

- 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. Lota
Chairman

Dr. K.B. Dubay

Dr. S.K. Sahu

Dr. P. Kotnagle

Dr. Anil Sharma

Dr. Swati Saini

(R. Khuntia)

(Sushil Kumar Sahu)

(Suresh Thakur)

Dr. Anamita Sunkles

Shekhar Singh

Dr. Anamita Sunkles

11-06-2024
Dr. Sankar Kumar

ANJEETA KUMAR

Dr. Sankar Kumar

| | | | | | | |
|-----------------------------|---------------------|----------|--|---|-----|----|
| | | 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. G. Dubey)

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

[Signature]
Dinesh
Kotiyal

[Signature]
Dr. Anil Sharma

[Signature]
(Dr. S. Jain)

[Signature]
(R. Khutke)

[Signature]
(Sushil Kumar Saha)

[Signature]
(Suresh Thakur)

[Signature]

[Signature]
CDR. Anvika Shukla Sbc

[Signature]
Sheelamoy
Ayya

[Signature]
Jeevan
Kumar

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

[Signature]
ANJETA KUMAR

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 | <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 |

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_poly_technic_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: 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

(Suresh Thakur)

Pradyumn Kumar

Shobendra Singh

ANJEETA 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 - 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 |
| | Application of Information Technology <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. ***** | | 30 Hrs. |
| | MS-Word <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. | | |

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.

| 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.

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 $\text{Basic} \leq 1000$
 - 25% of Basic if $\text{Basic} > 1000$ & $\text{Basic} \leq 3000$
 - 20% of Basic if $\text{Basic} > 3000$
- DA Fixed for all employees, 30% of Basic
- Conveyance Allowance(CA)
 - Rs.50/- if $\text{Basic} \leq 1000$

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 | 5Years |
| 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.

- >> 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.

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

I. 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

- 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]:
 - Mission Statement
 - Company Objectives
 - Management Team
 - Employees
 - 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:

- David Brent, General Manager
- Tim Canterbury, Head of Sales
- Gareth Keenan, Assistant to the General Manager
- 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.
- 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.



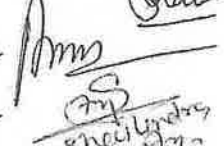

MS-Access

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.

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. Hatg (Chairman)        
ANJETA KUMAR

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

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: | | Managed by Course teacher as per lab. status |
| | 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 | |

Name and Signature of Convener & Members of CBoS:

Dr. H.S. Jaiswal

Chairman

[Signature]

[Signature]

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(Suresh Thakur)

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ANJETA Kujur

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

| PART- A: Introduction | | | |
|---|--|---|--|
| Program: Bachelor in Science (IT) <i>(Certificate / Diploma / Degree/Honors)</i> | | 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: | | | |

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-B4KrM9uOEvdPIVFUkU3jNc6D2&index=2>
- Constant and Inline Function through NPTEL:
<https://www.youtube.com/watch?v=pX6LufLso2M&list=PLmp4ylk-B4KrM9uOEvdPIVFUkU3jNc6D2&index=10>
- Pointer and Reference NPTEL
<https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4ylk-B4KrM9uOEvdPIVFUkU3jNc6D2&index=12>
- Function Overloading NPTEL
<https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4ylk-B4KrM9uOEvdPIVFUkU3jNc6D2&index=13>
- Operator Overloading NPTEL
<https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4ylk-B4KrM9uOEvdPIVFUkU3jNc6D2&index=17>
- Dynamic Memory Management NPTEL
<https://www.youtube.com/watch?v=1kFK2X6qlc0&list=PLmp4ylk-B4KrM9uOEvdPIVFUkU3jNc6D2&index=18>
- Class and Object NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEvdPIVFUkU3jNc6D2&index=24
- Access Specifiers NPTEL
https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4ylk-B4KrM9uOEvdPIVFUkU3jNc6D2&index=22
- Constructor and Destructor NPTEL
https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEvdPIVFUkU3jNc6D2&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: 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. Hora
Chairman

(Signature)
S. K. Thakur
S. K. Thakur

(Signature)
A. M. Singh

(Signature)
S. K. Singh

(Signature)
S. K. Singh

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S. K. Singh

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S. K. Singh

(Signature)
ANJEETA KUMAR

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"> 1. Write a program in C++ for addition of two numbers using float data type. 2. Write a program in C++ to find the biggest number between two numbers. 3. Write a program in C++ to find the factorial value of any entered number using do – while loop. 4. Write a program in C++ for various arithmetic operations using switch case statements. 5. Write a program in C++ for Multiplication of two 3X3 matrices. 6. Write a program in C++ to store five books of information using structure. 7. Write a program in C++ to store six employee information using union. 8. Write a program in C++ to calculate simple interest using call by value and call by reference method. 9. Write a program in C++ to find the sum and average of five numbers using class and objects. 10. Write a program in C++ to multiply two numbers using private and public member functions. 11. 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 12. Write a program in C++ for constructor and Destructor. 13. Write a program in C++ for multiple inheritance. | 30 |

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)
(Chairman)

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.

