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 | 1TSE -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 | | |
| TTSC-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 | | |
| 1TSC-071 | Programming in Python | ITSE-12 | Major Project | | |
| TISC-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 | | |
| TTGE -01T | Fundamental of IT and MS-Office | ITVAC-01 | Artificial Intelligence | | |
| ITGE -01P | Lab 1: MS-Office | | SEC | | |
| ITGE -021 | Programming in C++ | ITSEC-01 | MS OFFICE | | |
| TGE -02P | Lab 2: Programming in C++ | | | | |

Program Outcomes (PO):

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H.S. Hota

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- 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.

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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++.
- Deterstanding the concept of data structure and implementation with C / C+-

- 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. 14.5 Hoter Chevirman Ort Dubay) Dr. Anil (R. Khunthy) (Sus Swreek 11-06-2029 June

Curriculum Structure

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Scheme

Program: B.Sc.

Discipline: Information Technology

| Semester | Come Trans | Course Code | Course Title | Total Credit | Total Marks | |
|-----------------------------|---------------------|---------------------|-------------------------------------------------------------------|-----------------|----------------|--------|
| Semester | Course Type | | | Crean | Max | Min |
| 1 st | | IT'SC-01T | Fundamental of IT and MS-Office | | 100 | 40 |
| Semester | DSC (Major/Core) | ITSC-01P | Lab 1: MS-Office | } | 50 | 20 |
| 2 nd | | ITSC-02T | Programming in C++ | 3 | 100 | 40 |
| Semester | DSC (Major/Core) | ITSC-02P | Lab 2: Programming in C++ | 1 | 50 | 20 |
| | DSC | ITSC-03T | Relational Database Management System | 3 | 100 | 40 |
| 3 rd Semester | (Major/Core) | ITSC-03P | Lab 3: Relational Database Management System (Oracle/MySQL) | 1 | 50 | 20 |
| | DSE | ITSE-01 | Data Structure | 4 | 100 | 40 |
| | DSC (Major/Core) | ITSC-04T | Programming in .Net | 3 | 100 | 40 |
| 4 th Semester | | ITSC-04P | Lab 4: Programming in .Net | 1 | 50 | 20 |
| | DSE | ITSE-02 | Internet and E-Commerce | 4 | 100 | 40 |
| 5 th | DSC (Major/Core) | ITSC-05T | Programming in JAVA | 3. | 100 | 40 |
| | | | Lab 5: Programming in JAVA | 1 | 50 | 20 |
| Semeste | DSE | ITSE-03 | Information and Network Security | 4 | 100 | 40 |
| | | ITSC-06T | Web Technology | 3 | 100 | 40 |
| 6 th | DSC (Major/Core) | | Lab 6: Web Technology | 1 | .50 | 20 |
| Semeste | DSE | ITSE-04 | Introduction to Artificial Intelligence | 4 | 100 | 40 |
| | | | | | 100 | 40 |
| 7 th | DSC | ITSC-07T | Programming in Python | 3 | 50 | 20 |
| Semester | (Major/Core) | ITSC-07P ITSE-05 | Lab 7: Programming in Python | 4 | 100 | 40 |
| Hora d | DSE Aug TISE | Jak Suy | (4) Duryer te Ams | Cor Cor | |) (R·K |

3 ITSE-06T 100 40 Mobile Application Development 1 Lab 8: Mobile Application ITSE-06P 20 50 Development ITSE-07 4 100 40 Software Engineering ITSE-08 40 100 4 Theory of Computation Fundamental of IoT and 100 40 3 ITSC-08T Applications DSC Lab 9: Fundamental of IoT and (Major/Core) Î 50 20 ITSC-08P Applications 8th ITSE-09 40 4 100 Soft Computing Semester DSE 100 40 4 Computer Graphics ITSE-10 100 40 4 ITSE-11 Cloud Computing 100 40 Major Project 4 ITSE-12 obbarant gral This Dr. H.S. Hota (Dr.s.Jain) Chevrman (Dr. K.g. Dubay) on Amil shama (R. Khuatky) (Sushit kunger Sche Cor Brooke Shekle She Suresh Theken 11- 804 10 hund ANJECTA KUJUR KUNNE

| (C | Program: Bachelor in Scie (Certificate / Diploma / Degree | | | Semester - I | Session: 2024-2 | 2025 | | |
|---------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--|--|
| 1 Course Code | | | ITSC-01T | | | | | |
| 2 | | ourse Title | Fundamental of IT | and MS-Office | normal and a second second second | | | |
| 3 | | ourse Type | DSC (Discipline Sp | | | | | |
| 4 | | erequisite | As per program | | | | | |
| 5 | C | ourse Learning. utcomes (CLO) | After Completing this • Study and use of • Organize files a • Acquire knowl • Develop inform in advance trem | course, students will be ab of basic concepts and termi and documents on storage edge of ICT and Internet a nation technology solution ads of IT. edge of MS-Excel, MS-Po | nology of information tech devices. pplications. 15 by evaluating user requ | tiremen | | |
| 6 | C | redit Value | 3 Credits C | redit = 15 Hours - Lea | rning & Observation | | | |
| 7 | To | otal Marks | Max. Marks: 10 | 00 N | Iin Passing Marks: | 40 | | |
| PA | RT | | t of the Cours | | | | | |
| | | Total No. of Tea | nching-Learning Per | iods (01 Hr. per perio | d) - 45 Periods (45 Ho | ours) No. oi | | |
| Unit I | | Topics (Course contents) | | | | | | |
| | | Katapayadi system and numerical mat | n, pingala and the bina thematics. | Indian Mathematics, Bl ary system, Sulbha Sutra | as modern arithmetic | | | |
| | | Anatomy of Comp each Unit, Memo System Software a Language, Assen disadvantages, Lan Fundamental of Application of IT, Advanced Trends Nanotechnology, Intelligence (AI), J Suite, GoI digital i | puter: Block Diagram ry: Primary, Cache, F and Application Softwa nbly Language, Hig nguage Processors/Tra Information Technolo What is ICT?, Comp s in IT: Cloud Techno Virtual Reality, 3-D Machine Learning (MI initiatives in higher edu tory, National Digital | computer, Generations ar , Central Processing Ur Flash, Software and its are, Types of Programmi gh Level Language t inslators: Assembler, Int ogy: Data and Informa onents of ICT, Impact of Plogy, Virtual LAN Tech Printing, Internet of T L), Cloud Computing, Qu ucation: SWAYAM, Sw Library of India, E-Sod | needs, Types of S/W: ng Language: Machine heir advantages and erpreter and Compiler, ttion, Concept of IT, f ICT in Society. nology, M-Commerce, hings (IoT), Artificial uantum Computing, G- ayam Prabha, National | 12 | | |

MS-Excel: Introducing Excel, Use of Excel sheet, creating new sheet, Saving, Opening, III 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, 11 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. Working with PowerPoint and MS-Access IV 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. 11 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. Information Technology (IT), Information and Communication Technology (ICT), G-Suite, MS Word, Keywords MS Excel, MS Power Point, MS-Access. Signature of Convener & Members of CBoS: Dr. Hore work Cherry weiv el yreh Tholla An Learning Resources PART-C: 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.

| | e Resources: |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0 | Introduction to Computer Fundamental from W3school: |
| | https://www.w3schools.blog/computer-fundamentals-tutorial |
| 9 | Introduction to MS-Word from W3school: |
| | https://w.ww.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 |
| 0 | Introduction to MS-Access from W3school: |
| | https://www.w3schools.com/sgl/sgl/ref_msaccess.asp |
| 0 | 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 |
| | technie college_hanumangarh/uploads/doc/fundamentaltinal-rkd.pdf. |
| 0 | Information and Computers |
| | Technology: https://ebseacademic.nic.in/web_material/doc/2014/11_ICT-IX.pdf.pdf. |
| 0 | Microsoft Office (in Hindi): |
| | https://www.scribd.com/document/534988849/9-Microsoft-office-in-hindi-www-CikNotesPDF- |
| | com. |
| 0 | MS-OFFICE: |
| | https://www.rgycsm.org/uploads/books/MICROSOFT-OFFICE-BOOK.pdf. |
| 0 | 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 |
| - | |
| | RT -D: Assessment and Evaluation |
| | gested Continuous Evaluation Methods: |
| Mar | ximum Marks: 100 Marks |
| | tinuous Internal Assessment (CIA): 30 Marks |
| Сол | Semester Exam (ESE): 70 Marks |
| Con End | The second |
| Con End Cor | itinuous Internal Internal Test / Quiz-(2): 20 +20 Better marks out of the two Test / Ouiz obtained marks in Assignment |
| Con End Cor Ass | itinuous Internal essment (CIA):Internal Test / Quiz-(2): 20 +20 Assignment / Seminar -Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 Marks |
| Con End Cor Ass | ntinuous Internal essment (CIA):Internal Test / Quiz-(2): 20 +20 Assignment / Seminar - 10 Total Marks - 30Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 Marks |
| Con End Cor Ass (By | itinuous Internal essment (CIA):Internal Test / Quiz-(2): 20 +20 Assignment / Seminar -Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 MarksCourse Teacher)Two section - A & B |
| Con End Con Ass (By End Ex: | ntinuous Internal essment (CIA):Internal Test / Quiz-(2): 20 +20 Assignment / Seminar - 10 Total Marks - 30Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 MarksCourse Teacher)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 |
| Con End Con Ass (By End Ex: | ntinuous Internal essment (CIA):Internal Test / Quiz-(2): 20 +20 Assignment / Seminar - 10 Total Marks - 30Better marks out of the two Test / Quiz obtained marks in Assignment shall be considered against 30 MarksCourse Teacher)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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| Con End Cor Ass (By En) En; En; | ntinuous Internal essment (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 Course Teacher) 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 Signature of Convener & Members of CBoS: The form the |
| Con End Con Ass (By En) Ex: | ntinuous Internal essment (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 Course Teacher) 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 Signature of Convener & Members of CBoS: The Autor of Convener & Members of CBoS: Shertor of Convener & Members of CBoS: The Autor of Convener & Members of CBoS: |
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| P | ART-A: Introc | iuction | | | | |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------|
| | rogram: Bachelor ir Certificate / Diploma / D | | | Semester - I | Session: 2024- | 2025 |
| I | Course Code | ITSC-01P | | | | |
| 2 | Course Title | Lab 1: MS- Off | īce | | | |
| 3 | Course Type | Practical | | | | |
| 4 | Prerequisite | | | | | |
| 5 | After Completing this course, students will be able to: 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 require advance trends of IT. Acquire knowledge of MS-Excel, MS-PowerPoint and MS-Access. | | | | | |
| 6 | Credit Value | 1 Credits Cre | edit =30 H | ours Laboratory or | Field Learning/Train | ning |
| 7 | Total Marks | Max. Marks: | 50 | Min Passing N | Iarks: 20 | |
| | Total No. of lear | and the second | of Expe | Periods: 30 Perio | | No. 01 Perio |
| | How to create m Spam and Trash How to design (How to create d How do teacher Classroom? How do student How to use soci How to use soci How to use soci How to use soci | nail in a Gmail acco labels. Google form? Write ifferent student cla ers create assignments al media platforms al media platforms ogle spreadsheets, (files between me | ount? Write e the steps sses in Go ents and p , due dates i like twitte tike Flick Google Sli obile pho | with appropriate wi ogle classroom. provide due dates, , or grades in Googl er, Facebook and Yo r, Skype, yahoo and des and Google forr ne and computer | Sent, Outbox, Draft, indows. or grades in Google e Classroom? ouTube? WhatsApp? ns? system/Laptop using | |
| | | | MS-Wor | | | |
| | quantity and p ➤ Font spec ➤ The headi ➤ The rest of | ery list having four rice) for the month ific actions for Title ngs of the columns | r columns (1 of April, e (Grocery s should be ould be inl | (Serial number, the r 06. List):14-pointArial in12-point and bol 0-point Times New | name of the product, fontinboldanditalics, d. Roman. | |





- 2. Create a telephone directory.
 - > The heading should be16-point Arial Font in bold.
 - > The rest of the document should use10-point font size.
 - > Other headings should use10-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 collegein16-point Arial Font and should be bold.
 - > The second line should give the course name/teacher's name and the department in 14-pointArial.
 - > Leave a gap of 12-points.
 - > The rest of the document should use10-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 appearinboldusing20-pointArialfont.
 - The name of the author and his qualifications should be in the center of the page in16-point Arial font.
 - At the bottom of the document should be the name of the publisher and address in16-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

| | | REGIO | NAL SAL | ES PROJE | CTION | |
|-----------|------|-------|---------|----------|-----------|-------------|
| 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

| | Α | В | 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 | В |
| <50 | F |

3. Given the following worksheet

| | A | В | 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 s | ales of all the four quarters. |

The total sales are the sum of suits of an the roat quarterer

- 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 amployees 30% of Basic
 - DA Fixed for all employees, 30% of Basic
 - Conveyance Allowance(CA)
 - Rs.50/- if Basic is <=1000

2.

| | 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
- 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 | ХX | 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 |

a. Calculate total sale year wise.

b. Calculate the net sale made by each salesman

c. Calculate the maximum sale made by the salesman

d. Calculate the commission for each salesman under the condition.

>> 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 |
|----------------|--------------|-------------|--------------|---------------|-------|
| | Rs. 1,000.00 | Rs. 1100.00 | Rs. 1,300.00 | Rs. 800.00 | |
| В | Rs. 1,500.00 | Rs. 700.00 | Rs. 1,000.00 | Rs. 2,000.00 | |
| С | 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:
 - o Lighthouse Co Ltd
 - o 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:

| owing data maor o | January | February | March | April |
|-------------------|---------|----------|-------|-------|
| TVs | 20 | 27 | 90 | 75 |
| DVDs | 30 | 38 | 34 | 31 |
| Wifi equipment | 45 | 4.6 | 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. Create the employee table in MS-Access with the referential integrity-foreign key. 2. Note: This is a tentative list; the teachers' concern can add more experiment as per requirement. Keyw Information Technology (IT), Information and Communication Technology (ICT), G-Suite, MS Word, MS ords Excel, MS Power Point, MS-Access. Signature of Convener & Members of CBoS: ANJA Dr Flaty withat Sures L Thaken) Learning Resources PART-C 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, Congage 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.w3sch | ools.blog/powerpoint-tutorial | |
| Introduction to MS | Access from W3school: | |
| https://www.w3sch | ools.com/sql/sql_ref_msaccess.asp | · · · · · · · · · · · · · · · · · · · |
| Fundamentals of Co | omputers & Information Technology (in H | indi) : |
| https://www.meu.a | c.in/wp-content/uploads/2020/04/1PGDC/ | A1-Unit-I-Fundamentals-of- |
| | tion-Technology.pdf. | |
| Fundamentals of C | omputers & Information Technology (in H | lindi): |
| | .gov.in/dept/dte/board_of_technical_educ | |
| chnic college hant | umangarh/uploads/doc/fundamentalfinal | -rkd.pdf. |
| Information and Co | | |
| Technology: https:// | //cbseacademic.nic.in/web_material/doc/2 | 014/11_ICT-IX.pdf.pdf. |
| • Microsoft Office (in | n Hindi): | |
| https://www.scribd | .com/document/534988849/9-Microsoft-o | ffice-in-hindi-www-GkNotesPDF- |
| com. | | |
| MS-OFFICE: | | |
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| MS-OFFICE: | | 5 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| Hindi Notes: https: | //www.copaguide.com/2020/04/ms-office- | topics.html. |
| Microsoft Office Fi | | |
| https://www.youtu | pe.com/watch?v=SH4oyV5AJ6A | |
| ART -D: Assessi | ment and Evaluation | |
| Suggested Continuous E | valuation Methods: | |
| Maximum Marks: | 50 Marks | |
| | LICKLY IN THE BELLE | |
| Continuous Internal Ass | essment (CIA): 15 Marks | |
| Continuous Internal Ass End Semester Exam (ES | | |
| End Semester Exam (ES | E): 35 Marks | Better marks out of the two Test / |
| End Semester Exam (ES Continuous Internal | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 | Quiz + obtained marks in Assignment |
| End Semester Exam (ES Continuous Internal Assessment (CIA): | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 | |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 | Quiz + obtained marks in Assignment |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: | Quiz + obtained marks in Assignment shall be considered against 15 Marks |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo | Qniz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo B. Spotting based on tools & technology | Qniz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. status |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo | Qniz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. (written) – 10 Marks) – 05 Marks |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam (ESE): | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo B. Spotting based on tools & technology Viva-voce (based on principle/technology | Quiz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. status) - 05 Marks |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam (ESE): ame and Semature of Co | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo B. Spotting based on tools & technology Viva-voce (based on principle/technology onvener & Members of CBoS; | Qniz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. (written) – 10 Marks) – 05 Marks |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam (ESE): anne and Semature of Co or 11-5-1-10-9 | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo B. Spotting based on tools & technology Viva-voce (based on principle/technology onvener & Members of CBoS; | Quiz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. status |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam (ESE): ame and Semature of Co Printis I-torg | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo B. Spotting based on tools & technology Viva-voce (based on principle/technology onvener & Members of CBoS; Weather and the technology | Quiz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. status) - 05 Marks Marks |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam (ESE): ame and Semature of Co Printis I-torg | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo B. Spotting based on tools & technology Viva-voce (based on principle/technology onvener & Members of CBoS; Marks | Quiz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. status) - 05 Marks Marks |
| End Semester Exam (ES Continuous Internal Assessment (CIA): By Course Teacher) End Semester Exam ESE): anne and Semature of Co Drillis Horg Chairman | E): 35 Marks Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks - 15 Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. wo B. Spotting based on tools & technology Viva-voce (based on principle/technology onvener & Members of CBoS; Weather and the technology | Quiz + obtained marks in Assignment shall be considered against 15 Marks Managed by Course teacher as per lab. status All & Wanaged by Course teacher as per lab. status |

| F. | ART- A: Intro | Dauction | | | | | |
|----|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--|--|
| | ogram: Bachelo ertificate / Diploma | or in Science (IT) a / Degree/Honors) | Semester - Il | Semester - II Session: 2024-2 | | | |
| 1 | Course Code | ITSC-02T | | | | | |
| 2 | Course Title | Programming in | n C++ | | | | |
| 3 | Course Type DSC (Discipline S | | e Specific Course) | | | | |
| 4 | Prerequisite | As per program | 1s per program | | | | |
| 5 | Course Learnin Outcomes (CL) | • Understand • Write prog • Define fun • Write prog | course, the students will be d the fundamentals of object grams related to concept of ol ections, class and to create ov grams for file handling. mall programs to solve real | oriented programming. oject oriented program n Libraries. | | | |
| 6 | Credit Value | 3 Credits | | earning & Observation | | | |
| 7 | Total Marks | Max. Marks: | 100 | Min Passing Marks: | 40 | | |
| A | | ntent of the Co | | | | | |
| | Total No. o | f Teaching–Learning | Periods (01 Hr. per peri | od) - 45 Periods (45 Ho | urs) | | |
| Un | iit | То | pics (Course contents |) | No. of Perior | | |
| Ι | file, Executab Testing, Debu Structure of Operators, De Precedence at and User def recursive fund | le file, Header file, Lan agging, Linker and Load C program, C Token ata Types, Control struc ad Associativity, Array a ined functions, function ctions, String functions. | ncepts : Definition of Prog guage Translator- Assembler, Algorithms, Flow Charts s : Identifiers, Keyword ture: Conditional and loop and its types, Pointer, Fund prototype, Call by value | er, Interpreter, Compiler, s, History of C language, s, Constants, Variables, ing statements, Operator ctions : Standard Library and Call by reference, | 12 | | |
| I | I Introduction programming objects, Acce | to Object Orientee , Features of C++, Struct as Specifiers: Private, Pu | d Programming: Conce ture of C++ program, Data t iblic, Protected, inline funct tructor, Copy constructor, Pa | ypes, structure, class and ions, static data and static | Ц | | |
| ľ | II Inheritance : Inheritance: Polymorphisr overloading, | Single, Multilevel, N n: Definition, Compile t | finition, Concept of base an Aultiple, Hierarchical an ime polymorphism: Function , Runtime polymorphism: I function, friend class. | d Hybrid Inheritance. m overloading, Operator | 11 | | |
| ľ | V Input-Outpu | | O classes, File and Stream of | classes, Char I/O, String | 11 | | |

Exception Handling and Standard Template Library: Definition, Exception basics, try, catch and throws keywords, Template. *Token, Identifier, Keyword, Array, Function, Class, Object, Polymorphism, Inheritance, Constructor, Template. Signature of Convener & Members of CBoS:* Dr. H.S. Hole Market Argust Argust Argust Argust Argust Anstern Russer Chairman Replace Model and Argust Argust Anstern Russer

100

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-B4KrM9uOEdvPIVFUkU3jNc6D2&index=2
- Constant and Inline Function through NPTEL: https://www.youtube.com/watch?v=pX6LufLso2M&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=10
- Pointer and Reference NPTEL https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=12
- Function Overloading NPTEL https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=13
- Operator Overloading NPTEL https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=17
- Dynamic Memory Management NPTEL https://www.youtube.com/watch?v=lkFK2X6qlc0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=18
- Class and Object NPTEL https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=24
- Access Specifiers NPTEL https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=22
- Constructor and Destructor NPTEL https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&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

| Suggested Continuous E Maximum Marks: | valuation Methods: 100 Marks | |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Continuous Internal Ass End Semester Exam (ES | | |
| 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 |
| | | |
| | | Mark; Q2. Short answer type- 5x4 =20 Marks s.,1 out of 2 from each unit-4x10=40 Marks |

| | n Da de Isada C | ction | T | ······ | 11 10 10 10 10 10 10 10 10 10 10 10 10 1 | |
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| - | | | Semester - II | Session: 2024 | -2025 | |
| Co | urse Code | ITSC-02P | | | | |
| 2 Course Title | | Lab 2: Programming in C++ | | | | |
| 3 Course Type | | Practical | | | e tra concessioners | |
| Prerequisite | | As per program | n | | | |
| 5 Course Learning Outcomes (CLO) | | Understan which are Code, tes using the Write reu Understan allocation passing. Develop | nd the fundamental prog e essential to create good t, and implement a well C++ programming lang sable modules (collection d design/implementat and binding, control an in-depth understand | tramming concepts and meth l C++ programs. l-structured, robust compute uage. ons of functions). ion issues involved with flow, types, subroutines, | er program variable parameter | |
| Cr | edit Value | 1 Credits C | redit =30 Hours Labo | natory or Field Learning | /Training | |
| To | tal Marks | Max. Marks | : 50 | Min Passing Marks: | 20 | |
| t of | | | | An | Period | |
| t of tical iment | Write a progra Write a progra Write a progra statements. Write a progra Write a progra call by referent Write a progra class and obje Write a progra Write a progra Write a progra | um in C++ to find am in C++ to fin ile loop. am in C++ for va- um in C++ for Mu am in C++ to store am in C++ to store am in C++ to calc ace method. am in C++ to find cts. am in C++ to mu ions. | the biggest number build the factorial value rious arithmetic opera ultiplication of two 3X e five books of inform e six employee inform culate simple interest d the sum and average ultiply two numbers u | etween two numbers. of any entered number tions using switch case 3 matrices. ation using structure. ation using union. using call by value and e of five numbers using sing private and public | 30 | |
| | 1 2 1 2 3 1 2 3 4 1 2 3 4 5 | | | | | |
| | Co Co Co Pro Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Ou Co Pro Co Ou Co Pro Co Ou Co Pro Co Ou Co Pro Co Ou Co Pro Co Ou Co Pro Co Ou Co Co Pro Co Ou Co Co Pro Co Ou Co Co Pro Co Ou Co Co Co Pro Co Ou Co Co Co Co Co Pro Co Co Co Co Co Co Co Co Co Co Co Co Co | ificate / Diploma / Degr Course Code Course Title Course Type Prerequisite Course Learning Outcomes (CLO) Credit Value Total Marks T -B: Content c Total Marks T -B: Content c Total No. of fule of iment . Write a progra . Write a progra 3. Write a progra 6. Write a progra 7. Write a progra 8. Write a progra 9. Write a progra 9. Write a progra 10. Write a progra 11. Write a progra | Course TitleLab 2: PrograCourse TypePracticalPrerequisiteAs per programAt the end of thUnderstand which areCourse Learning Outcomes (CLO)Code, test using theCredit Value1 CreditsCredit Value1 CreditsContent of the CourseTotal MarksMax. MarksTotal No. of learning-TrainingIntel1.Write a program in C++ to find using do - while loop.Write a program in C++ to find using do - while loop.Write a program in C++ to store wite a program in C++ to find using do - while loop.Write a program in C++ to store wite a program in C++ to find call by reference method.Write a program in C++ to find class and objects.Write a program in C++ to pr< | Ifficate / Diploma / Degree) Seriester - It Course Code ITSC-02P Course Type Practical Prerequisite As per program At the end of this course, the students using the C++ programming lang • Understand the fundamental program which are essential to create good Course Learning • Understand the fundamental program which are essential to create good Outcomes (CLO) • Understand design/implementat allocation and binding, control passing. • Develop an in-depth understand oriented programming paradigms Credit Value 1 Credits Total Marks Max. Marks: 50 T -B: Content of the Course Total No. of learning-Training/performance Peri Inter 1. Write a program in C++ to find the biggest number b 3. Write a program in C++ to find the factorial value using do – while loop. 4. Write a program in C++ to find the factorial value using do – while loop. 4. Write a program in C++ to store five books of inform 7. Write a program in C++ to store six employee inform 8. Write a program in C++ to find the sum and average class and objects. 9. Write a program in C++ to find the sum and average class and objects. 10. Write a program in C++ to find the sum and average class and objects. 11. Write a program in C++ to find the sum and average class and objects. | Selffester FI Selffester FI Selffester FI Selffester FI Selffester FI Selffester FI Course Code ITSC-02P Course Title Lab 2: Programming in C++ Course Type Practical Prerequisite As per program At the end of this course, the students will be able to: • Understand the fundamental programming concepts and methwich are essential to crate good C++ programs. Course Learning • Code, test, and implement a well-structured, robust compute using the C++ programming language. • Write reusable modules (collections of functions). • Understand design/implementation issues involved with allocation and binding, control flow, types, subroutines, passing. • Develop an in-depth understanding of functional, logic, a oriented programming paradigms. Credit Value 1 Credits Credit =30 Hours Laboratory or Field Learning Total Marks Marks Max. Marks: 50 Test Content of the Course Total No. of learning-Training/performance Periods: 30 Periods (30 Hour tited) 1 Write a program in C++ to radition of two numbers using float data type. 9. Write a program in C++ to radite for waitous arithmetic operations using switch case statements. 3. Write a program in C++ to store five books of information using structure. 7. Write a program in C++ to store five boo | |

| | Balaguruswamy, Programming in ANSI C, Tata McGraw Hill Books Recommended: |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Ya | er Juliff, Program Design, PHI Publications. shwant Kanetkar, Let us C: BPB Publications. |
| Text Bool | s Recommended: |
| 10 10 10 10 10 10 | ooks, Reference Books and Others |
| - (| C: Learning Resources MAR She uning (m ANJ |
| Dr. H.S | Stota) Anos South & Smilel |
| Signature | Man Members of CBoS: |
| Keynvords | Array, Function, Structure, union, matrix, constructor, destructor, inheritance. |
| | Note: Concerned teacher can add additional practical exercises as per requirement. |
| | 30. Write a program to insert data into file and to display it. |
| | 20 Write a program for exception handling. |
| | 28. Copy the contents of one text file to another file, after removing all whitespaces. |
| | Marke |
| | 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 |
| | and Total Marks. Create 10 students and store them in a file. |
| | if it is a Cube or cuboid 26. Create a structure Student containing fields for Roll No., Name, Class, Year |
| | of two boxes), as a friend function f) Overload Assignment operator g) Check |
| | Overload ++ operator (both prefix & postfix) d) Decrement, Overload operator (both prefix & postfix) e) Overload operator == (to check equality |
| | methods in it: a) Calculate surface Area b) Calculate Volume c) increment, |
| | Overload assignment operator and equality operator. |
| | 24. Create a class Triangle. Include overloaded functions for calculating area. |
| | respective information in the classes and create, display and delete objects of these two classes (Use Runtime Polymorphism). |
| a l | Person to create two classes Teacher and Student class. Maintain the |
| | 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 |
| | perform following Matrix Operations (2-D array implementation): a) Suit b) |
| | 23. Create a Matrix class using templates. Write a menu-driven program to |
| | 22. WAP to calculate GCD of two numbers (i) with recursion (ii) without |
| | iteration |
| | 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 |
| | to get an ordered array. |
| | Write a program in C++ to open and close a file using file Handling. Given two ordered arrays of integers, write a program to merge the two-arrays |
| | 17 Write a program in C++ for Exception Handling. |
| | 15. Write a program in C++ for friend class and friend function. 16. Write a program in C++ for virtual function and virtual class. |
| 1 | 14. Write a program in C++ for operator overloading. |

• 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-B4KrM9uOEdvPIVFUkU3jNc6D2&index=2
- Constant and Inline Function through NPTEL: https://www.youtube.com/watch?v=pX6LufLso2M&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=10
- Pointer and Reference NPTEL https://www.youtube.com/watch?v=GtsBZ5e1-cE&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=12
- Function Overloading NPTEL https://www.youtube.com/watch?v=uJGmGAShHeU&list=PLmp4ylk= B4KrM9uOEdvPIVFUkU3jNc6D2&index=13
- Operator Overloading NPTEL https://www.youtube.com/watch?v=0jpOwe4d-FE&list=PLmp4ylk-B4Kr:M9uOEdvPIVFUkU3jNe6D2&index=17
- Dynamic Memory Management NPTEL https://www.youtube.com/watch?v=lkFK2X6qIc0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=18
- Class and Object NPTEL https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=24
- Access Specifiers NPTEL https://www.youtube.com/watch?v=6ki_W7cXdM0&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&index=22
- Constructor and Destructor NPTEL https://www.youtube.com/watch?v=wtuks_f3vP4&list=PLmp4ylk-B4KrM9uOEdvPIVFUkU3jNc6D2&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 Maximum Marks: | Evaluation Methods: 50 Marks | | |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------|
| Continuous Internal A End Semester Exam (H | The second s | 4 | |
| 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 + obtained marks in Ass considered against | ignment shall be 15 Marks |
| End Semester Exar (ESE): | n Laboratory / Field Skill Performand A. Performed the Task based on lab B. Spotting based on tools & techno C. Viva-vdce (based on principle/tee | logy (written) – 10 Marks | Managed by Course teacher as per lab. status |
| Name and Signature of Dr. H.S. Hola Ha Chairman Ortoth St. | Convener & Members of CBoS: | al Mr Sunle or Thaker, The | ANJUETA K |