
Shailendra Singh

Dr. Anand Kumar
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11-06-2024
(Dr. Anand Kumar)

ANJEETA KUTUR
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FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|--|--------------------------------|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester - I | Session: 2024-2025 |
| 1 | Course Code | ITSC-01T | |
| 2 | Course Title | Fundamental of IT and MS-Office | |
| 3 | Course Type | DSC (Discipline Specific Course) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | After Completing this course, students will be able to: <ul style="list-style-type: none"> • Study and use of basic concepts and terminology of information technology. • Organize files and documents on storage devices. • Acquire knowledge of ICT and Internet applications. • Develop information technology solutions by evaluating user requirements in advance trends of IT. • Acquire knowledge of MS-Excel, MS-PowerPoint and MS-Access. | |
| 6 | Credit Value | 3 Credits | Credit = 15 Hours - Learning & Observation |
| 7 | Total Marks | Max. Marks: 100 | Min Passing Marks: 40 |

PART -B: Content of the Course

Total No. of Teaching-Learning Periods (01 Hr. per period) - 45 Periods (45 Hours)

| Unit | Topics (Course contents) | No. of Period |
|------|--|---------------|
| I | Indian Knowledge System and Computer Science: Number System in India- Historical evidence, Salient aspect of Indian Mathematics, Bhuta-Samkhya system, Katapayadi system, pingala and the binary system, Sulbha Sutra as modern arithmetic and numerical mathematics. Introduction to Computer: History of computer, Generations and Classification, Basic Anatomy of Computer: Block Diagram, Central Processing Unit (CPU): Function of each Unit, Memory: Primary, Cache, Flash, Software and its needs, Types of S/W: System Software and Application Software, Types of Programming Language: Machine Language, Assembly Language, High Level Language their advantages and disadvantages, Language Processors/Translators: Assembler, Interpreter and Compiler, Fundamental of Information Technology: Data and Information, Concept of IT, Application of IT, What is ICT?, Components of ICT, Impact of ICT in Society. Advanced Trends in IT: Cloud Technology, Virtual LAN Technology, M-Commerce, Nanotechnology, Virtual Reality, 3-D Printing, Internet of Things (IoT), Artificial Intelligence (AI), Machine Learning (ML), Cloud Computing, Quantum Computing, G-Suite, GoI digital initiatives in higher education: SWAYAM, Swayam Prabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e-Yantra and NPTEL. | 12 |
| II | MS-Word: Introduction to word processing software and its features, Creating new document, Saving documents, Opening and Printing documents. Home Tab: Setting fonts, Paragraph settings, Various styles (Normal, No spacing, Heading1, Heading2, Title, Strong), Find & Replace, Format painter, Copy paste and paste special. Insert Tab: Pages, Tables, Pictures, Clipart, Shapes, Header & Footer, Word Art, Equation and Symbols. Page Layout Tab: Page setup, Page Background, Paragraph (indent and spacing). Mailing Tab: Create Envelops and Labels, Mail Merge. Review Tab: Spelling and Grammar check, New comment, Protect document, View Tab: Document views, Zoom, Window (New window, Split, Switch window). | 11 |

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| | | |
|-----|---|----|
| III | <p>MS-Excel: Introducing Excel, Use of Excel sheet, creating new sheet, Saving, Opening, and Printing workbook. Home Tab: Font, Alignment, Number, Styles and cells and editing, Conditional Formatting. Insert Tab: Table, Charts (column chart, Pie chart, Bar chart, Line chart) and Texts (header & footer, word art, signature line). Page Layout Tab: Page setup options, Scale to fit (width, height, scale). Formulas Tab: Auto sum (sum, average, min, max), Logical (IF, and, or, not, true, false), Math & Trig (sin, cos, tan, ceiling, floor, fact, mod, log), Sort and Filter options, Data validation, Group and ungroup. Review Tab: Protect sheet, Protect workbook, and Share workbook. View Tab: Page breaks, Page layout, Freezing Panes, Split and hide.</p> | 11 |
| IV | <p>Working with PowerPoint and MS-Access</p> <p>PowerPoint: Introducing PowerPoint, Use of PowerPoint presentation, Creating new slides saving, Opening and printing. Home Tab: New slide, Layout, Reset, Delete, Setting text direction, Align text, Convert to smart art, Drawing options. Insert Tab: Table, Picture, Clipart, Photo album, Smart art, Shapes and chart, Movie and sound, Hyperlink and action, Text box, Word art, Object. Design Tab: Page setup options, Slide orientation, Applying various themes, Selecting background style and formatting it. Animations Tab: Custom animation for entrance, Exit and emphasis, Applying slide transition, Setting transition speed and sound, Animation on rehearse timing. Slideshow & View Tab: Start slide, Show options, and Setup options. View tab: Presentation views, Colors and Window option.</p> <p>MS-Access: Introduction to DBMS, features of DBMS, creating blank databases, Saving it in accdb format, Defining data type in MS Access, Creating tables, creating reports, query wizard.</p> | 11 |

Keywords Information Technology (IT), Information and Communication Technology (ICT), G-Suite, MS Word, MS Excel, MS Power Point, MS-Access.

Signature of Convener & Members of CBoS:

Dr. S. Acharya
Chairman

[Signatures of Members of CBoS]

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.
- Fundamentals of Information Technology, Chetan Shrivastava, Kalyan Publishers.
- Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.
- Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.
- Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
- Fundamentals of Information Technology, Alexis Leon and Mathews Leon, Vikash Publication.

Reference Books Recommended:

- Introduction to Information Technology, V. Rajaraman, PHI publication.
- Fundamental of IT, Leon and Leon, Leon Tec world.
- Introduction to Information Technology, Aksoy and Denardis, Cengage learning.
- Computers Today, Suresh K. Basandra, Galgotia Publications.
- Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.
- OFFICE 2013 in Simple Steps, Kogent Solution Inc., DremTech Press.
- Access 2010 in Simple Steps by Kogent Learning Solutions Inc.

Shri. S. Acharya (Chairman)
Shri. S. Acharya (Member)
Vishwadevi Jayalaya, Raigarh (C.O.)

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Online Resources:

- Introduction to Computer Fundamental from W3school:
<https://www.w3schools.blog/computer-fundamentals-tutorial>
- Introduction to MS-Word from W3school:
<https://www.w3schools.blog/ms-word-tutorial>
- Introduction to MS-Excel from W3school:
https://www.w3schools.com/excel/excel_introduction.php
- Introduction to MS-PowerPoint from W3school:
<https://www.w3schools.blog/powerpoint-tutorial>
- Introduction to MS-Access from W3school:
https://www.w3schools.com/sql/sql_ref_msaccess.asp
- Fundamentals of Computers & Information Technology (in Hindi) :
<https://www.mcu.ac.in/wp-content/uploads/2020/04/1PGDCA1-Unit-I-Fundamentals-of-Computers-Information-Technology.pdf>
- Fundamentals of Computers & Information Technology (in Hindi):
https://hte.rajasthan.gov.in/dept/dte/board_of_technical_education/rajasthan_government_polytechnic_college_hanumangarh/uploads/doc/fundamental_final-rkd.pdf
- Information and Computers Technology: https://ebsenacademic.nic.in/web_material/doc/201411 ICT-IX.pdf.pdf
- Microsoft Office (in Hindi):
<https://www.scribd.com/document/534988849/9-Microsoft-office-in-hindi-www-cknotes101-com>
- MS-OFFICE:
<https://www.rgycsm.org/uploads/books/MICROSOFT-OFFICE-BOOK.pdf>
- MS-OFFICE:
Hindi Notes: <https://www.copaguide.com/2020/04/ms-office-topics.html>
- Microsoft Office Full Crash Course:
<https://www.youtube.com/watch?v=SH4ovV5AJ6A>

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

| | | |
|--|----------------------------------|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 20 +20 | Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 Marks |
| | Assignment / Seminar - 10 | |
| | Total Marks - 30 | |

End Semester Exam (ESE):

Two section – A & B

Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks

Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10 =40 Marks

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota
Chairman

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[Signature]
(Suresh Thakur)

[Signature]
Jeevan Kumar

[Signature]
Shankar Singh

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Anjeta Kujur

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DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|---|--------------------------------|---|-----------------------|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree) | | Semester - I | Session: 2024-2025 |
| 1 | Course Code | ITSC-01P | |
| 2 | Course Title | Lab 1: MS- Office | |
| 3 | Course Type | Practical | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | After Completing this course, students will be able to: <ul style="list-style-type: none"> • Gain Practical knowledge of MS-Office. • Organize files and documents on storage devices. • Acquire knowledge of ICT and Internet applications. • Develop information technology solutions by evaluating user requirements in advance trends of IT. • Acquire knowledge of MS-Excel, MS-PowerPoint and MS-Access. | |
| 6 | Credit Value | 1 Credits Credit =30 Hours Laboratory or Field Learning/Training | |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |

PART -B: Content of the Course

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

| List of Experiments | | No. of Period |
|---|--|---------------|
| <p align="center">Application of Information Technology</p> <ol style="list-style-type: none"> 1. How to create mail in a Gmail account? Write the uses of Inbox, Sent, Outbox, Draft, Spam and Trash labels. 2. How to design Google form? Write the steps with appropriate windows. 3. How to create different student classes in Google classroom. 4. How do teachers create assignments and provide due dates, or grades in Google Classroom? 5. How do students find assignments, due dates, or grades in Google Classroom? 6. How to use social media platforms like twitter, Facebook and YouTube? 7. How to use social media platforms like Flickr, Skype, yahoo and WhatsApp? 8. How to use Google spreadsheets, Google Slides and Google forms? 9. How to share files between mobile phone and computer system/Laptop using Bluetooth. <p>*****</p> <p align="center">MS-Word</p> <ol style="list-style-type: none"> 1. Prepare a grocery list having four columns (Serial number, the name of the product, quantity and price) for the month of April, 06. <ul style="list-style-type: none"> ➤ Font specific actions for Title (Grocery List):14-pointArialfontinboldanditalics. ➤ The headings of the columns should be in12-point and bold. ➤ The rest of the document should be in10-point Times New Roman. ➤ Leave a gap of 12-points after the title. | | 30 Hrs. |

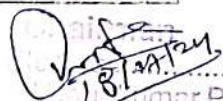
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Student
 Shaheed Nandkumar Patel
 Vishwavidyalaya, Raigarh (C.G.)

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.
4. XYZ Publications plan store lease an e-book design dapper 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.
5. Create the following one page documents.
 - Compose a note inviting friends 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 an assignment outlining your rules for your bedroom at home, using a numbered list.
6. Create the following documents:
 - A newsletter with a headline and 2 columns in portrait orientation, including at least one image surrounded by text.
 - 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 |
8. Enter the following data into a table given on the next page.

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 Shaheed Hanuman Pratap
 Vishwavidyalaya, Raigarh (C.O.)


 Kumar Patel
 Raigarh (C.O.)

| Salesperson | Dolls | Trucks | Puzzles |
|-----------------|-------|--------|---------|
| Kennedy, Sally | 1327 | 1423 | 1193 |
| White, Pete | 1421 | 3863 | 2934 |
| Pillar, James | 5214 | 3247 | 5467 |
| York, George | 2190 | 1278 | 1928 |
| Banks, Jennifer | 1201 | 2528 | 1203 |
| Atwater, Kelly | 4098 | 3079 | 2067 |
| 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 Sales person in ascending order:

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

9. Wrapping of text around the image.
10. How to install MS-Office in Windows operating system.
11. How to convert word, excel and PowerPoint into pdf & pdf to word.
12. How to merge and split pdf files.

MS-Excel

1. Enter the Following data in Excel Sheet

| 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 | |
| Haryana | 1800 | 2000 | 2200 | 2700 | 15 | |
| Rajasthan | 2100 | 2000 | 1800 | 2200 | 20 | |
| TOTAL | | | | | | |
| AVERAGE | | | | | | |

- a. Apply Formatting as follow:
 - Title in TIMES NEW ROMAN
 - FontSize-14
 - Remaining text-ARIAL, FontSize-10
 - State name and Qtr. Heading Bold, Italic with Gray Fill Color.
 - Numbers in two decimal places.
 - Qtr. Heading in center Alignment.
 - Apply Border to whole data.
- b. Calculate State and Qtr. Total
- c. Calculate Average for each quarter
- d. Calculate Amount=Rate*Total.

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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 | Harbhajan | 56 | |

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

| If Marks | Then Grade |
|----------------------|------------|
| ≥ 80 | A+ |
| ≥ 60 and < 80 | A |
| ≥ 50 and < 60 | B |
| < 50 | F |

3. Given the following worksheet

| | A | B | C | D | E | F | G |
|---|----------|---------------|------|-------|-------|-------|------------|
| 1 | Salesman | Sales in(Rs.) | | | | | |
| 2 | No. | Qtr1 | Qtr2 | Qtr3 | Qtr4 | Total | Commission |
| 3 | S001 | 5000 | 8500 | 12000 | 9000 | | |
| 4 | S002 | 7000 | 4000 | 7500 | 11000 | | |
| 5 | S003 | 4000 | 9000 | 6500 | 8200 | | |
| 6 | S004 | 5500 | 6900 | 4500 | 10500 | | |
| 7 | S005 | 7400 | 8500 | 9200 | 8300 | | |
| 8 | S006 | 5300 | 7600 | 9800 | 6100 | | |

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

| If Total Sales | Then 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 are the sum of sales of all the four quarters.

4. Company XYZ Ltd. pays a monthly salary to its employees who consist of basic salary, allowances & deductions. The details of allowances and deductions are as follows:

- 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(CA)
 - Rs.50/- if Basic is ≤ 1000

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Shahood Hossainul Karim
Vishwavidyalaya, Raigarh (C.G.)

Signature
Date
18/07/24
Patel
Sah (C.G.)

Rs.75/- if Basic >1000 & Basic ≤ 2000

Rs.100 if Basic >2000

- Entertainment Allowance (EA)

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:

Gross Salary = Basic + HRA + DA + CA + EA

Total Deduction = Provident Fund + Group Insurance Premium

Net Salary = Gross Salary - Total Deduction

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

| No. of Installments | 5% | 6% | 7% | 8% | 9% |
|---------------------|----|----|----|----|----|
| 3 | XX | XX | XX | XX | XX |
| 4 | XX | XX | XX | XX | XX |
| 5 | XX | XX | XX | XX | XX |
| 6 | XX | XX | XX | XX | XX |

6. 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 | ? |

7. The following table gives a year wise sale figure of five salesmen in Rs.

| Salesman | 2019 | 2020 | 2021 | 2022 |
|----------|-------|-------|--------|-------|
| 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 |

- Calculate total sale year wise.
- Calculate the net sale made by each salesman
- Calculate the maximum sale made by the salesman
- Calculate the commission for each salesman under the condition.
>> If total sales > 4, 00,000 give 5% commission on total sale made by the salesman.

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Vishwavidyalaya, Raigarh (C.O.)

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- >> Otherwise give 2% commission.
- Draw a bar graph representing the sale made by each salesman.
 - Draw a pie graph representing the sale made by a 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 TOTAL | QUARTER AVERAGE |
|-----------------|--------|--------|---------------------------|--------------------|
| Rent | 600.00 | 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 | | | | |

- Calculate Quarter total and Quarter average.
- Calculate Monthly total.
- Surplus=Monthly income-Monthly total.
- What would be the total surplus if monthly income is 1500.
- How much does the telephone expense for March differ from quarter average?
- Create a 3D column graph for telephone and utilities.
- Create a pie chart for monthly expenses.

9. Enter the following data in Excel Sheet

TOTAL REVENUE EARNED FOR SAM'S BOOK STALL

| 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 | |

- Compute the total revenue earned.
 - Plot the line chart to compare the revenue of all publishers for 4 years.
 - Chart Title should be Total Revenue of Sam's Book stall(1997-2000)
 - 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 the range 50-60.

MS-Power Point

1. Do the following task:

- Start a new blank presentation
- Your first Slide is going to be a Title Slide
- Write the Text as in the preview below:
 - Lighthouse Co Ltd
 - Make the Font of "Lighthouse" Arial Black and size 88

Shri. R. S. Chaudhary, Patna (C.G.)
Vishwanath Chaudhary, Patna (C.G.)

Chaitanya
Shri. R. S. Chaudhary, Patna (C.G.)
Vishwanath Chaudhary, Patna (C.G.)

- Insert a second slide to the presentation, selecting a layout appropriate for a series of bullet points, and using the title: **The Menu**. Enter the following text:
 - i. Chocolate Desserts
 - ii. Cakes and Puddings
 - iii. Roast Meals
 - iv. Using Pasta Creatively
 - Change the line spacing for these bullet points to 1.5 lines.
 - Increase the font size for the words **The Menu** in the title.
 - Add a footer with your name and the text: **Food Fair** so they both appear on every slide, and number all the slides. (Make sure the number is not obscured by the red circle on the title slide)
 - Insert a third slide, which is to be an organization chart. Use the title **Meet The Team**. Enter: **Maggie Peet, Manager** at the top of the chart, and show the following three as reporting to Maggie Peet: **Brian Webb, Bookings**; **Janine Newton, Publicity**; **Gregg Brown, Accounts**
 - Embolden the text in the title of the third slide, and change the font to Arial.
 - Apply a light coloured background to all the slides in the presentation
 - On the third slide, insert an image suitable for the topic of food from an image library. Reduce the size of the image and place it where it will not interfere with text.
 - Save the presentation as **foodfair**.
 - Print the presentation with three slides per page, and close the presentation
3. Do the followings:
- Load your Presentation Application and start a new presentation
 - The first slide is a Title Only Slide. Select the appropriate layout and enter the title: **Cook Family Cruises**.
 - Add a small blue rectangle at the top left of this slide.
 - Change the font color for the whole title to red, and apply a text shadow effect just to the word **Cruises**.
 - Insert a second slide to the presentation, selecting a layout appropriate for a series of bullet points, and using the title: **Our Itinerary**. Enter the following text:
 - a. Canary Islands
 - b. Mediterranean
 - c. Greek Islands
 - Change the line spacing for these bullet points to 2 lines. Increase the font size of the word **Itinerary** in the title. Add a footer with your name and the text: **Cruise Information** so they both appear on every slide, and number all the slides.
 - Insert a third slide, which is to be a graph. Use the title **Our Market Share**. Use the following data to produce a pie chart: Cook 54%; Jackson 28%; Wilson 12%; Bennett 5%
 - Embolden the text in the title of the third slide, and change the font to Arial.
 - Apply a different background to each slide in the presentation.
 - On the third slide, insert an image suitable for the topic of holidays from an image library. Reduce the size of the image and place it where it will not interfere with text.
 - Add a 4-slide containing nothing but the text: **Travel with us for less!!**
 - Save the presentation as a holiday.
 - Print the presentation with 4 slides per page, and close the presentation.
4. Creating an animation looks like the leaf is falling in a tree.
5. Creating an animation looks like demolishing a world trade center in America.

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 Vishwanath, Jyotsna, Rajgopal (C.O.)

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18/07/24

MS-Access

1. Create a database named "college" and perform the following tasks:
 - A. Create a table named "student" having following fields:
Class, Roll no and Name with these Information i.e., Field Name, Data type and Description
 - B. Fill at least 5 records.
 - C. Prepare a query to display all records and Name should be in ascending order.
2. Create the employee table in MS-Access with the referential integrity-foreign key.

Note: This is a tentative list; the teachers' concern can add more experiment as per requirement.

Keywords: Information Technology (IT), Information and Communication Technology (ICT), G-Suite, MS Word, MS Excel, MS Power Point, MS-Access.

Signature of Convener & Members of CBoS:

Dr. H.S. Hada
(Chairman)

Kun
(Suresh Thakur)

Shah
(Suresh Thakur)

Shah
(Suresh Thakur)

Shah
(Suresh Thakur)

Shah
(Suresh Thakur)

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.
- Fundamentals of Information Technology, Chetan Shrivastava, Kalyan Publishers.
- Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.
- Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.
- Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
- Fundamentals of Information Technology, Alexis Leon and Mathews Leon, Vikash Publication.

Reference Books Recommended:

- Introduction to Information Technology, V. Rajaraman, PHI publication.
- Fundamental of IT, Leon and Leon, Leon Tec world.
- Introduction to Information Technology, Aksoy and Denardis, Cengage learning.
- Computers Today, Suresh K. Basandra, Galgotia Publications.
- Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.
- OFFICE 2013 in Simple Steps, Kogent Solution Inc., DremTech Press.
- Access 2010 in Simple Steps by Kogent Learning Solutions Inc.

Online Resources:

- Introduction to Computer Fundamental from W3school:
<https://www.w3schools.blog/computer-fundamentals-tutorial>
- Introduction to MS-Word from W3school:
<https://www.w3schools.blog/ms-word-tutorial>
- Introduction to MS-Excel from W3school:
https://www.w3schools.com/excel/excel_introduction.php

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Vishwajalaya, Jalgaon (G.G.)

- Introduction to MS-PowerPoint from W3school:
<https://www.w3schools.blog/powerpoint-tutorial>
- Introduction to MS-Access from W3school:
https://www.w3schools.com/sql/sql_ref_msaccess.asp
- Fundamentals of Computers & Information Technology (in Hindi) :
<https://www.mcu.ac.in/wp-content/uploads/2020/04/IPGDCA1-Unit-I-Fundamentals-of-Computers-Information-Technology.pdf>
Fundamentals of Computers & Information Technology (in Hindi):
https://hte.rajasthan.gov.in/dept/dte/board_of_technical_education_rajasthan/government_polytechnic_college_hanumangarh/uploads/doc/fundamental-final-rkd.pdf
Information and Computers
Technology: https://cbseacademic.nic.in/web_material/doc/2014/11/ICT-IX.pdf.pdf
- Microsoft Office (in Hindi):
<https://www.scribd.com/document/534988849/9-Microsoft-office-in-hindi-www-GkNotesPDF-com>
- MS-OFFICE:
<https://www.rgyesm.org/uploads/books/MICROSOFT-OFFICE-BOOK.pdf>
- MS-OFFICE:
Hindi Notes: <https://www.copaguide.com/2020/04/ms-office-topics.html>
- Microsoft Office Full Crash Course:
<https://www.youtube.com/watch?v=SH4oyV5AJ6A>

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

| | | |
|--|--|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
| End Semester Exam (ESE): | Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks Viva-voce (based on principle/technology) - 05 Marks | Managed by Course teacher as per lab. status |

Name and Signature of Convener & Members of CBoS:

Dr. H. S. Hota
Chairman

(Signed)

(Signed)

(Signed)

(Signed)

(Signed)

(Signed)

(Signed)

(Signed)

(Signed)

(Signed)

(Signed)

ANJETA KUTUR

Officer In-Charge (Academic)
Shahood Hanumangarh
Vishwavidyalaya, Hanumangarh (C.G.)

Chairman
Studies
Shahood Hanumangarh
Vishwavidyalaya, Hanumangarh (C.G.)

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

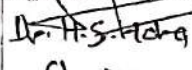
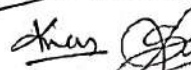

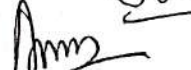


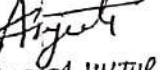
| | | | |
|--|--------------------------------|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester - II | Session: 2024-2025 |
| 1 | Course Code | ITSC-02T | |
| 2 | Course Title | Programming in C++ | |
| 3 | Course Type | DSC (Discipline Specific Course) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | At the end of this course, the students will be able to: <ul style="list-style-type: none"> • Understand the fundamentals of object oriented programming. • Write programs related to concept of object oriented program • Define functions, class and to create own Libraries. • Write programs for file handling. • Develop small programs to solve real world problems. | |
| 6 | Credit Value | 3 Credits | Credit = 15 Hours - Learning & Observation |
| 7 | Total Marks | Max. Marks: 100 | Min Passing Marks: 40 |

PART -B: Content of the Course

Total No.-of Teaching-Learning Periods (01 Hr. per period) - 45 Periods (45 Hours)

| Unit | Topics (Course contents) | No. of Period |
|----------|--|---------------|
| I | Introduction and Programming Concepts : Definition of Program, Source file, Object file, Executable file, Header file, Language Translator- Assembler, Interpreter, Compiler, Testing, Debugging, Linker and Loader, Algorithms, Flow Charts, History of C language, Structure of C program , C Tokens : Identifiers, Keywords, Constants, Variables, Operators, Data Types, Control structure: Conditional and looping statements, Operator Precedence and Associativity, Array and its types, Pointer, Functions : Standard Library and User defined functions, function prototype, Call by value and Call by reference, recursive functions, String functions. | 12 |
| II | Introduction to Object Oriented Programming: Concept of object oriented programming, Features of C++, Structure of C++ program, Data types, structure, class and objects, Access Specifiers: Private, Public, Protected, inline functions, static data and static functions. Constructor: Default constructor, Copy constructor, Parameterized constructor, Destructor. | 11 |
| III | Inheritance and Polymorphism: Definition, Concept of base and derived class, Types of Inheritance: Single, Multilevel, Multiple, Hierarchical and Hybrid Inheritance. Polymorphism: Definition, Compile time polymorphism: Function overloading, Operator overloading, constructor overloading, Runtime polymorphism: Virtual Function, pure virtual function. Inline function, friend function, friend class. | 11 |
| IV | Input-Output and File Handling : I/O classes, File and Stream classes, Char I/O, String I/O, Object I/O, File Pointer, Opening and Closing file. Exception Handling and Standard Template Library: Definition, Exception basics, try, catch and throws keywords, Template. | 11 |
| Keywords | Token, Identifier, Keyword, Array, Function, Class, Object, Polymorphism, Inheritance, Constructor, Template. | |

Signature of Convener & Members of CBoS:

      
 Chairman
 Shri. H. S. Hada
 (Suresh Thakur)
 ANJETA KUTUR
 12-08-2024
 (S. S. S. S. S.)

Officer in-Charge (Academic)
 Shalood Kumar Patel
 Vishwavidyalaya, Raigarh (C.G.)

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Peter Juliff, Program Design, PHI Publications.
- Yashwant Kanetkar, Let us C: BPB Publications.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw Hill

Reference Books Recommended:

- Y. Kanetkar, Let us C++, B.P.B Publication .
- E. Balaguruswamy, Programming in C++, Tata McGraw Hill.
- R. Kumar, Object Oriented Programming with C++, Prakhar Publication(Hindi)
- Dhupiya, Lakhyani , C++ Programming Alka Publications, Ajmer (Paperback, Dhupiya, Lakhyani)(Hindi)

Online Resources:

- Introduction to C and C++ from SWAYAM/NPTEL
https://onlinecourses.nptel.ac.in/noc22_cs103/preview
<https://www.youtube.com/watch?v=KG4hjVDw-p8&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:
<https://www.youtube.com/watch?v=pX6LuLso2M&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL
<https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL
<https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=13>
- Operator Overloading NPTEL
<https://www.youtube.com/watch?v=0jpOwc4d-FE&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=17>
- Dynamic Memory Management NPTEL
<https://www.youtube.com/watch?v=lkFK2X6qIc0&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=24
- Access Specifiers NPTEL
https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=22
- Constructor and Destructor NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=24
- C++ different topics from W3School
<https://www.w3schools.com/Cpp/default.asp>
- C++ different topics from Javatpoint
<https://www.javatpoint.com/cpp-tutorial>

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PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

| | |
|--|----------------------------------|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 20 +20 |
| | Assignment / Seminar - 10 |
| | Total Marks - 30 |

Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks

End Semester Exam (ESE):

Two section – A & B

Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 = 20 Marks

Section B: Descriptive answer type qts..1 out of 2 from each unit-1x10=40 Marks

Name and Signature of Convener & Members of CBOS:

Dr. H. S. Hota
Chairman

[Signature]
(Storage Handling)

[Signature]
Y. B. D. D.

[Signature]
Dial

[Signature]
Sudhi

[Signature]
Shreeendra Singh

[Signature]
T. H. D. S. S.

[Signature]
S. V. K. S.

[Signature]
Suresh Kumar

[Signature]
Ajay

ANJEETA K. J. UR

Officer In-Charge (C.G.)
Shahood Handkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

[Signature]
Shahood Handkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|---|--------------------------------|---|---|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree) | | Semester - II | Session: 2024-2025 |
| 1 | Course Code | ITSC-02P | |
| 2 | Course Title | Lab 2: Programming in C++ | |
| 3 | Course Type | Practical | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | <p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> Understand the fundamental programming concepts and methodologies which are essential to create good C++ programs. Code, test, and implement a well-structured, robust computer program using the C++ programming language. Write reusable modules (collections of functions). Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing. Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms. | |
| 6 | Credit Value | 1 Credits | Credit = 30 Hours Laboratory or Field Learning/Training |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |

PART -B: Content of the Course

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

| Module | Topics (Course contents) | No. of Period |
|--------------------------------|--|---------------|
| List of Practical Experiments. | <ol style="list-style-type: none"> Write a program in C++ for addition of two numbers using float data type. Write a program in C++ to find the biggest number between two numbers. Write a program in C++ to find the factorial value of any entered number using do-while loop. Write a program in C++ for various arithmetic operations using switch case statements. Write a program in C++ for Multiplication of two 3X3 matrices. Write a program in C++ to store five books of information using structure. Write a program in C++ to store six employee information using union. Write a program in C++ to calculate simple interest using call by value and call by reference method. Write a program in C++ to find the sum and average of five numbers using class and objects. Write a program in C++ to multiply two numbers using private and public member functions. Write a program in C++ to print structure like this using scope resolution operator 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5 Write a program in C++ for constructor and Destructor. Write a program in C++ for multiple inheritance. | 30 |

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14. Write a program in C++ for operator overloading.
15. Write a program in C++ for friend class and friend function.
16. Write a program in C++ for virtual function and virtual class.
17. Write a program in C++ for Exception Handling.
18. Write a program in C++ to open and close a file using file Handling.
19. Given two ordered arrays of integers, write a program to merge the two-arrays to get an ordered array.
20. WAP to display Fibonacci series (i) using recursion, (ii) using iteration
21. WAP to calculate Factorial of a number (i) using recursion, (ii) using iteration
22. WAP to calculate GCD of two numbers (i) with recursion (ii) without recursion.
23. Create a Matrix class using templates. Write a menu-driven program to perform following Matrix Operations (2-D array implementation): a) Sum b) Difference c) Product d) Transpose 22. Create the Person class. Create some objects of this class (by taking information from the user). Inherit the class Person to create two classes Teacher and Student class. Maintain the respective information in the classes and create, display and delete objects of these two classes (Use Runtime Polymorphism).
24. Create a class Triangle. Include overloaded functions for calculating area. Overload assignment operator and equality operator.
25. Create a class Box containing length, breadth and height. Include following methods in it: a) Calculate surface Area b) Calculate Volume c) Increment, Overload ++ operator (both prefix & postfix) d) Decrement, Overload -- operator (both prefix & postfix) e) Overload operator == (to check equality of two boxes), as a friend function f) Overload Assignment operator g) Check if it is a Cube or cuboid
26. Create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Create 10 students and store them in a file.
27. Write a program to retrieve the student information from the file created in the previous question and print it in the following format: Roll No. Name Marks
28. Copy the contents of one text file to another file, after removing all whitespaces.
29. Write a program for exception handling.
30. Write a program to insert data into file and to display it.

Note: Concerned teacher can add additional practical exercises as per requirement.

Keywords Array, Function, Structure, union, matrix, constructor, destructor, inheritance.

Signature of Convener & Members of CBoS:

(Dr. H. S. Hota) *[Signature]* *[Signature]* *[Signature]* *[Signature]* *[Signature]* *[Signature]* *[Signature]* *[Signature]* *[Signature]* *[Signature]*

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Peter Juliff, Program Design, PHI Publications.
- Yashwant Kanetkar, Let us C: BPB Publications.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw Hill

Reference Books Recommended:

- Y. Kanetkar, Let us C++, B.P.B Publication.
- E. Balaguruswamy, Programming in C++, Tata McGraw Hill.

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Vishwavidyalaya, Raigarh (D.C.)

- R. Kumar, Object Oriented Programming with C++, Prakhara Publication(Hindi)
- Dhupiya, Lakhyani, C++ Programming Alka Publications, Ajmer (Paperback, Dhupiya, Lakhyani)(Hindi)

Online Resources:

- Introduction to C and C++ from SWAYAM/NPTEL
https://onlinecourses.nptel.ac.in/noc22_cs103/preview
<https://www.youtube.com/watch?v=KG4hjVDw-p8&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:
<https://www.youtube.com/watch?v=pX6LulLso2M&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL
<https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL
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- Dynamic Memory Management NPTEL
<https://www.youtube.com/watch?v=lkFK2X6qlc0&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=24
- Access Specifiers NPTEL
https://www.youtube.com/watch?v=6ki_W7cXdm0&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=22
- Constructor and Destructor NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=24
- C++ different topics from W3School
<https://www.w3schools.com/Cpp/default.asp>
- C++ different topics from Javatpoint
<https://www.javatpoint.com/cpp-tutorial>

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

| | | |
|--|--|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks - 15 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
| End Semester Exam (ESE): | Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks | Managed by Course teacher as per lab. status |

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota
Chairman

[Signature]
Shailendra Singh

[Signature]
Shailendra Singh

[Signature]
Shailendra Singh

[Signature]
ANJEETA KUMAR

On the basis of the above studies
Shailendra Singh, Raigarh (C.G.)
Vishu Singh, Raigarh (C.G.)

On the basis of the above studies
Shailendra Singh, Raigarh (C.G.)
Vishu Singh, Raigarh (C.G.)

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|--|--------------------------------|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester - I | Session: 2024-2025 |
| 1 | Course Code | ITGE-01T | |
| 2 | Course Title | Fundamental of IT and MS-Office | |
| 3 | Course Type | DGE (Discipline Generic Elective) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | After Completing this course, students will be able to: <ul style="list-style-type: none"> • Study and use of basic concepts and terminology of information technology. • Organize files and documents on storage devices. • Acquire knowledge of ICT and Internet applications. • Develop information technology solutions by evaluating user requirements in advance trends of IT. • Acquire knowledge of MS-Excel, MS-PowerPoint and MS-Access. | |
| 6 | Credit Value | 3 Credits | Credit = 15 Hours - Learning & Observation |
| 7 | Total Marks | Max. Marks: 100 | Min Passing Marks: 40 |

PART -B: Content of the Course

| Total No. of Teaching-Learning Periods (01 Hr. per period) - 45 Periods (45 Hours) | | |
|--|--|---------------|
| Unit | Topics (Course contents) | No. of Period |
| I | <p>Indian Knowledge System and Computer Science: Number System in India-Historical evidence, Salient aspect of Indian Mathematics, Bhuta-Samkhya system, Katapayadi system, pingala and the binary system, Sulbha Sutra as modern arithmetic and numerical mathematics.</p> <p>Introduction to Computer: History of computer, Generations and Classification, Basic Anatomy of Computer: Block Diagram, Central Processing Unit (CPU): Function of each Unit, Memory: Primary, Cache, Flash, Software and its needs, Types of S/W: System Software and Application Software, Types of Programming Language: Machine Language, Assembly Language, High Level Language their advantages and disadvantages, Language Processors/Translators: Assembler, Interpreter and Compiler, Fundamental of Information Technology: Data and Information, Concept of IT, Application of IT, What is ICT?, Components of ICT, Impact of ICT in Society.</p> <p>Advanced Trends in IT: Cloud Technology, Virtual LAN Technology, M-Commerce, Nanotechnology, Virtual Reality, 3-D Printing, Internet of Things (IoT), Artificial Intelligence (AI), Machine Learning (ML), Cloud Computing, Quantum Computing, G-Suite, GoI digital initiatives in higher education: SWAYAM, Swayam Prabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e-Yantra and NPTEL.</p> | 12 |
| II | <p>MS-Word: Introduction to word processing software and its features, Creating new document, Saving documents, Opening and Printing documents. Home Tab: Setting fonts, Paragraph settings, Various styles (Normal, No spacing, Heading1, Heading2, Title, Strong), Find & Replace, Format painter, Copy paste and paste special. Insert Tab: Pages, Tables, Pictures, Clipart, Shapes, Header & Footer, Word Art, Equation and Symbols. Page Layout Tab: Page setup, Page Background, Paragraph (indent and spacing). Mailing Tab: Create Envelops and Labels, Mail Merge. Review Tab: Spelling and Grammar check, New comment, Protect document, View Tab: Document views, Zoom, Window (New window, Split, Switch window).</p> | 11 |

Officer In-Charge (Academic)
 Shekhar Nandkumar Patil
 Vishwavidyalaya, Raigarh (C.G.)

Chairman
 Studies
 ed Ner
 18/05/24
 (C.G.)

| | | |
|-----|--|----|
| III | MS-Excel: Introducing Excel, Use of Excel sheet, creating new sheet, Saving, Opening, and Printing workbook. Home Tab: Font, Alignment, Number, Styles and cells and editing, Conditional Formatting. Insert Tab: Table, Charts (column chart, Pie chart, Bar chart, Line chart) and Texts (header & footer, word art, signature line). Page Layout Tab: Page setup options, Scale to fit (width, height, scale). Formulas Tab: Auto sum (sum, average, min, max), Logical (IF, and, or, not, true, false), Math & Trig (sin, cos, tan, ceiling, floor, fact, mod, log), Sort and Filter options, Data validation, Group and ungroup. Review Tab: Protect sheet, Protect workbook, and Share workbook. View Tab: Page breaks, Page layout, Freezing Panes, Split and hide. | 11 |
| IV | Working with PowerPoint and MS-Access PowerPoint: Introducing PowerPoint, Use of PowerPoint presentation, Creating new slides saving, Opening and printing. Home Tab: New slide, Layout, Reset, Delete, Setting text direction, Align text, Convert to smart art, Drawing options. Insert Tab: Table, Picture, Clipart, Photo album, Smart art, Shapes and chart, Movie and sound, Hyperlink and action, Text box, Word art, Object. Design Tab: Page setup options, Slide orientation, Applying various themes, Selecting background style and formatting it. Animations Tab: Custom animation for entrance, Exit and emphasis, Applying slide transition, Setting transition speed and sound, Animation on rehearse timing. Slideshow & View Tab: Start slide, Show options, and Setup options. View tab: Presentation views, Colors and Window option. MS-Access: Introduction to DBMS, features of DBMS, creating blank databases, Saving it in accdb format, Defining data type in MS Access, Creating tables, creating reports, query wizard. | 11 |

Keywords Information Technology (IT), Information and Communication Technology (ICT), G-Suite, MS Word, MS Excel, MS Power Point, MS-Access.

Name and Signature of Convener & Members of CBoS:

Dr H.S. Hota
Chairman

Sunit

Sr

Pravin Kataria

Shilpa
Arora

Yash

Suresh

Arjun

ANJETA KUTUR

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.
- Fundamentals of Information Technology, Chetan Shrivastava, Kalyan Publishers.
- Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.
- Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.
- Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
- Fundamentals of Information Technology, Alexis Leon and Mathews Leon, Vikash Publication.

Reference Books Recommended:

- Introduction to Information Technology, V. Rajaraman, PHI publication.
- Fundamental of IT, Leon and Leon, Leon Tec world.
- Introduction to Information Technology, Aksoy and Denardis, Cengage learning.
- Computers Today, Suresh K. Basandra, Galgotia Publications.

Officer In-Charge (Academic)
Shahood Nandkumar Patel
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Chairman
Studies ...
and Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

Officer-In-Charge (Academic)
Shahood Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|---|--------------------------------|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree) | | Semester - I | Session: 2024-2025 |
| 1 | Course Code | ITGE-01P | |
| 2 | Course Title | Lab 1: MS-Office | |
| 3 | Course Type | Practical | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | After Completing this course, students will be able to: <ul style="list-style-type: none"> • Gain Practical knowledge of MS-Office. • Organize files and documents on storage devices. • Acquire knowledge of ICT and Internet applications. • Develop information technology solutions by evaluating user requirements in advance trends of IT. • Acquire knowledge of MS-Excel, MS-PowerPoint and MS-Access. | |
| 6 | Credit Value | 1 Credits | Credit =30 Hours Laboratory or Field Learning/Training |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |

PART -B: Content of the Course

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

| List of Experiments | | No. of Period |
|---|--|---------------|
| <p style="text-align: center;">Application of Information Technology</p> <ol style="list-style-type: none"> 1. How to create mail in a Gmail account? Write the uses of Inbox, Sent, Outbox, Draft, Spam and Trash labels. 2. How to design Google form? Write the steps with appropriate windows. 3. How to create different student classes in Google classroom. 4. How do teachers create assignments and provide due dates, or grades in Google Classroom? 5. How do students find assignments, due dates, or grades in Google Classroom? 6. How to use social media platforms like twitter, Facebook and YouTube? 7. How to use social media platforms like Flickr, Skype, yahoo and WhatsApp? 8. How to use Google spreadsheets, Google Slides and Google forms? 9. How to share files between mobile phone and computer system/Laptop using Bluetooth. <p>*****</p> <p style="text-align: center;">MS-Word</p> <ol style="list-style-type: none"> 1. Prepare a grocery list having four columns (Serial number, the name of the product, quantity and price) for the month of April, 06. <ul style="list-style-type: none"> > Font specific actions 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. | | 30 Hrs. |
| | | |

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 Shaheed Nandkumar Patel
 Vishwakalyalaya, Falgarh (C.G.)

Chairman
 S. N. Singh
 Na. N. Singh
 Falgarh (C.G.)

- 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.
- 4. XYZ Publications plan to store lease an e-book design dapper 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.
- 5. Create the following one page documents.
 - Compose a note inviting friends 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 an assignment outlining your rules for your bedroom at home, using a numbered list.
- 6. Create the following documents:
 - A newsletter with a headline and 2 columns in portrait orientation, including at least one image surrounded by text.
 - 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 |
- 8. Enter the following data into a table given on the next page.

Officer in Charge (Academic)
 Shri. ...
 Vishwa ...

Chairman
 ...
 ...

| Salesperson | Dolls | Trucks | Puzzles |
|-----------------|-------|--------|---------|
| Kennedy, Sally | 1327 | 1423 | 1193 |
| White, Pete | 1421 | 3863 | 2934 |
| Pillar, James | 5214 | 3247 | 5467 |
| York, George | 2190 | 1278 | 1928 |
| Banks, Jennifer | 1201 | 2528 | 1203 |
| Atwater, Kelly | 4098 | 3079 | 2067 |
| 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 Sales person in ascending order:

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

9. Wrapping of-text around the image.
10. How to install MS-Office in Windows operating system.
11. How to convert word, excel and PowerPoint into pdf & pdf to word.
12. How to merge and split pdf files.

MS-Excel

1. Enter the Following data in Excel Sheet

| 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 | |
| Haryana | 1800 | 2000 | 2200 | 2700 | 15 | |
| Rajasthan | 2100 | 2000 | 1800 | 2200 | 20 | |
| TOTAL | | | | | | |
| AVERAGE | | | | | | |

- a. Apply Formatting as follow:
 - Title in TIMES NEW ROMAN
 - FontSize-14
 - Remaining text-ARIAL, FontSize-10
 - State name and Qtr. Heading Bold, Italic with Gray Fill Color.
 - Numbers in two decimal places.
 - Qtr. Heading in center Alignment.
 - Apply Border to whole data.
- b. Calculate State and Qtr. Total
- c. Calculate Average for each quarter

Officer in Charge (Academic)
 Shahood Hameedkumar Patel
 Vishwavidyalaya, Raigarh (C.G.)

2/10/24
 181
 (C.G.)

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 | Harbhajan | 56 | |

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

| If Marks | Then Grade |
|----------------------|------------|
| ≥ 80 | A+ |
| ≥ 60 and < 80 | A |
| ≥ 50 and < 60 | B |
| < 50 | F |

3. Given the following worksheet

| | A | B | C | D | E | F | G |
|---|----------|---------------|------|-------|-------|-------|------------|
| 1 | Salesman | Sales in(Rs.) | | | | | |
| 2 | No. | Qtr1 | Qtr2 | Qtr3 | Qtr4 | Total | Commission |
| 3 | S001 | 5000 | 8500 | 12000 | 9000 | | |
| 4 | S002 | 7000 | 4000 | 7500 | 11000 | | |
| 5 | S003 | 4000 | 9000 | 6500 | 8200 | | |
| 6 | S004 | 5500 | 6900 | 4500 | 10500 | | |
| 7 | S005 | 7400 | 8500 | 9200 | 8300 | | |
| 8 | S006 | 5300 | 7600 | 9800 | 6100 | | |

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

| If Total Sales | Then 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 are the sum of sales of all the four quarters.

4. Company XYZ Ltd. pays a monthly salary to its employees who consist of basic salary, allowances & deductions. The details of allowances and deductions are as follows:

- 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(CA)

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Shashank Nandkumar Patel
Vishwa Vidyapeetha, Raigarh (C.G.)

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Studies
Shashank Nandkumar Patel
Vishwa Vidyapeetha, Raigarh (C.G.)

Rs.50/- if Basic is ≤ 1000

Rs.75/- if Basic > 1000 & Basic ≤ 2000

Rs.100 if Basic > 2000

- Entertainment Allowance (EA)

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:

Gross Salary = Basic + HRA + DA + CA + EA

Total Deduction = Provident Fund + Group Insurance Premium

Net Salary = Gross Salary - Total Deduction

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

| No. of Installments | 5% | 6% | 7% | 8% | 9% |
|---------------------|----|----|----|----|----|
| 3 | XX | XX | XX | XX | XX |
| 4 | XX | XX | XX | XX | XX |
| 5 | XX | XX | XX | XX | XX |
| 6 | XX | XX | XX | XX | XX |

6. 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 | ? |

7. The following table gives a year wise sale figure of five salesmen in Rs.

| Salesman | 2019 | 2020 | 2021 | 2022 |
|----------|-------|-------|--------|-------|
| 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 |

- Calculate total sale year wise.
- Calculate the net sale made by each salesman
- Calculate the maximum sale made by the salesman
- Calculate the commission for each salesman under the condition.

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Vishwavidyalaya, Raigarh (C.G.)

Chairman
Shahmohammad Kumar Patel
Vishwavidyalaya (C.G.)

>> If total sales > 4, 00,000 give 5% commission on total sale made by the salesman.

>> Otherwise give 2% commission.

- c. Draw a bar graph representing the sale made by each salesman.
- f. Draw a pie graph representing the sale made by a 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 TOTAL | QUARTER AVERAGE |
|-----------------|--------|--------|---------------------------|--------------------|
| Rent | 600.00 | 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 the total surplus if monthly income is 1500.
- e. How much does the 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 BOOK STALL

| 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 | |

- a) Compute the total revenue earned.
 - b) Plot the line chart to compare the revenue of all publishers for 4 years.
 - c) Chart Title should be Total Revenue of Sam's Book stall(1997-2000)
 - d) 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 the range 50-60.

MS-Power Point

1. Do the following task:

- Start a new blank presentation
- Your first Slide is going to be a Title Slide
- Write the Text as in the preview below:

Officer in Charge (Academic)
Shalini Khandekar Pote
Vishwakalya, Bulgarh (C.O.)

18/08/2024
Shalini Khandekar Pote
Vishwakalya, Bulgarh (C.O.)

>> If total sales > 4, 00,000 give 5% commission on total sale made by the salesman.

>> 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 a salesman in 2000.

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PERSONAL BUDGET FOR FIRST QUARTER

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| Telephone | 48.25 | 43.50 | 60.00 | |
| Utilities | 67.27 | 110.00 | 70.00 | |
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| Oil | 100.00 | 150.00 | 90.00 | |
| AV to Insurance | 150.00 | | | |
| Cable TV | 40.75 | 40.75 | 40.75 | |
| Monthly Total | | | | |

- Calculate Quarter total and Quarter average.
- Calculate Monthly total.
- Surplus=Monthly income-Monthly total.
- What would be the total surplus if monthly income is 1500.
- How much does the telephone expense for March differ from quarter average?
- Create a 3D column graph for telephone and utilities.
- Create a pie chart for monthly expenses.

9. Enter the following data in Excel Sheet

TOTAL REVENUE EARNED FOR SAM'S BOOK STALL

| 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 | |

- Compute the total revenue earned.
 - Plot the line chart to compare the revenue of all publishers for 4 years.
 - Chart Title should be Total Revenue of Sam's Book stall(1997-2000)
 - 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 the range 50-60.

MS-Power Point

1. Do the following task:

- Start a new blank presentation
- Your first Slide is going to be a Title Slide
- Write the Text as in the preview below:

Officer in Charge (Academic)
Shalini Nandkumar Patel
Vishwavidyalaya, Rajgarh (C.O.)

[Signature]
18/08/2024
Shalini Nandkumar Patel
Vishwavidyalaya, Rajgarh (C.O.)

- Lighthouse Co Ltd
- Make the Font of "Lighthouse" Arial Black and size 88
- Insert a second slide this should be with a layout of Bulleted List
- Write the Text as in preview below
- [Title]: Lighthouse Co Ltd
- [Body]:
 - i. Mission Statement
 - ii. Company Objectives
 - iii. Management Team
 - iv. Employees
 - v. Sales

Make the Font Color of the Points to Green

Insert a third slide that should be an Organization Chart.

Include the following people in the chart:

- a. David Brent, General Manager
- b. Tim Canterbury, Head of Sales
- c. Gareth Keenan, Assistant to the General Manager
- d. Dawn Tinsley, Human Resources Manager

Add a fourth slide and this should be a Table Chart.

The chart should look like the following:

| New Products | Discontinued Products |
|----------------------------|--------------------------|
| Digital Cameras | 8mm Cameras |
| Ultra Slim Video Camera | 8x Zoom Video Camera |
| 25" Plasma TVs21" | Black and White TVs |
| DVD Recorders | Video Players |
| 7.1 Dolby Surround Systems | 2 channel stereo systems |

- Make the titles New Products and Discontinued Products with a shadow effect and centered in the cell. Widen columns to fit Text as above.
- The Fifth slide should be a Chart slide. The chart should be a bar chart, and include the following data must be used to form the chart:

| | January | February | March | April |
|-----------------|---------|----------|-------|-------|
| TVs | 20 | 27 | 90 | 75 |
| DVDs | 30 | 38 | 34 | 31 |
| Wifi equipment | 45 | 46 | 45 | 43 |
| Video Recorders | 25 | 29 | 15 | 40 |

- Change the colours of the chart so that the series of bars are red, yellow, pink, and green.
- Add a light coloured background to all slides in the presentation.
- Add also Transition effects between each slide and also different effects for all text and pictures in the presentation.
- Reverse the order of the second and third slides
- Save the presentation as Light House Ltd.

2. Do the following:

- Load your Presentation Application and start a new presentation
- The first slide is a Title Slide. Select the appropriate layout and enter the title:
Annual Food Fair
- Add the subtitle: **A Celebration of Eating**
- Insert a small, red circle at the bottom right of the title slide.

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Vishwavidyalaya, Raigarh (C.G.)

Chairman
Tulsi
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- Change the font color for the whole title and subtitle to blue, and apply a text shadow effect just to the words **Food and Fair**
 - Insert a second slide to the presentation, selecting a layout appropriate for a series of bullet points, and using the title: **The Menu**. Enter the following text:
 - i. Chocolate Desserts
 - ii. Cakes and Puddings
 - iii. Roast Meals
 - iv. Using Pasta Creatively
 - Change the line spacing for these bullet points to 1.5 lines.
 - Increase the font size for the words **The Menu** in the title.
 - Add a footer with your name and the text: **Food Fair** so they both appear on every slide, and number all the slides. (Make sure the number is not obscured by the red circle on the title slide)
 - Insert a third slide, which is to be an organization chart. Use the title **Meet The Team**. Enter: **Maggie Peet, Manager** at the top of the chart, and show the following three as reporting to Maggie Peet: **Brian Webb, Bookings; Janine Newton, Publicity; Gregg Brown, Accounts**
 - Embolden the text in the title of the third slide, and change the font to Arial.
 - Apply a light coloured background to all the slides in the presentation
 - On the third slide, insert an image suitable for the topic of food from an image library. Reduce the size of the image and place it where it will not interfere with text.
 - Save the presentation as **foodfair**.
 - Print the presentation with three slides per page, and close the presentation.
3. Do the followings:
- Load your Presentation Application and start a new presentation
 - The first slide is a Title Only Slide. Select the appropriate layout and enter the title: **Cook Family Cruises**.
 - Add a small blue rectangle at the top left of this slide.
 - Change the font color for the whole title to red, and apply a text shadow effect just to the word **Cruises**.
 - Insert a second slide to the presentation, selecting a layout appropriate for a series of bullet points, and using the title: **Our Itinerary**. Enter the following text:
 - a. Canary Islands
 - b. Mediterranean
 - c. Greek Islands
 - Change the line spacing for these bullet points to 2 lines. Increase the font size of the word **Itinerary** in the title. Add a footer with your name and the text: **Cruise Information** so they both appear on every slide, and number all the slides.
 - Insert a third slide, which is to be a graph. Use the title **Our Market Share**. Use the following data to produce a pie chart: Cook 54%; Jackson 28%; Wilson 12%; Bennett 5%
 - Embolden the text in the title of the third slide, and change the font to Arial.
 - Apply a different background to each slide in the presentation.
 - On the third slide, insert an image suitable for the topic of holidays from an image library. Reduce the size of the image and place it where it will not interfere with text.
 - Add a 4-slide containing nothing but the text: **Travel with us for less!!**
 - Save the presentation as a holiday.
 - Print the presentation with 4 slides per page, and close the presentation.
4. Creating an animation looks like the leaf is falling in a tree.

5. Creating an animation looks like demolishing a world trade center in America.

MS-Access

1. Create a database named "college" and perform the following tasks:
 - A. Create a table named "student" having following fields:
Class, Roll no and Name with these Information i.e., Field Name, Data type and Description
 - B. Fill at least 5 records.
 - C. Prepare a query to display all records and Name should be in ascending order.
2. Create the employee table in MS-Access with the referential integrity-foreign key.

Note: This is a tentative list; the teachers' concern can add more experiment as per requirement.

Key words: Information Technology (IT), Information and Communication Technology (ICT), G-Suite, MS Word, MS Excel, MS Power Point, MS-Access.

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Chairman

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(Suresh K. Basandra)

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Shruti
Amr

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PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.
- Fundamentals of Information Technology, Chetan Shrivastava, Kalyan Publishers.
- Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.
- Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.
- Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
- Fundamentals of Information Technology, Alexis Leon and Mathews Leon, Vikash Publication.

Reference Books Recommended:

- Introduction to Information Technology, V. Rajaraman, PHI publication.
- Fundamental of IT, Leon and Leon, Leon Tec world.
- Introduction to Information Technology, Aksoy and Denardis, Cengage learning.
- Computers Today, Suresh K. Basandra, Galgotia Publications.
- Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.
- OFFICE 2013 in Simple Steps, Kogent Solution Inc., DremTech Press.
- Access 2010 in Simple Steps by Kogent Learning Solutions Inc.

Online Resources:

- Introduction to Computer Fundamental from W3school:
<https://www.w3schools.blog/computer-fundamentals-tutorial>

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- Introduction to MS-Word from W3school:
<https://www.w3schools.blog/ms-word-tutorial>
- Introduction to MS-Excel from W3school:
https://www.w3schools.com/excel/excel_introduction.php
- Introduction to MS-PowerPoint from W3school:
<https://www.w3schools.blog/powerpoint-tutorial>
- Introduction to MS-Access from W3school:
https://www.w3schools.com/sql/sql_ref_msaccess.asp
- Fundamentals of Computers & Information Technology (in Hindi) :
<https://www.mcu.ac.in/wp-content/uploads/2020/04/1PGDCA1-Unit-I-Fundamentals-of-Computers-Information-Technology.pdf>
- Fundamentals of Computers & Information Technology (in Hindi):
https://hte.rajasthan.gov.in/dept/dte/board_of_technical_education_rajasthan/government_polytechnic_college_hanumangarh/uploads/doc/fundamental-final-rkd.pdf
- Information and Computers Technology: https://cbseacademic.nic.in/web_material/doc/2014/11/ICT-IX.pdf.pdf
- Microsoft Office (in Hindi):
<https://www.scribd.com/document/534988849/9-Microsoft-office-in-hindi-www-GkNotesPDF-com>
- MS-OFFICE:
<https://www.rgyesm.org/uploads/books/MICROSOFT-OFFICE-BOOK.pdf>
- MS-OFFICE:
Hindi Notes: <https://www.copaguide.com/2020/04/ms-office-topics.html>
- Microsoft Office Full Crash Course:
<https://www.youtube.com/watch?v=SH4oyV5AJ6A>

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks
Continuous Internal Assessment (CIA): 15 Marks
End Semester Exam (ESE): 35 Marks

| | | |
|--|--|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks - 15 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
| End Semester Exam (ESE): | Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks Viva-voce (based on principle/technology) - 05 Marks | Managed by Course teacher as per lab. status |

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Chairman

Sharon Thakur
Secretary

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FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|--|--------------------------------|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester - II | Session: 2024-2025 |
| 1 | Course Code | ITGE-02T | |
| 2 | Course Title | Programming in C++ | |
| 3 | Course Type | DGE (Discipline Generic Elective) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | At the end of this course, the students will be able to: <ul style="list-style-type: none"> Understand the fundamentals of object oriented programming. Write programs related to concept of object oriented program Define functions, class and to create own Libraries. Write programs for file handling. Develop small programs to solve real world problems. | |
| 6 | Credit Value | 3 Credits | Credit = 15 Hours - Learning & Observation |
| 7 | Total Marks | Max. Marks: 100 | Min Passing Marks: 40 |

PART -B: Content of the Course

| Total No. of Teaching-Learning Periods- (01 Hr. per period) - 45 Periods (45 Hours) | | | No. of Period |
|---|---|--|---------------|
| Unit | Topics (Course contents) | | |
| I | Introduction and Programming Concepts : Definition of Program, Source file, Object file, Executable file, Header file, Language Translator- Assembler, Interpreter, Compiler, Testing, Debugging, Linker and Loader, Algorithms, Flow Charts, History of C language. Structure of C program , C Tokens : Identifiers, Keywords, Constants, Variables, Operators, Data Types, Control structure: Conditional and looping statements, Operator Precedence and Associativity, Array and its types, Pointer, Functions : Standard Library and User defined functions, function prototype, Call by value and Call by reference, recursive functions, String functions. | | 12 |
| II | Introduction to Object Oriented Programming: Concept of object oriented programming, Features of C++, Structure of C++ program, Data types, structure, class and objects, Access Specifiers: Private, Public, Protected, inline functions, static data and static functions. Constructor: Default constructor, Copy constructor, Parameterized constructor, Destructor. | | 11 |
| III | Inheritance and Polymorphism: Definition, Concept of base and derived class, Types of Inheritance: Single, Multilevel, Multiple, Hierarchical and Hybrid Inheritance. Polymorphism: Definition, Compile time polymorphism: Function overloading, Operator overloading, constructor overloading, Runtime polymorphism: Virtual Function, pure virtual function. Inline function, friend function, friend class. | | 11 |
| IV | Input-Output and File Handling : I/O classes, File and Stream classes, Char I/O, String I/O, Object I/O, File Pointer, Opening and Closing file. Exception Handling and Standard Template Library: Definition, Exception basics, try, catch and throws keywords, Template. | | 11 |
| Keywords | Token, Identifier, Keyword, Array, Function, Class, Object, Polymorphism, Inheritance, Constructor, Template. | | |

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Shreshth Kulkarni

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18/07/2024

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Peter Juliff, Program Design, PHI Publications.
- Yashwant Kanetkar, Let us C: BPB Publications.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw Hill

Reference Books Recommended:

- Y. Kanetkar, Let us C++, B.P.B Publication .
- E. Balaguruswamy, Programming in C++, Tata McGraw Hill.
- R. Kumar, Object Oriented Programming with C++, Prakhar Publication(Hindi)
- Dhupiya, Lakhyani , C++ Programming Alka Publications, Ajmer (Paperback, Dhupiya, Lakhyani)(Hindi)

Online Resources:

- Introduction to C and C++ from SWAYAM/NPTEL
https://onlinecourses.nptel.ac.in/noc22_cs103/preview
<https://www.youtube.com/watch?v=KG4hjVDw-p8&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:
<https://www.youtube.com/watch?v=pX6LufLso2M&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL
<https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL
<https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=13>
- Operator Overloading NPTEL
<https://www.youtube.com/watch?v=0jpOwc4d-FE&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=17>
- Dynamic Memory Management NPTEL
<https://www.youtube.com/watch?v=lkFK2X6qlc0&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=24
- Access Specifiers NPTEL
https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=22
- Constructor and Destructor NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEduPIVFUkU3jNc6D2&index=24
- C++ different topics from W3School
<https://www.w3schools.com/Cpp/default.asp>
- C++ different topics from Javatpoint
<https://www.javatpoint.com/cpp-tutorial>

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PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

| | |
|--|----------------------------------|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 20 +20 |
| | Assignment / Seminar - 10 |
| | Total Marks - 30 |

Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks

| | |
|--------------------------|---|
| End Semester Exam (ESE): | Two section - A & B |
| | Section A: Q1. Objective - 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks |
| | Section B: Descriptive answer type qts..1 out of 2 from each unit-4x10=40 Marks |

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FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|---|--------------------------------|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree) | | Semester - II | Session: 2024-2025 |
| 1 | Course Code | ITGE-02P | |
| 2 | Course Title | Lab 2: Programming in C++ | |
| 3 | Course Type | Practical | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | <p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> Understand the fundamental programming concepts and methodologies which are essential to create good C++ programs. Code, test, and implement a well-structured, robust computer program using the C++ programming language. Write reusable modules (collections of functions). Understand design/implementation issues involved with variable allocation and binding, control flow, types, subroutines, parameter passing. Develop an in-depth understanding of functional, logic, and object-oriented programming paradigms. | |
| 6 | Credit Value | 1 Credits | Credit =30 Hours Laboratory or Field Learning/Training |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |

PART -B: Content of the Course

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

| Module | Topics (Course contents) | No. of Period |
|--------------------------------|--|---------------|
| List of Practical Experiments. | <ol style="list-style-type: none"> Write a program in C++ for addition of two numbers using float data type. Write a program in C++ to find the biggest number between two numbers. Write a program in C++ to find the factorial value of any entered number using do – while loop. Write a program in C++ for various arithmetic operations using switch case statements. Write a program in C++ for Multiplication of two 3X3 matrices. Write a program in C++ to store five books of information using structure. Write a program in C++ to store six employee information using union. Write a program in C++ to calculate simple interest using call by value and call by reference method. Write a program in C++ to find the sum and average of five numbers using class and objects. Write a program in C++ to multiply two numbers using private and public member functions. Write a program in C++ to print structure like this using scope resolution operator 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5 Write a program in C++ for constructor and Destructor. Write a program in C++ for multiple inheritance. | 30 |

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14. Write a program in C++ for operator overloading.
15. Write a program in C++ for friend class and friend function.
16. Write a program in C++ for virtual function and virtual class.
17. Write a program in C++ for Exception Handling.
18. Write a program in C++ to open and close a file using file Handling.
19. Given two ordered arrays of integers, write a program to merge the two-arrays to get an ordered array.
20. WAP to display Fibonacci series (i) using recursion, (ii) using iteration
21. WAP to calculate Factorial of a number (i) using recursion, (ii) using iteration
22. WAP to calculate GCD of two numbers (i) with recursion (ii) without recursion.
23. Create a Matrix class using templates. Write a menu-driven program to perform following Matrix Operations (2-D array implementation): a) Sum b) Difference c) Product d) Transpose 22. Create the Person class. Create some objects of this class (by taking information from the user). Inherit the class Person to create two classes Teacher and Student class. Maintain the respective information in the classes and create, display and delete objects of these two classes (Use Runtime Polymorphism).
24. Create a class Triangle. Include overloaded functions for calculating area. Overload assignment operator and equality operator.
25. Create a class Box containing length, breadth and height. Include following methods in it: a) Calculate surface Area b) Calculate Volume c) Increment, Overload ++ operator (both prefix & postfix) d) Decrement, Overload -- operator (both prefix & postfix) e) Overload operator == (to check equality of two boxes), as a friend function f) Overload Assignment operator g) Check if it is a Cube or cuboid
26. Create a structure Student containing fields for Roll No., Name, Class, Year and Total Marks. Create 10 students and store them in a file.
27. Write a program to retrieve the student information from the file created in the previous question and print it in the following format: Roll No. Name Marks
28. Copy the contents of one text file to another file, after removing all whitespaces.
29. Write a program for exception handling.
30. Write a program to insert data into file and to display it.

Note: Concerned teacher can add additional experiment as per requirement.

Keywords

Array, Function, Structure, union, matrix, constructor, destructor, inheritance.

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PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Peter Juliff, Program Design, PHI Publications.
- Yashwant Kanetkar, Let us C: BPB Publications.
- E. Balaguruswamy, Programming in ANSI C, Tata McGraw Hill

Reference Books Recommended:

- Y. Kanetkar, Let us C++, B.P.B Publication.

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- E. Balaguruswamy, Programming in C++, Tata McGraw Hill.
- R. Kumar, Object Oriented Programming with C++, Prakhar Publication(Hindi)
- Dhupiya, Lakhyani, C++ Programming Alka Publications, Ajmer (Paperback, Dhupiya, Lakhyani)(Hindi)

Online Resources:

- Introduction to C and C++ from SWAYAM/NPTEL
https://onlinecourses.nptel.ac.in/noc22_cs103/preview
<https://www.youtube.com/watch?v=KG4hjVDw-p8&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:
<https://www.youtube.com/watch?v=pX6LufLso2M&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL
<https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL
<https://www.youtube.com/watch?v=uJGmGAShHcU&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=13>
- Operator Overloading NPTEL
<https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=17>
- Dynamic Memory Management NPTEL
<https://www.youtube.com/watch?v=lkFK2X6qlc0&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=24
- Access Specifiers NPTEL
https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=22
- Constructor and Destructor NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4yIk-B4KrM9uOEduPIVFUkU3jNc6D2&index=24
- C++ different topics from W3School
<https://www.w3schools.com/Cpp/default.asp>
- C++ different topics from Javatpoint
<https://www.javatpoint.com/cpp-tutorial>

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

| | | |
|--|--|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
| | Assignment/Seminar +Attendance - 05 | |
| Total Marks - 15 | | |
| End Semester Exam (ESE): | Laboratory / Field Skill Performance: On spot Assessment | |
| | A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks | |
| | Managed by Course teacher as per lab. status | |

Name and Signature of Convener & Members of CBOs:

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Chairman

Sushil

Shresh Thakkar

Shresh Thakkar

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FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART-A: Introduction

| | | |
|--|--------------------|--------------------|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | Semester – I/III/V | Session: 2024-2025 |
|--|--------------------|--------------------|

| | | |
|---|-------------------------------|--|
| 1 | Course Code | ITVAC-01 |
| 2 | Course Title | Artificial Intelligence |
| 3 | Course Type | Value Addition Course (VAC) |
| 4 | Prerequisite | As per program |
| 5 | Course Learning Outcomes(CLO) | At the end of this course, students will be able to: <ul style="list-style-type: none"> Understand basics of AI. Understand problem solving techniques of AI. Aware about AI tools. Explore application of AI in various domains. Understand the current scenario of AI in India. |
| 6 | Credit Value | 2 Credits Credit = 15 Hours -Learning & Observation |
| 7 | Total Marks | Max. Marks: 50 Min Passing Marks: 20 |

PART – B: Content of the Course

Total No. of Teaching– Learning Periods (01 Hr. per period) - 30 Periods (30 Hours) -

| Unit | Topics (Course contents) | No .of Period |
|------|---|---------------|
| I | Introduction: Overview of Artificial Intelligence (AI), Foundations of AI, Areas and Applications of AI in various domains, AI in India, Impact and examples of AI, Future of AI. | 8 |
| II | Advanced AI: Basic Concept of Machine Learning, Deep Learning, Computer vision, Natural Language Processing (NLP), Speech recognition, Generative AI Applications. | 8 |
| III | AI Tools: Conversational AI: ALEXA, CORTANA, SIRI etc., AI tools for content generation, Image creation, Presentation, Video editing etc. | 8 |
| IV | Application of AI: Agriculture, Healthcare, Environment, Teaching-Learning, E-Commerce, Industry, Research etc. | 6 |

Keywords: Artificial Intelligence (AI), Machine Learning (ML), Deep Learning, Computer Vision, Natural Language Processing (NLP), Conversational AI, Generative AI.

Signature of Convener & Members of CBoS:

Dr. H. S. Hota
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Surest Thakur

Shruti Anand

Section In-charge

Dr. Anshu Kumar

ANJEETA KUR

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Introduction to Artificial Intelligence and Expert Systems, Dan W. Patterson, PHI Publication.
- Artificial Intelligence, Elaine Rich and Kevin Knight TMH publication.

Officer in Charge (Academic)
 Shekhar Nandkumar Patel
 Mahavardiyalaya, Raigarh (C.G.)

Student In-charge
 Shekhar Nandkumar Patel
 Mahavardiyalaya, Raigarh (C.G.)

Reference Books Recommended:

- Artificial Intelligence and machine learning, Vinod Chandra S.S., Anand Harcendr S., PHI learning private Ltd.
- Foundations of Artificial Intelligence and Expert Systems, Macmillan Series in Computer Science, V.S. Jankiraman, K. Sarukesi and P. Gopala Krishnan.

Online Resources:

- Ministry of Electronics and Information Technology Portal for INDIAai:
<https://indiaai.gov.in/>
Introduction to Artificial Intelligence from SWAYAM:
https://www.youtube.com/watch?v=pKcVMlkFpRc&list=PLwdnzIV3ogoXaccHrrFVZCJkbm_JaSHcH&index=2
An introduction to Artificial Intelligence from SWAYAM:
https://onlinecourses.nptel.ac.in/noc24_cs08/preview
- Introduction to Artificial Intelligence from Coursera:
<https://www.coursera.org/learn/introduction-to-ai>
- Introduction to Artificial Intelligence:
<https://www.javatpoint.com/artificial-intelligence-ai>
- How to Learn Artificial Intelligence from Coursera:
<https://www.coursera.org/articles/how-to-learn-artificial-intelligence>

PART-D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment(CIA): 15 Marks

End Semester Exam(ESE): 35 Marks

| | | |
|---|---|---|
| Continuous Internal Assessment(CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 + 10 Assignment/Seminar- 05 Total Marks - 15 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
|---|---|---|

| | | |
|--------------------------|--|--|
| End Semester Exam (ESE): | Laboratory/Field Skill Performance: On spot Assessment A. Performed the task based on learned skill - 20 Marks B. Spotting based on tools (Written) - 10 Marks C. Viva-voce (based on principle/technology)- 05 Marks | Managed by Coordinator as per skilling |
|--------------------------|--|--|

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Hota
Chairman

[Signature]
Joshi

[Signature]
(Surat Thakur)

[Signature]

[Signature]

[Signature]

[Signature]

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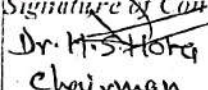
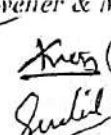
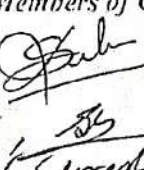

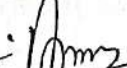
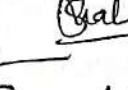
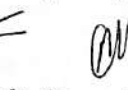



[Signature]

Chairman

Officer in Charge (Academic)
Shahood Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

[Signature]
Shahood Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

| PART- A: Introduction | | | |
|---|--|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester - II/IV/V/VI | Session: 2024-2025 |
| 1 | Course Code | ITSEC-01 | |
| 2 | Course Title | MS-Office | |
| 3 | Course Type | SEC (Skill Enhancement Course) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | After Completing this course, students will be able to: <ul style="list-style-type: none"> Study and use of basic concepts and terminology of information technology. Organize files and documents on storage devices. Acquire knowledge of ICT and Internet applications. Develop information technology solutions by evaluating user requirements in advance trends of IT. Acquire knowledge of MS-Excel, MS-PowerPoint and MS-Access. | |
| 6 | Credit Value | 2 Credits (1C+1C) | Credit = 15 Hours Theoretical Learning and = 30 Hours Laboratory or Field Learning/Training |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |
| PART -B: Content of the Course | | | |
| Total No. of Teaching-learning periods: Theory- 15 Periods (15 Hrs.) and Laboratory or Field learning/Training Periods: 30 Periods (30 Hours) | | | |
| Module | Topics (Course contents) | No. of Period | |
| Theory Content | 1. MS-Word: Introduction to word processing software and its features, Creating new document, Saving documents, Opening and Printing documents. Setting fonts, Paragraph settings, Find & Replace, Copy paste and paste special, Mail Merge, Spelling and Grammar check. 2. MS-Excel: Introducing Excel, Use of Excel sheet, creating new sheet, Saving, Opening, and Printing workbook. Font, Alignment, Number, Styles and cells and editing, Table, Charts, Page setup options. 3. PowerPoint: Introducing PowerPoint, Use of PowerPoint presentation, Creating new slides saving, Opening and printing, Layout, Setting text direction, Align text, Convert to smart art, Drawing options, Table, Picture, Clipart, Smart art, Shapes and chart, Movie and sound, Hyperlink and action, Text box, Word art, Object. | 15 | |
| Lab/Field Training Content | 1. Create a word document and do followings: page setup, paragraph setup, tab setting etc. 2. Create a excel sheet and do followings: cell formatting, page setup, creating chart and use some predefine function. 3. Create a presentation and do followings: slide animation, text animation, slide show setting etc. | 30 | |
| Keywords | MS Word, MS Excel, MS Power Point. | | |
| Signature of Convener & Members of CBoS: <div style="display: flex; justify-content: space-between; align-items: flex-start; margin-top: 10px;"> <div style="text-align: center;">  Dr. H.S. Horia Chairman </div> <div style="text-align: center;">  Sunil </div> <div style="text-align: center;">  Shresh Thakur </div> <div style="text-align: center;">  Anshu </div> <div style="text-align: center;">  Bal </div> <div style="text-align: center;">  An </div> <div style="text-align: center;">  Anshu </div> <div style="text-align: center;">  Anshu </div> <div style="text-align: center;">  Anshu </div> <div style="text-align: center;">  Anshu </div> </div> | | | |

Officer-in-Charge (Academic)
 Shaheed Handkumar Patel
 Rajwadi, Rajgarh (C.G.)

Officer-in-Charge (C.G.)
 Shaheed Handkumar Patel
 Rajwadi, Rajgarh (C.G.)

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.
- Fundamentals of Information Technology, Chetan Shrivastava, Kalyan Publishers.
- Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.
- Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.
- Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
- Fundamentals of Information Technology, Alexis Leon and Mathews Leon, Vikash Publication.

Reference Books Recommended:

- Introduction to Information Technology, V. Rajaraman, PHI publication.
- Fundamental of IT, Leon and Leon, Leon Tec world.
- Introduction to Information Technology, Aksoy and Denardis, Cengage learning.
- Computers Today, Suresh K. Basandra, Galgotia Publications.
- Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.
- OFFICE 2013 in Simple Steps, Kogent ~~Solution~~ Inc., DremTech Press.
- Access 2010 in Simple Steps by Kogent Learning Solutions Inc.

Online Resources:

- Introduction to Computer Fundamental from W3school:
<https://www.w3schools.blog/computer-fundamentals-tutorial>
- Introduction to MS-Word from W3school:
<https://www.w3schools.blog/ms-word-tutorial>
- Introduction to MS-Excel from W3school:
https://www.w3schools.com/excel/excel_introduction.php
- Introduction to MS-PowerPoint from W3school:
<https://www.w3schools.blog/powerpoint-tutorial>
- Introduction to MS-Access from W3school:
https://www.w3schools.com/sql/sql_ref_msaccess.asp
- Fundamentals of Computers & Information Technology (in Hindi) :
<https://www.mcu.ac.in/wp-content/uploads/2020/04/1PGDCA1-Unit-I-Fundamentals-of-Computers-Information-Technology.pdf>
- Fundamentals of Computers & Information Technology (in Hindi):
https://hte.rajasthan.gov.in/dept/dte/board_of_technical_education_rajasthan/government_polytechnic_college_hanumangarh/uploads/doc/fundamental_final-rkd.pdf
- Information and Computers Technology: https://cbseacademic.nic.in/web_material/doc/2014/11_ICT-IX.pdf.pdf
- Microsoft Office (in Hindi):
<https://www.scribd.com/document/534988849/9-Microsoft-office-in-hindi-www-GkNotesPDF-com>
- MS-OFFICE:
<https://www.rgyesm.org/uploads/books/MICROSOFT-OFFICE-BOOK.pdf>
- MS-OFFICE:
Hindi Notes: <https://www.copaguide.com/2020/04/ms-office-topics.html>
- Microsoft Office Full Crash Course:
<https://www.youtube.com/watch?v=SH4oyV5AJ6A>

PART -D: Assessment and Evaluation

Chairman

Officer in Charge (Examination)
Shri. G. S. Kumar Patel
Highway, Jajaya, Raigarh (C.E.)

Chairman
Shri. G. S. Kumar Patel
Highway, Jajaya, Raigarh

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

| | | |
|--|---|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks - 15 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
|--|---|---|

End Semester Exam (ESE):

Laboratory / Field Skill Performance:

On spot Assessment

A. Performed the Task based on lab. work - 20 Marks

B. Spotting based on tools & technology (written) - 10 Marks

Viva-voce (based on principle/technology) - 05 Marks

Managed by
Course
teacher as per
lab. status

Name and Signature of Convener & Members of CBOS:

Dr. H. S. Dohra
Chairman

[Signature]

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[Signature]

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(Stress Thicker)

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ANJELIA KUSU

Officer in Charge (Vishwavidyalaya)
Shahood Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

[Signature]
Shahood Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

शहीद नंदकुमार पटेल विश्वविद्यालय, रायगढ़ (छ.ग.)

(छत्तीसगढ़ विश्वविद्यालय अधिनियम 1973 द्वारा स्थापित राजकीय विश्वविद्यालय)



राष्ट्रीय शिक्षा नीति – 2020
के तहत तृतीय एवं चतुर्थ सेमेस्टर
नवीन पाठ्यक्रम
(सत्र 2025–26)

इंफॉर्मेशन टेक्नालॉजी

SESSION – 2024-25

Chairman
Studies
Nandkumar
Dyalaya, Faislgarh (C.G)

- Gain a complete exposure to the theories and practices of Information Technology.
- Get transformed into a skilled learner and active programmer, enabling the students to focus on their higher studies.
- Value IT professionals and programmers.
- Explore how the concepts and applications of Information technology lead to innovative thinking with a problem-solving attitude.

- Understand the basic IT knowledge and practical application in MS Office.
- Understanding the concept of programming and develop program in C++.
- Understanding the concept of data structure and implementation with C / C++.

Dr. H. S. Hota Chairman
Chairman (Dr. K. S. Hota)

(Dr K. B. Dabney)

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(D-SK Sahy)

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Cal
(Dr. S. Jain)

CR. Khuntia

- Understanding the concept of DBMS and implementation in MySQL / Oracle,
- Understanding the concept of Dot Net technology with practical implementation.
- Understanding the concept of OOPs and Java programming and develop program in Java.
- Understanding the concept of web technology and its implementation with HTML / CSS / DHTML / PHP.
- Understand the basic concept of internet and E-commerce.
- Understanding the basic concept of information and network security.
- Understanding the basic concept of Artificial Intelligence.

Dr. H.S. Khatke
Chairman

Dr. K.B. Dubay

Dr. S.K. Sahu

Dr. K. K. Kothiyal

Dr. Anil Sharma

Dr. S. Walsh

(R. Khurke)

(Sushil Kumar Sahu)

(Suresh Thakur)

(J.P. K)

Cpt. Anurag Shukla

Shankar Agn

Dr. Jeevan Kumar

11-06-2024
Dr. Rajendra Kumar

ANJEETA KUTOR

Officer-In-Charge (Academic)
Shahood Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

Dr. V. N. Singh

Discipline: Information Technology

| Semester | DSE | ITSC-07T | Programming in Python | 3 | 100 | 40 |
|----------|--------------|----------|------------------------------|---|-----|----|
| | (Major/Core) | ITSC-07P | Lab 7: Programming in Python | 1 | 50 | 20 |
| | DSE | ITSE-05 | Computer System Architecture | 4 | 100 | 40 |

[Handwritten signatures and notes are present around the table.]

| | | | | | | |
|-----------------------------|---------------------|----------|--|---|-----|----|
| | | ITSE-06T | Mobile Application Development | 3 | 100 | 40 |
| | | ITSE-06P | Lab 8: Mobile Application Development | 1 | 50 | 20 |
| | | ITSE-07 | Software Engineering | 4 | 100 | 40 |
| | | ITSE-08 | Theory of Computation | 4 | 100 | 40 |
| 8 th Semester | DSC (Major/Core) | ITSC-08T | Fundamental of IoT and Applications | 3 | 100 | 40 |
| | | ITSC-08P | Lab 9: Fundamental of IoT and Applications | 1 | 50 | 20 |
| | DSE | ITSE-09 | Soft Computing | 4 | 100 | 40 |
| | | ITSE-10 | Computer Graphics | 4 | 100 | 40 |
| | | ITSE-11 | Cloud Computing | 4 | 100 | 40 |
| | | ITSE-12 | Major Project | 4 | 100 | 40 |
| | | | | | | |

[Signature]
Dr H.S. Hota
Chairman

[Signature]
(Dr. K. B. Dubey)

[Signature]
(Dr. S. K. Sahu)

[Signature]
(Dr. Anil Sharma)

[Signature]
(Dr. S. Jain)

[Signature]
(R. Khuntia)

[Signature]
(Sushil Kumar Sahoo)

[Signature]
(Suresh Thakur)

[Signature]
(Dr. Anil Sharma)

[Signature]
(Dr. Anil Sharma)

[Signature]
Sheela Kumari

[Signature]
Jeeva Kumar

[Signature]
11-06-2024
(Dr. Suresh Kumar)

[Signature]
ANJEETA KUMAR

Officer-in-Charge (Academic)
Shaheed Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

Chairman
Studies
Shaheed Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

| PART- A: Introduction | | | |
|--|--------------------------------|--|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester - III | Session: 2024-2025 |
| 1 | Course Code | ITSC-03T | |
| 2 | Course Title | Relational Database Management System | |
| 3 | Course Type | DSC (Discipline Specific Course) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | At the end of this course, the students will be able to: <ul style="list-style-type: none"> • Learn about Database Concepts, Architecture, various Users, Data Models and Data Management. • Familiar with RDBMS Software like Oracle and MySql. • Create various Tables and Databases. • Explore various SQL commands. • Create Database on the basis of E-R diagrams for Minor and Major Project. | |
| 6 | Credit Value | 3 Credits | Credit = 15 Hours - Learning & Observation |
| 7 | Total Marks | Max. Marks: 100 | Min Passing Marks: 40 |

PART -B: Content of the Course

| Total No. of Teaching–Learning Periods (01 Hr. per period) - 45 Periods (45 Hours) | | |
|--|---|---------------|
| Unit | Topics (Course contents) | No. of Period |
| I | Overview of Database Management: Introduction, Data Processing versus Data Management, Data Models: Network Model, Relational Model, Hierarchical Model, Instance and schema, View of Database system, File Oriented Approach vs Database Oriented Approach, Data Independence, DBMS Architecture, Database Administration Roles, Database languages: DDL, DML, DCL, TCL, Different kinds of DBMS users, Introduction to Data Dictionary. | 12 |
| II | Database Design and E-R Model: Introduction, Entity, Strong and weak entities, Relationship, Cardinality, Attributes, Concept of keys: Super key, Candidate key, Primary key, Alternate key, Foreign key, ER Diagram, Constraints in Database, Codd's Rules, Extended ER features: Generalization, Specialization and Aggregation, Participation, Converting an E-R model into relational Schema. | 11 |
| III | Relational Database Design and Operations: Introduction, Dependencies: Functional dependencies, Multivalued Dependencies, Join dependencies, Database anomalies, Decomposition, Normalization: Normal forms 1NF, 2NF, 3NF, BCNF, 4NF, 5NF, Denormalization. Relational Algebra: Select operation, Project operation, Union operation, Cartesian Product operation, Intersection operation, Join operation, Different types of joins (Inner join, Outer join, Self join). | 11 |
| IV | Transaction: Introduction, Desirable properties of transaction (ACID), Concurrency control techniques, Serializability. | 11 |

Keywords Data Models, Data Dictionary, E-R Model, E-R Diagram, Keys, Functional Dependency, Anomalies, Normalization, Relational Algebra, Concurrency, Serializability.

Signature of Convener & Members of CBoS:

(Signature)
Chairman

(Signature)
Suresh Thakur

(Signature)
Sheela Yadav

(Signature)
Anurag

(Signature)
Anurag

(Signature)
Anurag

(Signature)
ANJEETA KUMAR

अध्यक्ष
शहीद नंदकुमार पटेल
विश्वविद्यालय, राigarh (C.O.)

Officer-in-Charge (Jr. Assistant)
Shahid Nandkumar Patel
Vishwavidyalaya, Raigarh (C.O.)

Chairman
Studies
Shahid Nandkumar Patel
Vishwavidyalaya, Raigarh (C.O.)

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Database system concept, H. Korth and A. Silberschatz, TMH Publications.
- Data Base Management System, Alexies & Mathews, Vikash publication.
- Data Base Management System, C. J. Date, Narosha Publication.
- Data Base Management System By James Martin.

Reference Books Recommended:

- Principles of Database System By Ullman.
- Program Design, Peter Juliff, PHI Publications.
- The Complete Reference, Kevin Loney, Oracle Press.
- SQL, PL/SQL The Programming Language of Oracle, Ivan Bayross, PustakKosh Publication.
- Microsoft SQL Server Management and Administration, Ross, STM Publications.

Online Resources:

- SWAYAM URL link for DBMS and RDBMS: <https://youtu.be/f6LGtJufWyA>
- SWAYAM URL link for DBMS and RDBMS: <https://youtu.be/loL9Ve2SRwQ>
- SWAYAM URL link for DBMS and RDBMS: <https://swayam.gov.in/courses/4434-data-base-management-system>
- Introduction of DBMS from SWAYAM: https://onlinecourses.swayam2.ac.in/cec19_cs05/preview
- Introduction of RDBMS from SWAYAM: https://onlinecourses.nptel.ac.in/noc19_cs46/preview
- Introduction to DMBS: <https://www.w3schools.in/dbms/intro>
- Data independence: <https://www.w3schools.in/dbms/data-independence>
- Generalization and Aggregation: <https://www.w3schools.in/dbms/generalization-aggregation>
- Introduction to DMBS: <https://www.javatpoint.com/dbms-tutorial>

PART-D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

| | | |
|--|---|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 20 +20 Assignment / Seminar - 10 Total Marks - 30 | Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 Marks |
|--|---|---|

End Semester Exam (ESE):

Two section - A & B

Section A: Q1. Objective - 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks

Section B: Descriptive answer type qts..1 out of 2 from each unit-4x10=40 Marks

Name and Signature of Convener & Members of CBoS:

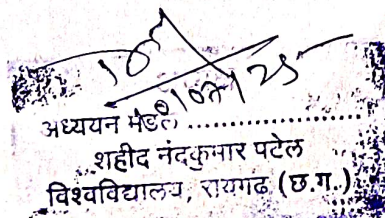
Dr. H.S. Hota
Chairman

(Signature)
Suran Thakur

(Signature)
Rajesh Kumar

(Signature)
Shankar Prasad

(Signature)
Ananta Kujur



FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|---|--------------------------------|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree) | | Semester - III | Session: 2024-2025 |
| 1 | Course Code | ITSC-03P | |
| 2 | Course Title | Lab 3: Relational Database Management System (Oracle/MySQL) | |
| 3 | Course Type | Practical | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | <p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> • Learn about Database Concepts, Architecture, various Users, Data Models and Data Management which helps them to interact with various Databases. • Develop various Tables and Databases which helps them to develop new Software. • Practice various SQL commands which helps them to generate new relationships among various Tables and Databases which are useful for Software Development. • Familiar with RDBMS Software like Oracle and SQL Server which are used as Backend for Software Development. • Develop new Databases for their Minor and Major Project Development which enhances their Data Storage, Data Accessibility and Data Management. | |
| 6 | Credit Value | 1 Credits | Credit =30 Hours Laboratory or Field Learning/Training |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |

PART -B: Content of the Course

Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)

| Module | Topics (Course contents) | No. of Period |
|-------------------------------|---|---------------|
| List of Practical Experiments | <ol style="list-style-type: none"> 1. Design an employee table in Oracle/SQL Server having eid(primary key) ename, edesignation, edoj, edob, eaddress, salary, econtact as fields and answer the following questions : <ol style="list-style-type: none"> a) Insert five records in above created table. b) Display all five records. c) Delete the fourth record. d) Update the third record of the field ename as 'hari'. e) Add one new field in the table. 2. Design a salary table Oracle/SQL Server with one primary key and foreign key(employee table) having following fields : Month, working days, deptid, gross, incentive, deduction and net salary. <ol style="list-style-type: none"> a) Insert five records in the above created table. b) Display all five records. c) Use foreign key relations and display records. d) Update the second record of field deptid as 'Sales'. e) Add one new field in the table. 3. Create a new user in Oracle/SQL Server. 4. Create a view in Oracle/SQL Server. 5. Create a new table in Oracle/SQL Server and practice for join operation. 6. Create a new user in Oracle/SQL Server and practice for the commit and rollback command. | 30 |

अध्यक्ष (सह) 107/25

शहीद नंदकुमार पटेल
विश्वविद्यालय, रायगढ़ (छ.ग.)

18/09/24

7. Create a new database in Oracle/SQL Server having at least five tables for the Hotel Management System.
8. Create a new database in Oracle/SQL Server having at least four tables for Covid Vaccination Management System.
9. Create a new database in Oracle/SQL Server having at least five tables for the Library Management System.
10. Create a new table in Oracle/SQL Server and practice for Group by and Order by Clause.
11. Create a new table in Oracle/SQL Server and practice for max(), min(), avg() and count() functions.
12. Create a new table in Oracle/SQL Server and practice for lower(), substr(), trim() and upper() functions.
13. Create a new table in Oracle/SQL Server and practice for unique and check constraints.
14. Create a new table in Oracle/SQL Server and practice for any two date formats.
15. Create a new table in Oracle/SQL Server and practice using clauses.
16. Create a new table in Oracle/SQL Server and practice for having clauses with sub queries.
17. Create a new table in Oracle/SQL Server and practice for aliases in any table.
18. Create a new table in Oracle/SQL Server and practice for inner and outer join.
19. Create a new table in Oracle/SQL Server and practice for Drop command.
20. Write a PL/SQL program for addition of two numbers.
21. Write a PL/SQL program to find the factorial value of any entered number.
22. Write a PL/SQL program for swapping of two numbers.
23. Write a PL/SQL program to print the first ten Natural Numbers.
24. Write a PL/SQL program to generate even series upto five digits starting from 2 and sum all the terms.
25. Write a PL/SQL program to practice for implicit and explicit cursors.

Note: Concerned teacher can add additional experiment as per requirement.

Keywords TABLE, SQL, PL/SQL.

Signature of Convener & Members of BOS:

Dr. H. S. Chakraborty
Chairman

Dr. K. S. Chakraborty
(Secretary)

Dr. P. S. Chakraborty

Dr. R. S. Chakraborty

Dr. S. S. Chakraborty

Dr. T. S. Chakraborty

Dr. U. S. Chakraborty
ANJEETA KURU

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Database system concept, H. Korth and A. Silberschatz, TMH Publications.
- Data Base Management System, Alexies & Mathews, Vikash publication.
- Data Base Management System, C. J. Date, Narosha Publication.
- Data Base Management System By James Martin.

Reference Books Recommended:

- Principles of Database System by Ullman.
- Program Design, Peter Juliff, PHI Publications.
- The Complete Reference, Kevin Loney, Oracle Press.
- SQL, PL/SQL The Programming Language of Oracle, Ivan Bayross, PustakKosh Publication.
- Microsoft SQL Server Management and Administration, Ross, STM Publications.

शहीद नंदकुमार पटेल
विश्वविद्यालय, रायगढ़ (छ.ग.)

18/07/2024

Online Resources:

- SWAYAM URL link for DBMS and RDBMS:
<https://youtu.be/l6LGtJutWyA>
- SWAYAM URL link for DBMS and RDBMS:
<https://youtu.be/loL9Vc2SRwQ>
- SWAYAM URL link for DBMS and RDBMS :
<https://swayam.gov.in/courses/4434-data-base-management-system>

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

| | | |
|--|--|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
|--|--|---|

| | | |
|--------------------------|--|--|
| End Semester Exam (ESE): | Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks | Managed by Course teacher as per lab. status |
|--------------------------|--|--|

Name and Signature of Convener & Members of CBoS:

Dr. H. S. Hote
Chairman

Sulhi

Shri. H. S. Hote

Shri. H. S. Hote

Shri. H. S. Hote

Shri. H. S. Hote

Shri. H. S. Hote

Shri. H. S. Hote

Shri. H. S. Hote

Shri. H. S. Hote

10/10/2019
अध्यक्ष महोदय
शहीद नंदलाल पटेल
विश्वविद्यालय, रायगढ़ (छ.ग.)

18/10/2019

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|--|--------------------------------|--|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester - IV | Session: 2024-2025 |
| 1 | Course Code | ITSC-04T | |
| 2 | Course Title | Programming in .Net | |
| 3 | Course Type | DSC (Discipline Specific Course) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | After Completing this course, students will be able to: <ul style="list-style-type: none"> • Study and use of .NET framework and object-oriented programming. • Develop the console and GUI applications using .Net programming. • Evaluate the .NET framework namespace contents. • Understand the procedures, File I/O, Error handling and Message queues. • Understand and remember the components in VB.NET IDE, ADO.NET and also the window forms. | |
| 6 | Credit Value | 3 Credits | Credit = 15 Hours - Learning & Observation |
| 7 | Total Marks | Max. Marks: 100 | Min Passing Marks: 40 |

PART -B: Content of the Course

| Total No. of Teaching–Learning Periods (01 Hr. per period) - 45 Periods (45 Hours) | | |
|--|--|---------------|
| Unit | Topics (Course contents) | No. of Period |
| I | Introduction to .NET; Overview of .net framework, Features and architecture, Managed Execution process, CLR, Common language specification, JIT Compilation, MSIL, Namespace, Assemblies, Metadata common type, System, Visual development and event driven programming , Cross language, Interoperability, Garbage collection. | 12 |
| II | Programming with .NET Framework: Windows form: working with Visual Studio IDE, Creating a .NET solution, MDI application, Components and controls, Data types, Variable, Type conversions, Operators, Methods and events, Scope and lifetime of variables, Creating Enumerations. | 11 |
| III | Control Structures: Control Structures: conditional statement, Loops, Arrays, Types of methods, Method data, Creating Sub Procedures and Function, Introduction to exception handling try catch statement, finally statement, throw, user defined Exception. GUI Programming: GUI Programming with window forms, Showing & hiding, Textbox, RichText box, Label, Button, Listbox, Combobox, Checkbox, PictureBox, Radio button, Toggle button, Panel, Groupbox, Scrollbar, Timer, Dialog boxes, OpenFileDialog, Save File dialog, Print dialog, Front dialog, Color dialog, Designing menus and sub menus, MsgBox and Inputbox. | 11 |
| IV | Database Programming with ADO.net – ADO .Net Architecture, .Net data provider, dataset components, creating database application using Window forms (Database connectivity through ADO.Net), Accessing data using server explorer, Data Adapters and Data sets, Command & Data reader, Data bind controls, displaying data in data grid. | 11 |
| Keywords | .NET, Window form, Graphical User Interface (GUI), MDI, ADO.Net | |

Signature of Convener & Members of CLOS:

Dr. H.S. Hare
Chairman

Sushil

Kiran

Dr. H.S. Hare

Shruti

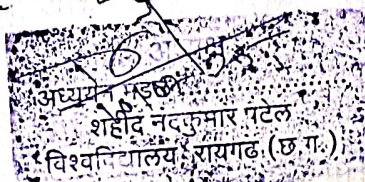
Dr. H.S. Hare

Dr. H.S. Hare

Dr. H.S. Hare

Dr. H.S. Hare

ANJEETA KUTU



PART-C: Learning Resources

Text Books Recommended:

- Visual Basic .Net Complete- by BPB Publications , New Delhi
- The Complete Reference VB.Net –by Jeffery R. Shapiro , Tata McGraw Hill.
- Bill Evjen, Jason Beres, et.al, Visual Basic .Net programming, Wiley Dreamtech India (p) Ltd.

Reference Books Recommended:

- Professional VB.Net 2003 – by Bill Evjen & others , Wiley Dreamtech India(P) Ltd. New Delhi
- Fergal Grimes, Microsoft .NET for programmers, Shroff Publishers & Distributors (P) Ltd.
- Thuan Thai & Hoang Q.Lam, .NET Framework Essentials, Shroff Publishers & Distributors (P) Ltd.
- MSDN online – by Microsoft

Online Resources:

- VB.Net Basic Tutorial:
https://www.tutorialspoint.com/vb.net/vb.net_loops.htm.
- VB.NET Tutorial:
<https://www.javatpoint.com/vb-net>.
- VB.NET Tutorial for Beginners: Learn VB.Net Programming :
https://www.guru99.com/vb-net-tutorial.html?gpp&gpp_sid.
- Home and Learn: VB Net Programming Course Contents:
<https://www.homeandlearn.co.uk/NET/vbNet.html>.
- Programming with VB.NET :
https://www.mcu.ac.in/wp-content/uploads/2020/04/IPGDCA4B-Part-I-Programming-with-VB-.Net_.pdf
- Programming with visual Basic.Net (Notes in Hindi):
<https://computerhindinotes.com/programming-with-visual-basic-net-notes-in-hindi/>
- Programming with visual Basic.Net (Video Lectures in Hindi):
<https://computerhindinotes.com/visual-basic-net-video-tutorials-in-hindi>.
- Visual Basic .NET The Complete Reference:
https://ravithanki.files.wordpress.com/2010/10/complete-reference-vb_net.pdf
- Learning Visual Basic.NET Language:
<https://riptutorial.com/Download/visual-basic--net-language.pdf>.
- VB.NET Programming:
<https://mkasoft.com/downloads/VB.NET%20programming.pdf>.
- Visual Basic.Net:
https://books-library.net/files/books-library.online_noo25328f31569407903f036b-8313.pdf
- Visual Basic.Net Black Book:
<https://bcaofficial.wordpress.com/wp-content/uploads/2017/05/vb-net-black-book.pdf>.
- A Programmer's Introduction to Visual Basic.Net:
<https://www.interplat.com/vbnet.pdf>.
- Visual Basic 2017 Made Easy :
https://www.vbtutor.net/vb2017/vb2017me_preview.pdf.

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

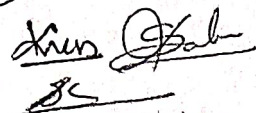
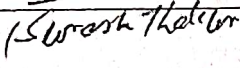
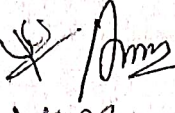
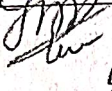
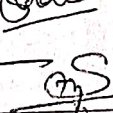
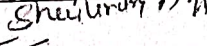

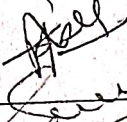
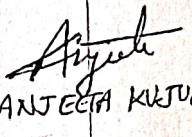
End Semester Exam (ESE): 70 Marks

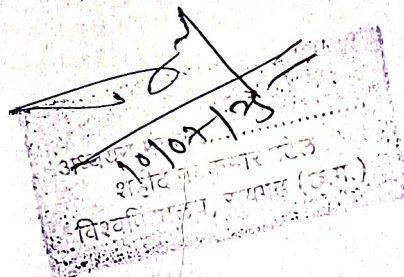
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|---------------------------------------|----------------------------------|
| Continuous Internal Assessment (CIA): | Internal Test / Quiz-(2): 20 +20 |
| | Assignment / Seminar - 10 |
| | Total Marks - 30 |

Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 Marks

अध्ययन नमस्ते
शहीद नरसिंह पटेल
विश्वविद्यालय, रायगढ़ (छ.ग.)

29/10/2024

| | |
|---|---|
| (By Course Teacher) | |
| End Semester Exam (ESE): | Two section - A & B Section A: Q1. Objective - 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40 Marks |
| Name and Signature of Convener & Members of CBoS: | |
| Dr. H.S. Hota Chairman Sunder |          ANJETA KUTU |



18/07/24

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| PART- A: Introduction | | | |
|---|--------------------------------|---|---|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree) | | Semester - IV | Session: 2024-2025 |
| 1 | Course Code | ITSC-04P | |
| 2 | Course Title | Lab 4: Programming in .Net | |
| 3 | Course Type | Practical | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | <p>After Completing this course, students will be able to:</p> <ul style="list-style-type: none"> • Study and use of .NET framework and object-oriented programming. • Develop the console and GUI applications using .Net programming. • Evaluate the .NET framework namespace contents. • Understand the procedures, File I/O, Error handling and Message queues. • Understand and remember the components in .NET IDE, ADO.NET and also the window forms. • Design, create, build, and debug dot net applications. | |
| 6 | Credit Value | 1 Credits | Credit = 30 Hours Laboratory or Field Learning/Training |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |

PART -B: Content of the Course

| PART -B: Content of the Course | | |
|---|---|---------------|
| Total No. of learning-Training/performance Periods: 30 Periods (30 Hours) | | |
| Module | List of Experiments | No. of Period |
| List of practical experiments | <ol style="list-style-type: none"> 1. Write a program to addition, subtraction, multiplication and division of any two numbers. 2. Write a program to find the maximum between three numbers. 3. Write a program to check whether a number is negative, positive or zero. 4. Write a program to check whether a year is a leap year or not. 5. Design an application to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade as following: <ol style="list-style-type: none"> a. Percentage > 90%: Grade A b. Percentage >= 80%: Grade B c. Percentage > 70%: Grade C d. Percentage >60%: Grade D e. Percentage >= 40%: Grade E f. Percentage < 40%: Grade F 6. Design an application to input basic salary of an employee and calculate its Gross salary following: <ol style="list-style-type: none"> a. Basic Salary <= 10000: HRA = 20%, DA = 80% b. Basic Salary <n20000: HRA = 30%, DA = 90% c. Basic Salary> 20000: HRA = 30%, DA = 95% 7. Design an application to input electricity unit charges and calculate the given condition: <ol style="list-style-type: none"> a. For first 50 units Rs. 0.50/unit b. For next 100 units Rs. 0.75/unit c. For next 100 units Rs. 1.20/unit d. For unit above 250 Rs. 1.50/unit e. An additional surcharge of 20% is added to the bill | 30 |

10/07/28
अध्यक्ष
शहीद नरसिंह पटेल
विश्वविद्यालय, गंगानगर (छ.प्र.)

2/18/07/24

8. Write a program to convert decimal to binary number system using bitwise operators.
9. Write a program to swap two numbers using the bitwise operator.
10. Write a program to create Simple Calculator using a select case.
11. Write a program to find the sum of all natural numbers between 1 to n.
12. Write a program to enter any number and print its reverse.
13. Write a program to enter any number and check whether the number is palindrome or not.
14. Write a program to check whether a number is Armstrong number or not
15. Write a program to print Fibonacci series up to n terms.
16. Write a program to print Pascal triangles up to n rows.
17. Write a program to print all negative elements in an array.
18. Design a digital clock using timer control
19. Create an application that offers various food items to select from check boxes and a mode of payment using a radio button. It then displays the total amount payable.
20. Create an application to implement the working of Context menu on textbox
21. Write a program to illustrate all functionalities of list box and combo box.
22. Write a program for temperature conversion using a radio button.
23. Write a program to launch a rocket using Picture Box and Timer control
24. Write a program to change the back color of any control using a scroll box.
25. Write a program to search an element for a one dimensional array.
26. Design a menu such that it contains submenu such as Addition, Subtraction, Scalar Multiplication, and Transpose of two metrics.
27. Write a program to find greatest among three given number using user define procedures
28. Write a program to check whether given number neon or not using user defined function
29. Write a program to check whether a given number is Niven or not using procedure.
30. Write a program to check whether a given number is duck number or not
31. Write a program to check whether a given number is a spy number or not.
32. Write a program to check whether a given number
33. Design the following application using radio button and checkbox:
34. Develop an application which is similar to notepad using menus.
35. Develop an application for facilitating purchasing order.
36. Develop an application for a billing system in a coffee shop.
37. Develop an application which is similar to login form.
38. Define structure student structure student has written member for storing name roll number name of three subjects and marks with member function to store and print data.
39. create a class circle with data member radius provide member function to calculate area driver class fare from class circle provide member function to calculate volume derived class cylinder from class is fair with additional data member for height and member function to calculate volume
40. Write a program that implements the concept of encapsulation.
41. Write a program to demonstrate the concept of function overloading.
42. Create a class student having a data member to store roll number name of the student name of three subject Max marks, Min marks, and obtained marks. Declare an object of class. Provide facilities to input data in data members and display result of students
43. Create a class array having an array of integer having five elements at data member provide following facilities: a) constructor to get number in array element b) sort the elements

30/07/2025
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| | | |
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| | <p>44. Create a table for employees and write a program using a data set to add, delete, edit and navigate records.</p> <p>45. Write a program to access a database using ADO.NET and display key columns in the combo box or list box when an item is selected in it its corresponding records are shown in data grid control.</p> <p>46. Write a program to calculate factorial of a number using user defined procedure.</p> <p>Note: This is a tentative list; the teachers' concern can add more program as per requirement.</p> | |
|--|--|--|

Keywords .NET, Window form, GUI, MDA ADO.Net.

Signature of Convener & Members of CBOS:

Dr. H. S. Hota
Chairman

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ANJETA KUTU

PART-C: Learning Resources

Text Books Recommended:

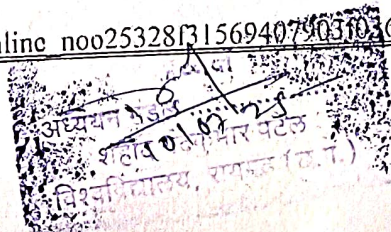
- Visual Basic .Net Complete- by BPB Publications , New Delhi
- The Complete Reference VB.Net –by Jeffery R. Shapiro , Tata McGraw Hill.
- Bill Evjen, Jason Beres, et.al, Visual Basic .Net programming, Wiley Dreamtech India (p) Ltd.

Reference Books Recommended:

- Professional VB.Net 2003 – by Bill Evjen & others , Wiley Dreamtech India(P) Ltd. New Delhi
- Fergal Grimes, Microsoft .NET for programmers, Shroff Publishers & Distributors (P) Ltd.
- Thuan Thai & Hoang Q.Lam, .NET Framework Essentials, Shroff Publishers & Distributors (P) Ltd.
- MSDN online – by Microsoft

Online Resources:

- VB.Net Basic Tutorial:
https://www.tutorialspoint.com/vb.net/vb.net_loops.htm.
- VB.NET Tutorial:
<https://www.javatpoint.com/vb-net>.
- VB.NET Tutorial for Beginners; Learn VB.Net Programming :
https://www.guru99.com/vb-net-tutorial.html?gpp&gpp_sid.
- Home and Learn: VB Net Programming Course Contents:
<https://www.homeandlearn.co.uk/NET/vbNet.html>.
- Programming with VB.NET :
https://www.mcu.ac.in/wp-content/uploads/2020/04/1PGDCA4B-Part-I-Programming-with-VB-.Net_.pdf
- Programming with visual Basic.Net (Notes in Hindi):
<https://computerhindinotes.com/programming-with-visual-basic-net-notes-in-hindi/>
- Programming with visual Basic.Net (Video Lectures in Hindi):
<https://computerhindinotes.com/visual-basic-net-video-tutorials-in-hindi>.
- Visual Basic .NET The Complete Reference:
https://ravithanki.files.wordpress.com/2010/10/complete-reference-vb_net.pdf
- Learning Visual Basic.NET Language:
<https://riptutorial.com/Download/visual-basic--net-language.pdf>.
- VB.NET Programming:
<https://mkasoft.com/downloads/VB.NET%20programming.pdf>.
- Visual Basic.Net:
https://books-library.net/files/books-library.online_noo25328f31569407503f036b-8313.pdf



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- Visual Basic.Net Black Book:
<https://bcaofficial.wordpress.com/wp-content/uploads/2017/05/vb-net-black-book.pdf>.
- A Programmer's Introduction to Visual Basic.Net:
<https://www.interplat.com/vbnet.pdf>.
- Visual Basic 2017 Made Easy:
https://www.vbtutor.net/vb2017/vb2017me_preview.pdf.
- Introduction and Programming of dotNet:
www.w3school.com

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 15 Marks

End Semester Exam (ESE): 35 Marks

| | | |
|--|--|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 | Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 15 Marks |
| End Semester Exam (ESE): | Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks C. Viva-voce (based on principle/technology) - 05 Marks | Managed by Course teacher as per lab. status |

Name and Signature of Convener & Members of CBoS:

Dr. H. S. Datta
Chairman

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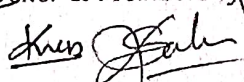

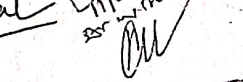
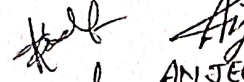
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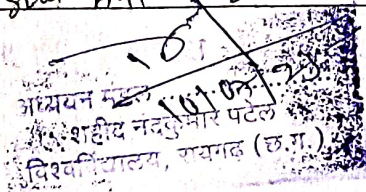
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ANJETA KUMAR

10/07/18
अध्ययन मंडल
शहीद नंदकुमार पटेल
विश्वविद्यालय, नयागढ़ (उ.प्र.)

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

| PART- A: Introduction | | | | |
|--|--|--|--|-----------------------|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | | Semester – III | Session: 2024-2025 |
| 1 | Course Code | ITSE-01 | | |
| 2 | Course Title | Data Structure | | |
| 3 | Course Type | DSE (Discipline Specific Elective) | | |
| 4 | Prerequisite | As per program | | |
| 5 | Course Learning Outcomes (CLO) | At the end of this course, the students will be able to: <ul style="list-style-type: none">• Understand the fundamentals and applications of data structure• Create the algorithms for the problem solving• Understanding about the data management in computer memory• Apply the stack, Queue, Lists, Trees and Graphs in various problem solving.• Apply the suitable searching and sorting method according to the nature of the problem. | | |
| 6 | Credit Value | 4 Credits | Credit = 15 Hours - Learning & Observation | |
| 7 | Total Marks | Max. Marks: | 100 | Min Passing Marks: 40 |
| PART -B: Content of the Course | | | | |
| Total No. of Teaching–Learning Periods (01 Hr. per period) - 60 Periods (60 Hours) | | | | |
| Unit | Topics (Course contents) | | | No. of Period |
| I | Introduction and Basic Concepts: Introduction, Fundamentals of Algorithms, Data types: Primitive, Non-Primitive Absent Data Type (ADT), Classification of Data Structure: Linear and Nonlinear Data Structure. Array: Arrays and its types, Memory allocation and address calculations of Array, Sparse Array. Linked List: Types of Linked List and various Operations Like INSERT, DELETE, TRAVERSE. Introduction and Application of Stack and Queue. | | | 15 |
| II | Stack: Definition, Operations PUSH, POP, Implementations using Array and Linked list, Applications of Stack: Infix, Prefix, Postfix representation and conversion using Stack, Postfix expression evaluation using Stack, Recursion using Stack. Queue: Definition, Types of Queues: Priority Queue, Circular queue, Double Ended Queue, operations of Queue INSERT, DELETE, TRAVERSE, Implementation Queue using Array and Linked list, Applications of Queue. | | | 15 |
| III | Tree: Definition of Trees and their types, Binary trees, Properties of Binary trees and operations Insertion, deletion, searching and traversal algorithm: preorder, post order, in-order traversal, Binary Search Trees, Implementations, AVL Trees. Graph: Definition of Graph and their types, Adjacency and Incident (matrix & linked list) Representation of graphs, Graph Traversal – Breadth first Traversal, Depth first Traversal, Connectivity of Graphs; Weighted Graphs, Shortest Path Algorithm, Spanning Tree, Minimum Spanning Tree, Kruskal's and Prim's Algorithms. | | | 15 |
| IV | Sorting Methods: Types of Sorting Selection Sort, Insertion Sort. Bubble Sort, Quick Sort, Merge Sort, Radix Sort. Searching: Linear search, Binary search. | | | 15 |
| Keywords | Data, Abstract Data Type (ADT), Array, Linked List, Stack, Queue, Tree, Graph, Searching, Sorting. | | | |
| Signature of Convener & Members of CBoS: | | | | |
| <div>Dr. H. S. Hota Chairman</div> <div> Suresh Thakur</div> <div> Anil</div> <div> Sandeep</div> <div> ANJEETA</div> | | | | |


 अश्विनी नंदकुमार पटेल
 निदेशिकालय, रायगढ़ (छ.ग.)

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Michael T. Goodrich, Data Structures and Algorithms in C++, Wiley
- Horowitz and Sahani, Fundamentals of Data Structures, Computer Science Press.

Reference Books Recommended:

- Alfred V. Aho, Data structures and Algorithms, John E. Hopcroft and J.E. Ullman.
- Jean Paul Trembley and Paul Sorenson, An Introduction to Data Structures with Applications, TMH, International Student Edition
- R. Kruse, Leung & Tondo, Data Structures and Program Design in C, PHI publication, 2nd Edition

Online Resources:

- NPTEL YouTube Channel: Data Structure Complete course
<https://youtube.com/playlist?list=PLc2MoXNv7E4mtsPlnn9BnTOENXsGyoDgR&si=aAYaVZ-vWfeuhFEO>
- NPTEL YouTube Channel: Introduction to Data Structure
<https://www.youtube.com/watch?v=zWg7U0OEAoE&list=PLBF3763AF2E1C572F&index=1>
- NPTEL YouTube Channel: Stacks
<https://www.youtube.com/watch?v=g1USSZVWDsY&list=PLBF3763AF2E1C572F&index=2>
- NPTEL YouTube Channel: Queues and linked list
<https://www.youtube.com/watch?v=PGWZUgzDMYI&list=PLBF3763AF2E1C572F&index=3>
- NPTEL YouTube Channel: Trees
<https://www.youtube.com/watch?v=tORLeHHtazM&list=PLBF3763AF2E1C572F&index=6>
- NPTEL YouTube Channel: Graphs
<https://www.youtube.com/watch?v=9zpSs845wf8&list=PLBF3763AF2E1C572F&index=24>
- W3schools Data Structure Reference
DSA Tutorial (w3schools.com)

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

| | | |
|--|---|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 20 & 20 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks |
| | Assignment / Seminar - 10 Total Marks - 30 | |

End Semester Exam (ESE):

Two section - A & B

Section A: Q1. Objective - 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks

Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40 Marks

Name and Signature of Convener & Members of CBoS:

Dr. H. S. Hota
Chairman

[Signature]

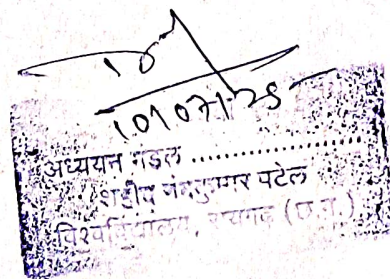
[Signature]
Suresh Thakur

[Signature]
Anurag Kumar

[Signature]
Anurag Kumar

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Anurag Kumar

[Signature]
ANJEETA KUMAR



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FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

| PART- A: Introduction | | | |
|--|--------------------------------|--|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester – IV | Session: 2024-2025 |
| 1 | Course Code | ITSE-02 | |
| 2 | Course Title | Internet and E-Commerce | |
| 3 | Course Type | DSE (Discipline Specific Elective) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | <p>At the end of this course, the students will be able to:</p> <ul style="list-style-type: none"> Understand the basic terminologies of the Internet. Assess the impact of internet and internet technology in a business electronic commerce and electronic business. Be familiar with different e-commerce theories and terminology. Learn strategies for e-commerce and electronic payment systems. Think Critically and Analytically on New Successful Business Ideas. | |
| 6 | Credit Value | 4 Credits | Credit = 15 Hours - Learning & Observation |
| 7 | Total Marks | Max. Marks: 100 | Min Passing Marks: 40 |

PART -B: Content of the Course

| Total No. of Teaching-Learning Periods (01 Hr. per period) - 60 Periods (60 Hours) | | |
|--|---|---------------|
| Unit | Topics (Course contents) | No. of Period |
| I | Internet and its Application: History and Evolution of internet, Internet & intranet, Internet applications, Domain Name, IP address, web browser, web server, web page, web site, Internet service providers, Connectivity: dial up, leased line, VSAT. Conferencing, Searching, downloading, uploading files on Internet, Search Engines, E-Mail: E-Mail Address, Email Message Components, Email Header, Advantages and Disadvantages of E-Mail, E-mail protocols: SMTP, POP-3, IMAP. | 15 |
| II | FTP and Telnet: Introduction to File Transfer Protocol (FTP), Types of FTP servers (including anonymous), Telnet protocol, Telnet client, Terminal emulation. Usenet and Internet relay chat, Web publishing tool, Website planning, Website Hosting, Multiple sites on one server, Maintaining a website, WWW servers, HTTP & URLs, Registration of website on search engines, maintenance of website. | 15 |
| III | E-Commerce and Model: Definition, The scope of E-Commerce, History of E-Commerce, E-Business Models: B2B, B2C, C2C, C2B, Environment of E-Commerce, Dimensions of E-Commerce, Ethical Issues, Electronic Data Interchange, Value Chain and Supply Chain, E-Commerce Marketing, E-Commerce Strategy, E-Commerce Infrastructure, benefits and limitations of E-Commerce. | 15 |
| IV | E-payment System and E-Security: Models and methods of e-payments (Debit Card, Credit Card, Smart Cards, e-money, UPI payment), digital signatures (procedure, working and, legal position), payment gateways, online banking (meaning, concepts, importance, electronic fund transfer, automated clearing house, automated ledger posting), risks involved in e-payment. E-Security Network and Web Site Risk for E-Business, Information Technology ACT 2000 and its Highlights Related to E-Commerce. | 15 |
| Keywords | Internet, FTP and Telnet, E-Commerce, E-Payment Systems, Online Business. | |

Signature of Convener & Members of CBoS:

Dr. H.S. Hota
Chairman

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[Signature]

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[Signature]

[Signature]
[Signature]

[Signature]
[Signature]

[Signature]
[Signature]

10/02/25
अध्यक्ष मंडल
शहीद नंदकुमार पोल
नियंत्रण

[Signature]
ANJELITA KUTIA

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Teach Yourself Internet In 24 Hours : Techmedia.
- Internet Complete : BPB Publication
- Kenneth C. Laudon and Carlo Guercio Traver, E-Commerce, Pearson Education.
- David Whiteley, E-commerce: Strategy, Technology and Applications, McGraw Hill Education.

Reference Books Recommended:

- Bharat Bhaskar, Electronic Commerce: Framework, Technology and Application, 4th Ed., McGraw Hill Education.
- PT Joseph, E-Commerce: An Indian Perspective, PHI Learning.
- KK Bajaj and Debjani Nag, E-commerce, McGraw Hill Education.
- TN Chhabra, E-Commerce, Dhanpat Rai & Co.
- Sushila Madan, E-Commerce, Taxmann
- TN Chhabra, Hem Chand Jain, and Aruna Jain, An Introduction to HTML, Dhanpat Rai & Co.

Online Resources:

- Internet and its Application
<https://www.javatpoint.com/internet>
- Internet introduction
<https://www.youtube.com/watch?v=Y0XwcbwSEUo&list=PL04D5787E247DC324>
- Ecommerce lecture series-Complete
https://www.youtube.com/watch?v=hRdepe_JJ80&list=PLUVwrW18kmTisGDzotaG_KnDJZfNYBPY8
- Electronic Payment System
<https://www.youtube.com/watch?v=Q5HdOaiNYps&list=PLb8zN-8LXfQAKHpezdSvGXFyxIRD5IRPE>
- <https://ebooks.inflibnet.ac.in/lisp5/chapter/internet-background-basic-services-and-features/>
- https://www.tutorialspoint.com/internet_technologies/pdf/internet_quick_guide.pdf
- Electronic Commerce : <https://www.youtube.com/watch?v=xKJjyn8DaAw>
- Technology used in E-Commerce : <https://www.youtube.com/watch?v=cPVwPQC8ROc>
- E-Commerce : <https://www.tutorialspoint.com/e-commerce/index.htm>
- E-Commerce : <https://egyankosh.ac.in/handle/123456789/72073>

PART -D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

| | | |
|--|--|---|
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 20 & 20 Assignment / Seminar - 10 Total Marks - 30 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks |
|--|--|---|

| | |
|--------------------------|--|
| End Semester Exam (ESE): | Two section – A & B Section A: Q1. Objective – 10 x1= 10 Mark; Q2. Short answer type- 5x4 =20 Marks Section B: Descriptive answer type qts., 1 out of 2 from each unit-4x10=40 Marks |
|--------------------------|--|

Name and Signature of Convener & Members of CBoS:

Dr. H. S. Kotha
Chairman

Shal (Signature)
Shrestha Thakur (Signature)
Shree (Signature)
Anjeet Kuri (Signature)

10/07/23
अध्यक्ष मंडल
शहीद नंदकुमार पटेल
विश्वविद्यालय, रायपुर (छ.ग.)

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART-A: Introduction

| | | | |
|--|-------------------------------|--|---|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester – I/III/V | Session: 2024-2025 |
| 1 | Course Code | ITVAC-01 | |
| 2 | Course Title | Artificial Intelligence | |
| 3 | Course Type | Value Addition Course (VAC) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes(CLO) | At the end of this course, students will be able to: <ul style="list-style-type: none"> • Understand basics of AI. • Understand problem solving techniques of AI. • Aware about AI tools. • Explore application of AI in various domains. • Understand the current scenario of AI in India. | |
| 6 | Credit Value | 2 Credits | Credit = 15 Hours -Learning & Observation |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |

PART – B: Content of the Course

Total No. of Teaching– Learning Periods (01 Hr. per period) - 30 Periods (30 Hours) –

| Unit | Topics (Course contents) | No .of Period |
|------|---|---------------|
| I | Introduction: Overview of Artificial Intelligence (AI), Foundations of AI, Areas and Applications of AI in various domains, AI in India, Impact and examples of AI, Future of AI. | 8 |
| II | Advanced AI: Basic Concept of Machine Learning, Deep Learning, Computer vision, Natural Language Processing (NLP), Speech recognition, Generative AI Applications. | 8 |
| III | AI Tools: Conversational AI: ALEXA, CORTANA, SIRI etc., AI tools for content generation, Image creation, Presentation, Video editing etc. | 8 |
| IV | Application of AI: Agriculture, Healthcare, Environment, Teaching-Learning, E-Commerce, Industry, Research etc. | 6 |

Keywords Artificial Intelligence (AI), Machine Learning (ML), Deep Learning, Computer Vision, Natural Language Processing (NLP), Conversational AI, Generative AI.

Signature of Convener & Members of CBOS:

Dr. H. S. Hota
Chairman

(Signature)

(Signature)

(Signature)
(Suresh Thakur)

(Signature)
Shruti Anand

(Signature)
Section In-charge

(Signature)
Dr. H. S. Hota

(Signature)
ANJETA KUR

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Introduction to Artificial Intelligence and Expert Systems, Dan W. Patterson, PHI Publication.
- Artificial Intelligence, Elaine Rich and Kevin Knight TMH publication.

Officer-in-Charge (Academic)
Shahood Nandakumar Patil
Vishwavidyalaya, Raigarh (C.G.)

Student
Shahood Nandakumar Patil
Vishwavidyalaya, Raigarh (C.G.)

Reference Books Recommended:

- Artificial Intelligence and machine learning, Vinod Chandra S.S., Anand Harcendrn S., PHI learning private Ltd.
- Foundations of Artificial Intelligence and Expert Systems, Macmillan Series in Computer Science, V.S. Jankiraman, K. Sarukesi and P. Gopala Krishnan.

Online Resources:

- Ministry of Electronics and Information Technology Portal for INDIAai:
<https://indiaai.gov.in/>
Introduction to Artificial Intelligence from SWAYAM:
https://www.youtube.com/watch?v=pKcVMlkFpRc&list=PLwdnzIV3ogoXaccHrrFVZCJkbm_laSHcFI&index=2
An introduction to Artificial Intelligence from SWAYAM:
https://onlinecourses.nptel.ac.in/noc24_cs08/preview
- Introduction to Artificial Intelligence from Coursera:
<https://www.coursera.org/learn/introduction-to-ai>
- Introduction to Artificial Intelligence:
<https://www.javatpoint.com/artificial-intelligence-ai>
- How to Learn Artificial Intelligence from Coursera:
<https://www.coursera.org/articles/how-to-learn-artificial-intelligence>

PART-D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment(CIA): 15 Marks

End Semester Exam(ESE): 35 Marks

| | | |
|---|--|---|
| Continuous Internal Assessment(CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 + 10 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
| | Assignment/Seminar- 05 Total Marks - 15 | |
| End Semester Exam (ESE): | Laboratory/Field Skill Performance; On spot Assessment A. Performed the task based on learned skill - 20 Marks B. Spotting based on tools (Written) - 10 Marks C. Viva-voce (based on principle/technology)- 05 Marks | Managed by Coordinator as per skilling |

Name and Signature of Convener & Members of CBoS:

Dr H.S. Hota
Chairman

[Signature]
[Signature]
[Signature]
(Survee Kerkar)

[Signature]
[Signature]
[Signature]
Shahood Nandkumar Patel

Chairman

[Signature]
Shahood Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

[Signature]
[Signature]
[Signature]
ANJETA KUMAR

Officer-in-Charge (Academic)
Shahood Nandkumar Patel
Vishwavidyalaya, Raigarh (C.G.)

[Signature]
अध्यक्ष मुकुल
शहोद नंदकुमार
विश्वविद्यालय, रायगढ़

FOUR YEAR UNDERGRADUATE PROGRAM (2024 – 28)
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE CURRICULUM

PART- A: Introduction

| | | | |
|--|--------------------------------|---|--|
| Program: Bachelor in Science (IT) (Certificate / Diploma / Degree/Honors) | | Semester - II/IV/V/VI | Session: 2024-2025 |
| 1 | Course Code | ITSEC-01 | |
| 2 | Course Title | MS-Office | |
| 3 | Course Type | SEC (Skill Enhancement Course) | |
| 4 | Prerequisite | As per program | |
| 5 | Course Learning Outcomes (CLO) | After Completing this course, students will be able to: <ul style="list-style-type: none"> • Study and use of basic concepts and terminology of information technology. • Organize files and documents on storage devices. • Acquire knowledge of ICT and Internet applications. • Develop information technology solutions by evaluating user requirements in advance trends of IT. • Acquire knowledge of MS-Excel, MS-PowerPoint and MS-Access. | |
| 6 | Credit Value | 2 Credits (1C+1C) | Credit = 15 Hours Theoretical Learning and = 30 Hours Laboratory or Field Learning/Training |
| 7 | Total Marks | Max. Marks: 50 | Min Passing Marks: 20 |

PART -B: Content of the Course

| Total No. of Teaching-learning periods: Theory- 15 Periods (15 Hrs.) and Laboratory or Field learning/Training Periods: 30 Periods (30 Hours) | | |
|---|--|---------------|
| Module | Topics (Course contents) | No. of Period |
| Theory Content | 1. MS-Word: Introduction to word processing software and its features, Creating new document, Saving documents, Opening and Printing documents. Setting fonts, Paragraph settings, Find & Replace, Copy paste and paste special, Mail Merge, Spelling and Grammar check. 2. MS-Excel: Introducing Excel, Use of Excel sheet, creating new sheet, Saving, Opening, and Printing workbook. Font, Alignment, Number, Styles and cells and editing, Table, Charts, Page setup options. 3. PowerPoint: Introducing PowerPoint, Use of PowerPoint presentation, Creating new slides saving, Opening and printing, Layout, Setting text direction, Align text, Convert to smart art, Drawing options, Table, Picture, Clipart, Smart art, Shapes and chart, Movie and sound, Hyperlink and action, Text box, Word art, Object. | 15 |
| Lab/Field Training Content | 1. Create a word document and do followings: page setup, paragraph setup, tab setting etc. 2. Create a excel sheet and do followings: cell formatting, page setup, creating chart and use some predefine function. 3. Create a presentation and do followings: slide animation, text animation, slide show setting etc. | 30 |
| Keywords | MS Word, MS Excel, MS Power Point. | |

Signature of Convener & Members of CBoS:

Dr. H.S. Hota
Chairman

Officer-In-Charge (Academic)
Shahood Nandkumar Patel
Shriwadi, Aloya, Reigarh (C.G.)

Studies
Shahood Nandkumar Patel
Shriwadi, Aloya, Reigarh (C.G.)

ANJEEA KUTUR

PART-C: Learning Resources

Text Books, Reference Books and Others

Text Books Recommended:

- Computer Fundamentals, P.K. Sinha, BPB Publication, Sixth Edition.
- Fundamentals of Information Technology, Chetan Shrivastava, Kalyan Publishers.
- Fundamentals of Computers, V. Rajaraman, PHI Sixth Edition.
- Computer Fundamentals and Office Automation, Dr. Santosh Kumar Miri, Iterative International Publisher IIP.
- Computer Fundamentals Architecture and Organization, B. Ram, New Age International Publishers, Fifth Edition.
- Fundamentals of Information Technology, Alexis Leon and Mathews Leon, Vikash Publication.

Reference Books Recommended:

- Introduction to Information Technology, V. Rajaraman, PHI publication.
- Fundamental of IT, Leon and Leon, Leon Tec world.
- Introduction to Information Technology, Aksoy and Denardis, Cengage learning.
- Computers Today, Suresh K. Basandra, Galgotia Publications.
- Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.
- OFFICE 2013 in Simple Steps, Kogent Solution Inc., DremTech Press.
- Access 2010 in Simple Steps by Kogent Learning Solutions Inc.

Online Resources:

- Introduction to Computer Fundamental from W3school:
<https://www.w3schools.blog/computer-fundamentals-tutorial>
- Introduction to MS-Word from W3school:
<https://www.w3schools.blog/ms-word-tutorial>
- Introduction to MS-Excel from W3school:
https://www.w3schools.com/excel/excel_introduction.php
- Introduction to MS-PowerPoint from W3school:
<https://www.w3schools.blog/powerpoint-tutorial>
- Introduction to MS-Access from W3school:
https://www.w3schools.com/sql/sql_ref_msaccess.asp
- Fundamentals of Computers & Information Technology (in Hindi) :
<https://www.mcu.ac.in/wp-content/uploads/2020/04/IPGDCA1-Unit-I-Fundamentals-of-Computers-Information-Technology.pdf>
- Fundamentals of Computers & Information Technology (in Hindi):
https://hte.rajasthan.gov.in/dept/dte/board_of_technical_education,rajasthan/government_polytechnic_college_hanumangarh/uploads/doc/fundamental_final-rkd.pdf
- Information and Computers Technology: https://cbseacademic.nic.in/web_material/doc/2014/11 ICT-IX.pdf.pdf
- Microsoft Office (in Hindi):
<https://www.scribd.com/document/534988849/9-Microsoft-office-in-hindi-www-GkNotesPDF-com>
- MS-OFFICE:
<https://www.rgyesm.org/uploads/books/MICROSOFT-OFFICE-BOOK.pdf>
- MS-OFFICE:
Hindi Notes: <https://www.copaguide.com/2020/04/ms-office-topics.html>
- Microsoft Office Full Crash Course:
<https://www.youtube.com/watch?v=SH4oyV5AJ6A>

PART -D: Assessment and Evaluation

Chairman

अध्यक्ष (अकादमिक)
शहीद नंदकुमार पटेल
विश्वविद्यालय, रायगढ़ (उ.प्र.)
In-Charge (Academic)
Shahid Nandkumar Patel
Vishwavidyalaya, Raigarh (U.P.)

28/04/2021
Chairman
Vishwavidyalaya, Raigarh

| | | |
|---|--|---|
| Suggested Continuous Evaluation Methods: | | |
| Maximum Marks: | 50 Marks | |
| Continuous Internal Assessment (CIA): | 15 Marks | |
| End Semester Exam (ESE): | 35 Marks | |
| Continuous Internal Assessment (CIA): (By Course Teacher) | Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 | Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks |
| End Semester Exam (ESE): | Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written) - 10 Marks Viva-voce (based on principle/technology) - 05 Marks | Managed by Course teacher as per lab. status |
| Name and Signature of Convener & Members of CBoS: | | |
| <p>Dr. H. S. Bhatia Chairman</p> <p><i>[Signatures of Members]</i></p> <p>ANJEEA KUSHWAHA</p> | | |

10/10/75
अध्ययन मंडल
राष्ट्रीय संस्कृत परीक्षा
विश्वविद्यालय, रायगढ़ (छ.प्र.)
Shri. In. Chandra (Mandana)
Shri. Nandkumar Patel
Rajgadh, Raigarh (C.P.)