

# LESSON PLAN

| Discipline : Mechanical Engg.  | Semester : 1st                                | Name of the Teaching Faculty : Shri Asit Ranjan Prusty   |
|--------------------------------|---|--|
| Subject : Computer Application | No. of days/Per Weeks Class Alloted Weeks : 4 | Semester : 1st No. of Weeks : 15   |
| Weeks                          | Class day                                     | Theory   |
| 1st(Nov- 2021)                 | 1st   | Introduction to Computer   |
|                                | 2nd   | Evolution of Computer, Generation Of Computer  |
|                                | 3rd   | Classification Of Computer   |
|                                | 4th   | Basic Organisation of Computer With Functional Block Diagram   |
| 2nd(Nov- 2021)                 | 1st   | Input Devices ,CPU ,Output Devices,Memory Classification   |
|                                | 2nd   | Software concept, System software, Application software  |
|                                | 3rd   | Overview of Operating System Objectives  |
|                                | 4th   | Functions of O.S ,<br>Types of Operating System: Batch Processing, Multiprogramming, Time Sharing OS |
| 3rd(Nov- 2021)                 | 1st   | Features of DOS, Windows and UNIX  |
|                                | 2nd   | Programming Languages Compiler, interpreter Computer Virus   |
|                                | 3rd   | Different Types of computer virus  |
|                                | 4th   | Detection and prevention of Virus  |
| 4th(Nov- 2021)                 | 1st   | Application of computers in different Domain   |
|                                | 2nd   | Networking concept, Protocol, Connecting Media, Data Transmission Mode                               |
|                                | 3rd   | Network Topologies, Types of Network   |
|                                | 4th   | Networking Devices like Hub, Repeater, Switch, Bridge, Router, Gateway & NIC                         |
| 1st(Dec- 2021)                 | 1st   | Internet Services like E-Mail, WWW, FTP, Chatting  |
|                                | 2nd   | Internet Conferencing,   |
|                                | 3rd   | Electronic Newspaper & Online Shopping   |
|                                | 4th   | Different types of Internet connectivity and ISP   |
| 2nd(Dec- 2021)                 | 1st   | Different types of Internet connectivity and ISP   |
|                                | 2nd   | Concept of File and Folder   |
|                                | 3rd   | File Access and Storage methods. Sequential, Direct, ISAM  |
|                                | 4th   | File Access and Storage methods. Sequential, Direct, ISAM  |
| 3rd(Dec- 2021)                 | 1st   | Data Capture, Data storage   |
|                                | 2nd   | Data Processing and Retrieval  |
|                                | 3rd   | Algorithm, Pseudo code and Flowchart Generation of Programming Languages                             |
|                                | 4th   | Algorithm, Pseudo code and Flowchart Generation of Programming Languages                             |
| 4th(Dec- 2021)                 | 1st   | Structured Programming Language  |
|                                | 2nd   | Examples of Problem solving through Flowchart  |
|                                | 3rd   | Examples of Problem solving through Flowchart  |
|                                | 4th   | Constants, Variables and Data types in C   |
| 1st(Jan-2022)                  | 1st   | Constants, Variables and Data types in C   |
|                                | 2nd   | Managing Input and Output operations.  |
|                                | 3rd   | Operators, Expressions, Type conversion & Typecasting  |
|                                | 4th   | Managing Input and Output operations.  |
| 2nd(Jan-2022)                  | 1st   | Operators, Expressions, Type conversion & Typecasting  |
|                                | 2nd   | Decision Control and Looping Statements  |
|                                | 3rd   | (If, If-else, If-else-if, Switch, While)   |
|                                | 4th   | Do while,  |
| 3rd(Jan-2022)                  | 1st   | For, Break, Continue & Goto  |
|                                | 2nd   | Programming Assignments using the above features   |
|                                | 3rd   | Programming Assignments using the above features   |
|                                | 4th   | Programming Assignments using the above features   |
| 4th(Jan-2022)                  | 1st   | Programming Assignments using the above features   |
|                                | 2nd   | Programming Assignments using the above features   |
|                                | 3rd   | Functions and Passing Parameters to the Function (Call by Value)                                     |
|                                | 4th   | Call By Reference)   |
| 1st(Feb-2022)                  | 1st   | Scope of Variables and Storage Classes   |
|                                | 2nd   | Recursion Function and Types of Recursion  |
|                                | 3rd   | One Dimensional Array and Multidimensional Array   |
|                                | 4th   | String Operations and pointers, Structure and Union Concept Only                                     |
| 2nd(Feb-2022)                  | 1st   | Revision   |
|                                | 2nd   | Sample Paper Practice  |
|                                | 3rd   | Sample Paper Practice  |
|                                | 4th   | Sample Paper Practice  |
| 3rd(Feb-2022)                  | 1st   | Sample Paper Practice  |
|                                | 2nd   | Sample Paper Practice  |
|                                | 3rd   | Sample Paper Practice  |
|                                | 4th   | Sample Paper Practice  |

Principal  
Govt. Polytechnic  
Angul

Asit Ranjan Prusty  
5/11/2021  
Leet. (CA)



### LESSON PLAN

|                                |   |  |
|--------------------------------|---|--|
| Discipline :<br>Mechanical     | Semester : 1st                              | Name of the Teachnig Faculty :Shri Asit Ranjan Prusty  |
| Subject : Computer Application | No.of days/Per weeks<br>Class Alloted Weeks | Semester :1st No.of Weeks : 15   |
| Weeks                          | Class day                                   | Practical  |
| 1st(Nov 2021)                  | 1st   | Identification of different components of Computer Switch on and Booting   |
|                                | 2nd   | Study of device and power supply form factor of Personal Computer<br>System Identification of various Mother Board components Identification |
|                                | 3rd   | Identification of different ports  |
|                                | 4th   | type of connectors, and their purpose  |
| 2nd(Nov-2021)                  | 1st   | Case Identification and Study of ROM   |
|                                | 2nd   | RAM, Adapter Cards   |
|                                | 3rd   | Expansion Slots,SATA connectors  |
|                                | 4th   | Study of Adapters and Converters   |
| 3rd(Nov-2021)                  | 1st   | Study of various types of LAB Safety measures (General Safety, Electrical Safety,  |
|                                | 2nd   | Analysis of various Power Fluctuation Types (Blackout, Brownout, Noise, Spike,   |
|                                | 3rd   | Power Protection Devices (Surge suppressor, UPS, Standby power supply)   |
|                                | 4th   | Procedures for proper disposal or recycling of hazardous computer components   |
| 4th(Nov-2021)                  | 1st   | Toner Kits, Cartridges   |
|                                | 2nd   | Chemical Solvents and Aerosol Cans)  |
|                                | 3rd   | ESD tools, Hand tools,   |
|                                | 4th   | cable tools,   |
| 1st(Dec-2021)                  | 1st   | Cleaning tools, Diagnostic tools),   |
|                                | 2nd   | Disk Management Tools  |
|                                | 3rd   | Basic DOS commands (CLS, DIR, DATE, TIME, VERSION  |
|                                | 4th   | MD, CD, RD,  |
| 2nd(Dec-2021)                  | 1st   | DEL, COPYREN,  |
|                                | 2nd   | USE OF WILD CARDS, PATH),  |
|                                | 3rd   | Basic Windows OS operations, MOUSE OPERATIONS, Utilities and Accessories,  |
|                                | 4th   | Basic operations of Word Processing Package. (MS-Word)   |
| 3rd(Dec-2021)                  | 1st   | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 2nd   | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 3rd   | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 4th   | Basic operations of Word Processing Package. (MS-Word)   |
| 4th(Dec-2021)                  | 1st   | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 2nd   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 3rd   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 4th   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
| 1st(Jan-2022)                  | 1st   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 2nd   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 3rd   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 4th   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
| 2nd(Jan-2022)                  | 1st   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 2nd   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 3rd   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 4th   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
| 3rd(Jan-2022)                  | 1st   | Getting acquainted with Internet connection, Browser, website  |

|               |     |   |
|---------------|-----|---|
|               | 2nd | URL, webpage, http, WWW, net browsing   |
|               | 3rd | URL, webpage, http, WWW, net browsing   |
|               | 4th | Creating E-Mail Id, sending and receiving E-mail Chatting                         |
| 4th(Jan-2022) | 1st | 1. Write a Program in C to find the greatest number among three numbers.          |
|               | 2nd | 2. Write a Program in C to find the average of n numbers by using for loop        |
|               | 3rd | 2. Write a Program in C to find the average of n numbers by using for loop        |
|               | 4th | 3. Write a program in C to determine whether a number is prime or not?            |
| 1st(Feb-2022) | 1st | 3. Write a program in C to determine whether a number is prime or not?            |
|               | 2nd | 4. Write a program in C to check whether a given number is palindrome or not?     |
|               | 3rd | 4. Write a program in C to check whether a given number is palindrome or not?     |
|               | 4th | 5. Write a program in C to compute the sine series?                               |
| 2nd(Feb-2022) | 1st | 6. Write a program in C to accept row wise and column wise element in a two       |
|               | 2nd | 7. Write a program in C to find the vowels in a given string.                     |
|               | 3rd | 8. Write a program in C to find the factorial of a number, by using recursion     |
|               | 4th | 9. Write a program in C to find the sum of Fibonacci series, by using function.   |
|               |     | 10. Write a program in C to accept a number from keyboard and print it in reverse |

  
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 Angul  
 05/11/2021

ALNMB  
 5/11/2021  
 Lect. (CA)



# LESSON PLAN

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|--------------------------------|---|--|-------------------|
| Discipline : Civil Engg.       | Semester : 1st                                    | Name of the Teaching Faculty : Miss Bidyut Prabha Pradhan                    |                   |
| Subject : Computer Application | No. of days/Per weeks Class Allotted<br>Weeks : 4 | Semester : 1st   | No. of Weeks : 15 |
| Weeks                          | Class day   | Theory   |                   |
| 1st(Nov- 2021)                 | 1st   | Introduction to Computer   |                   |
|                                | 2nd   | Evolution of Computer, Generation Of Computer                                |                   |
|                                | 3rd   | Classification Of Computer   |                   |
|                                | 4th   | Basic Organisation of Computer With Functional Block Diagram                 |                   |
| 2nd(Nov- 2021)                 | 1st   | Input Devices ,CPU ,Output Devices,Memory Classification                     |                   |
|                                | 2nd   | Software concept, System software, Application software                      |                   |
|                                | 3rd   | Overview of Operating System Objectives                                      |                   |
|                                | 4th   | Functions of O.S ,   |                   |
| 3rd(Nov- 2021)                 | 1st   | Features of DOS, Windows and UNIX  |                   |
|                                | 2nd   | Programming Languages Compiler, interpreter Computer Virus                   |                   |
|                                | 3rd   | Different Types of computer virus  |                   |
|                                | 4th   | Detection and prevention of Virus  |                   |
| 4th(Nov- 2021)                 | 1st   | Application of computers in different Domain                                 |                   |
|                                | 2nd   | Networking concept, Protocol, Connecting Media, Data Transmission Mode       |                   |
|                                | 3rd   | Network Topologies, Types of Network   |                   |
|                                | 4th   | Networking Devices like Hub, Repeater, Switch, Bridge, Router, Gateway & NIC |                   |
| 1st(Dec- 2021)                 | 1st   | Internet Services like E-Mail, WWW, FTP, Chatting                            |                   |
|                                | 2nd   | Internet Conferencing,   |                   |
|                                | 3rd   | Electronic Newspaper & Online Shopping                                       |                   |
|                                | 4th   | Different types of Internet connectivity and ISP                             |                   |
| 2nd(Dec- 2021)                 | 1st   | Different types of Internet connectivity and ISP                             |                   |
|                                | 2nd   | Concept of File and Folder   |                   |
|                                | 3rd   | File Access and Storage methods. Sequential, Direct, ISAM                    |                   |
|                                | 4th   | File Access and Storage methods. Sequential, Direct, ISAM                    |                   |
| 3rd(Dec- 2021)                 | 1st   | Data Capture, Data storage   |                   |
|                                | 2nd   | Data Processing and Retrieval  |                   |
|                                | 3rd   | Algorithm, Pseudo code and Flowchart Generation of Programming Languages     |                   |
|                                | 4th   | Algorithm, Pseudo code and Flowchart Generation of Programming Languages     |                   |
| 4th(Dec- 2021)                 | 1st   | Structured Programming Language  |                   |
|                                | 2nd   | Examples of Problem solving through Flowchart                                |                   |
|                                | 3rd   | Examples of Problem solving through Flowchart                                |                   |
|                                | 4th   | Constants, Variables and Data types in C                                     |                   |
| 1st(Jan-2022)                  | 1st   | Constants, Variables and Data types in C                                     |                   |
|                                | 2nd   | Managing Input and Output operations.  |                   |
|                                | 3rd   | Operators, Expressions, Type conversion & Typecasting                        |                   |
|                                | 4th   | Managing Input and Output operations.  |                   |
| 2nd(Jan-2022)                  | 1st   | Operators, Expressions, Type conversion & Typecasting                        |                   |
|                                | 2nd   | Decision Control and Looping Statements                                      |                   |
|                                | 3rd   | (If, If-else, If-else-if, Switch, While)                                     |                   |
|                                | 4th   | Do while,  |                   |
| 3rd(Jan-2022)                  | 1st   | For, Break, Continue & Goto  |                   |
|                                | 2nd   | Programming Assignments using the above features                             |                   |
|                                | 3rd   | Programming Assignments using the above features                             |                   |
|                                | 4th   | Programming Assignments using the above features                             |                   |
| 4th(Jan-2022)                  | 1st   | Programming Assignments using the above features                             |                   |
|                                | 2nd   | Programming Assignments using the above features                             |                   |
|                                | 3rd   | Functions and Passing Parameters to the Function (Call by Value)             |                   |
|                                | 4th   | Call By Reference)   |                   |
| 1st(Feb-2022)                  | 1st   | Scope of Variables and Storage Classes                                       |                   |
|                                | 2nd   | Recursion Function and Types of Recursion                                    |                   |
|                                | 3rd   | One Dimensional Array and Multidimensional Array                             |                   |
|                                | 4th   | String Operations and pointers, Structure and Union Concept Only             |                   |
| 2nd(Feb-2022)                  | 1st   | Revision   |                   |
|                                | 2nd   | Sample Paper Practice  |                   |
|                                | 3rd   | Sample Paper Practice  |                   |
|                                | 4th   | Sample Paper Practice  |                   |
| 3rd(Feb-2022)                  | 1st   | Sample Paper Practice  |                   |
|                                | 2nd   | Sample Paper Practice  |                   |
|                                | 3rd   | Sample Paper Practice  |                   |
|                                | 4th   | Sample Paper Practice  |                   |

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Am Angul

Bpradhan  
5/11/21  
Leet CSE



# LESSON PLAN

| Discipline : Civil             | Semester : 1st                                 | Name of the Teachnig Faculty : Miss Bidyut Prabha Pradhan  |
|--------------------------------|--|--|
| Subject : Computer Application | No.of days/Per weeks<br>Class Alloted Weeks :4 | Semester :1st<br>No.of Weeks : 15  |
| Weeks                          | Class day                                      | Practical  |
| 1st(Nov 2021)                  | 1st  | Identification of different components of Computer Switch on and Booting   |
|                                | 2nd  | Study of device and power supply form factor of Personal Computer<br>System Identification of various Mother Board components Identification |
|                                | 3rd  | Identification of different ports  |
|                                | 4th  | type of connectors, and their purpose  |
| 2nd(Nov-2021)                  | 1st  | Case Identification and Study of ROM   |
|                                | 2nd  | RAM, Adapter Cards   |
|                                | 3rd  | Expansion Slots,SATA connectors  |
|                                | 4th  | Study of Adapters and Converters   |
| 3rd(Nov-2021)                  | 1st  | Study of various types of LAB Safety measures (General Safety, Electrical Safety,  |
|                                | 2nd  | Analysis of various Power Fluctuation Types (Blackout, Brownout, Noise, Spike,   |
|                                | 3rd  | Power Protection Devices (Surge suppressor, UPS, Standby power supply)   |
|                                | 4th  | Procedures for proper disposal or recycling of hazardous computer components   |
| 4th(Nov-2021)                  | 1st  | Toner Kits, Cartridges   |
|                                | 2nd  | Chemical Solvents and Aerosol Cans)  |
|                                | 3rd  | ESD tools, Hand tools,   |
|                                | 4th  | cable tools,   |
| 1st(Dec-2021)                  | 1st  | Cleaning tools, Diagnostic tools),   |
|                                | 2nd  | Disk Management Tools  |
|                                | 3rd  | Basic DOS commands (CLS, DIR, DATE, TIME, VERSION  |
|                                | 4th  | MD, CD, RD,  |
| 2nd(Dec-2021)                  | 1st  | DEL, COPYREN,  |
|                                | 2nd  | USE OF WILD CARDS, PATH),  |
|                                | 3rd  | Basic Windows OS operations, MOUSE OPERATIONS, Utilities and Accessories,  |
|                                | 4th  | Basic operations of Word Processing Package. (MS-Word)   |
| 3rd(Dec-2021)                  | 1st  | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 2nd  | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 3rd  | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 4th  | Basic operations of Word Processing Package. (MS-Word)   |
| 4th(Dec-2021)                  | 1st  | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 2nd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 3rd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 4th  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
| 1st(Jan-2022)                  | 1st  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 2nd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 3rd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 4th  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
| 2nd(Jan-2022)                  | 1st  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 2nd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 3rd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 4th  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
| 3rd(Jan-2022)                  | 1st  | Getting acquainted with Internet connection, Browser, website  |
|                                | 2nd  | URL, webpage, http, WWW, net browsing  |
|                                | 3rd  | URL, webpage, http, WWW, net browsing  |
|                                | 4th  | Creating E-Mail Id, sending and receiving E-mail Chatting  |

|               |     |   |
|---------------|-----|---|
| 4th(Jan-2022) | 1st | 1. Write a Program in C to find the greatest number among three numbers.          |
|               | 2nd | 2. Write a Program in C to find the average of n numbers by using for loop        |
|               | 3rd | 2. Write a Program in C to find the average of n numbers by using for loop        |
|               | 4th | 3. Write a program in C to determine whether a number is prime or not?            |
| 1st(Feb-2022) | 1st | 3. Write a program in C to determine whether a number is prime or not?            |
|               | 2nd | 4. Write a program in C to check whether a given number is palindrome or not?     |
|               | 3rd | 4. Write a program in C to check whether a given number is palindrome or not?     |
|               | 4th | 5. Write a program in C to compute the sine series?                               |
| 2nd(Feb-2022) | 1st | 6. Write a program in C to accept row wise and column wise element in a two       |
|               | 2nd | 7. Write a program in C to find the vowels in a given string.                     |
|               | 3rd | 8. Write a program in C to find the factorial of a number, by using recursion     |
|               | 4th | 9. Write a program in C to find the sum of Fibonacci series, by using function.   |
|               |     | 10. Write a program in C to accept a number from keyboard and print it in reverse |

  
 Principal  
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 Angul  
 05/11/21

Apuradhan  
 5/11/21  
 Lect(CSE)



# LESSON PLAN

| Discipline :Electrical Engg.   | Semester : 2nd                                 | Name of the Teaching Faculty : Miss Bidyut Prabha Pradhan/Mr.Asit Ranjan Prusty |                  |
|--------------------------------|--|---|------------------|
| Subject : Computer Application | No.of days/Per weeks Class Alloted<br>Weeks :4 | Semester :2nd   | No.of Weeks : 13 |
| Weeks                          | Class day                                      | Theory  |                  |
| 3rd(March- 2022)               | 1st  | Introduction to Computer  |                  |
|                                | 2nd  | Evolution of Computer,Generation Of Computer                                    |                  |
|                                | 3rd  | Classification Of Computer  |                  |
|                                | 4th  | Basic Organisation of Computer With Functional Block Diagram                    |                  |
| 4th(March- 2022)               | 1st  | Input Devices ,CPU ,Output Devices,Memory Classification                        |                  |
|                                | 2nd  | Software concept, System software, Application software                         |                  |
|                                | 3rd  | Overview of Operating System Objectives   |                  |
|                                | 4th  | Types of Operating System: Batch Processing, Multiprogramming, Time Sharing OS  |                  |
| 1st(April-2022)                | 1st  | Features of DOS, Windows and UNIX   |                  |
|                                | 2nd  | Programming Languages Compiler, interpreter Computer Virus                      |                  |
|                                | 3rd  | Different Types of computer virus   |                  |
|                                | 4th  | Detection and prevention of Virus   |                  |
| 2nd(April-2022)                | 1st  | Application of computers in different Domain                                    |                  |
|                                | 2nd  | Networking concept, Protocol, Connecting Media, Data Transmission Mode          |                  |
|                                | 3rd  | Network Topologies, Types of Network  |                  |
|                                | 4th  | Networking Devices like Hub, Repeater, Switch, Bridge, Router, Gateway & NIC    |                  |
| 3rd(April- 2022)               | 1st  | Internet Services like E-Mail, WWW, FTP, Chatting                               |                  |
|                                | 2nd  | Internet Conferencing,  |                  |
|                                | 3rd  | Electronic Newspaper & Online Shopping  |                  |
|                                | 4th  | Different types of Internet connectivity and ISP                                |                  |
| 4th(April-2022)                | 1st  | Different types of Internet connectivity and ISP                                |                  |
|                                | 2nd  | Concept of File and Folder  |                  |
|                                | 3rd  | File Access and Storage methods. Sequential, Direct, ISAM                       |                  |
|                                | 4th  | File Access and Storage methods. Sequential, Direct, ISAM                       |                  |
| 1st(May-2022)                  | 1st  | Data Capture, Data storage  |                  |
|                                | 2nd  | Data Processing and Retrieval   |                  |
|                                | 3rd  | Algorithm, Pseudo code and Flowchart Generation of Programming Languages        |                  |
|                                | 4th  | Algorithm, Pseudo code and Flowchart Generation of Programming Languages        |                  |
| 2nd(May-2022)                  | 1st  | Structured Programming Language   |                  |
|                                | 2nd  | Examples of Problem solving through Flowchart                                   |                  |
|                                | 3rd  | Examples of Problem solving through Flowchart                                   |                  |
|                                | 4th  | Constants, Variables and Data types in C  |                  |
| 3rd(May-2022)                  | 1st  | Constants, Variables and Data types in C  |                  |
|                                | 2nd  | Managing Input and Output operations.   |                  |
|                                | 3rd  | Operators, Expressions, Type conversion & Typecasting                           |                  |
|                                | 4th  | Managing Input and Output operations.   |                  |
| 4th(May-2022)                  | 1st  | Operators, Expressions, Type conversion & Typecasting                           |                  |
|                                | 2nd  | Decision Control and Looping Statements   |                  |
|                                | 3rd  | (If, If-else, If-else-if, Switch, While)  |                  |
|                                | 4th  | Do while,   |                  |
| 1st(June-2022)                 | 1st  | For, Break, Continue & Goto   |                  |
|                                | 2nd  | Programming Assignments using the above features                                |                  |
|                                | 3rd  | Programming Assignments using the above features                                |                  |
|                                | 4th  | Programming Assignments using the above features                                |                  |
| 2nd(June-2022)                 | 1st  | Programming Assignments using the above features                                |                  |
|                                | 2nd  | Functions and Passing Parameters to the Function (Call by Value)                |                  |
|                                | 3rd  | Call By Reference)  |                  |
|                                | 4th  | Scope of Variables and Storage Classes  |                  |
| 3rd(June-2022)                 | 1st  | Recursion Function and Types of Recursion                                       |                  |
|                                | 2nd  | One Dimensional Array and Multidimensional Array                                |                  |
|                                | 3rd  | String Operations and pointers,Structure and Union Concept Only                 |                  |
|                                | 4th  |   |                  |

Principal  
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Asit Ranjan Prusty  
14/3/22  
Lect. CEA

B. Pradhan  
14/3/22  
Lect CSE



# LESSON PLAN

|                                |  |  |                  |
|--------------------------------|--|--|------------------|
| Discipline : Electrical        | Semester : 2nd                                 | Name of the Teachnig Faculty :Mr Asit Ranjan Prusty/Miss Bidyut Prabha   |                  |
| Subject : Computer Application | No.of days/Per weeks<br>Class Alloted Weeks :4 | Semester : 2nd   | No.of Weeks : 13 |
| Weeks                          | Class day                                      | Practical  |                  |
| 3rd (March 2022)               | 1st  | Identification of different components of Computer Switch on and Booting Process   |                  |
|                                | 2nd  | Study of device and power supply form factor of Personal Computer System<br>Identification of various Mother Board components Identification |                  |
|                                | 3rd  | Identification of different ports  |                  |
|                                | 4th  | type of connectors, and their purpose  |                  |
| 4th(March-2022)                | 1st  | Case Identification and Study of ROM   |                  |
|                                | 2nd  | RAM, Adapter Cards   |                  |
|                                | 3rd  | Expansion Slots, SATA connectors   |                  |
|                                | 4th  | Study of Adapters and Converters   |                  |
| 1st (April-2022)               | 1st  | Study of various types of LAB Safety measures (General Safety, Electrical Safety, Fire   |                  |
|                                | 2nd  | Analysis of various Power Fluctuation Types (Blackout, Brownout, Noise, Spike, Power surge),   |                  |
|                                | 3rd  | Power Protection Devices (Surge suppressor, UPS, Standby power supply)   |                  |
|                                | 4th  | Procedures for proper disposal or recycling of hazardous computer components   |                  |
| 2nd(April-2022)                | 1st  | Toner Kits, Cartridges   |                  |
|                                | 2nd  | Chemical Solvents and Aerosol Cans)  |                  |
|                                | 3rd  | ESD tools, Hand tools,   |                  |
|                                | 4th  | cable tools,   |                  |
| 3rd(April-2022)                | 1st  | Cleaning tools, Diagnostic tools),   |                  |
|                                | 2nd  | Disk Management Tools  |                  |
|                                | 3rd  | Basic DOS commands (CLS, DIR, DATE, TIME, VERSION  |                  |
|                                | 4th  | MD, CD, RD,  |                  |
| 4th(April-2022)                | 1st  | DEL, COPYREN,  |                  |
|                                | 2nd  | USE OF WILD CARDS, PATH),  |                  |
|                                | 3rd  | Basic Windows OS operations, MOUSE OPERATIONS, Utilities and Accessories,  |                  |
|                                | 4th  | Basic operations of Word Processing Package. (MS-Word)   |                  |
| 1st(May-2022)                  | 1st  | Basic operations of Word Processing Package. (MS-Word)   |                  |
|                                | 2nd  | Basic operations of Word Processing Package. (MS-Word)   |                  |
|                                | 3rd  | Basic operations of Word Processing Package. (MS-Word)   |                  |
|                                | 4th  | Basic operations of Word Processing Package. (MS-Word)   |                  |
| 2nd(May-2022)                  | 1st  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 2nd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 3rd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 4th  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
| 3rd(May-2022)                  | 1st  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 2nd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 3rd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
|                                | 4th  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
| 4th(May-2022)                  | 1st  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
|                                | 2nd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
|                                | 3rd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
|                                | 4th  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
| 1st(June-2022)                 | 1st  | Getting acquainted with Internet connection, Browser, website  |                  |

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Govt. Polytechnic  
Angul

Apradhan  
14/3/22  
Lect CSE



|                |     |  |
|----------------|-----|--|
|                | 2nd | URL, webpage, http, WWW, net browsing  |
|                | 3rd | URL, webpage, http, WWW, net browsing  |
|                | 4th | Creating E-Mail Id, sending and receiving E-mail Chatting  |
| 2nd(June-2022) | 1st | 1. Write a Program in C to find the greatest number among three numbers.                           |
|                | 2nd | 2. Write a Program in C to find the average of n numbers by using for loop                         |
|                | 3rd | 3. Write a program in C to determine whether a number is prime or not?                             |
|                | 4th | 4. Write a program in C to check whether a given number is palindrome or not?                      |
| 3rd(June-2022) | 1st | 5. Write a program in C to compute the sine series?  |
|                | 2nd | 6. Write a program in C to accept row wise and column wise element in a two                        |
|                | 3rd | 7. Write a program in C to find the vowels in a given string.                                      |
|                | 4th | 8. Write a program in C to find the factorial of a number, by using recursion                      |
| 2nd(Feb-2022)  | 1st | 9. Write a program in C to find the sum of Fibonacci series, by using function.                    |
|                | 2nd | 9. Write a program in C to find the sum of Fibonacci series, by using function.                    |
|                | 3rd | 10. Write a program in C to accept a number from keyboard and print it in reverse order of entry?  |
|                | 4th | 10. Write a program in C to accept a number from keyboard and print it in reverse order of entry,? |



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| Discipline:<br><b>Civil &amp; Mechanical</b> | Semester: 1st                              | Name of the teaching faculty: <b>Shri Chinmaya Ku. Panda</b>   |
| Subject: <b>Engg. Physics(Th.2a)</b>         | No. of days/week class allotted: 04        | Semester From date: 25/10/2021 To date:31/01/2022<br>No. of weeks: 14  |
| Week   | Class Day                                  | Theory Topics  |
| <b>1<sup>st</sup></b>                        | <b>1<sup>st</sup></b>                      | Introduction to:<br><b>Engg. Physics (Th.2a) and its syllabus, Question paper pattern and motivation</b>   |
|  | <b>2<sup>nd</sup></b>                      | <b>Unit-1: UNIT &amp; DIMENSIONS</b>   |
|  | <b>3<sup>rd</sup></b>                      | <b>Physical quantities, Units, types of units and system of units</b>  |
|  | <b>4<sup>th</sup></b>                      | <b>Unit-1: UNIT &amp; DIMENSIONS</b><br><b>Dimension and dimensional formulae of physical quantities</b>   |
| <b>2<sup>nd</sup></b>                        | <b>1<sup>st</sup></b>                      | <b>Unit-1: UNIT &amp; DIMENSIONS</b><br><b>Principle of homogeneity and application of dimensional analysis: Checking the correctness of physical relations and Numerical</b>  |
|  | <b>2<sup>nd</sup></b>                      | <b>Unit-2: SCALARS AND VECTORS</b><br><b>Concept of scalar and vector quantities with definition, types of vectors, Rules of vector addition: Statements of Triangle law of vector addition</b>  |
|  | <b>3<sup>rd</sup></b>                      | <b>Unit-2: SCALARS AND VECTORS</b><br><b>Parallelogram law of vector addition and simple numericals, Concept on Resolution of vectors with simple numerical on Horizontal and vertical components</b>  |
|  | <b>4<sup>th</sup></b>                      | <b>Unit-2: SCALARS AND VECTORS</b><br><b>Vector multiplication: Dot product and Cross Product with simple numericals on dot and cross products</b>   |
| <b>3<sup>rd</sup></b>                        | <b>1<sup>st</sup> &amp; 2<sup>nd</sup></b> | <b>Unit-3: KINEMATICS</b><br><b>Concept of Rest and Motion with examples, Fundamental ideas on distance, displacement, speed, velocity, acceleration and force, equations of motion under gravity both for upward and downward motion</b>                                    |
|  | <b>3<sup>rd</sup></b>                      | <b>Unit-3: KINEMATICS</b><br><b>Circular motion: Conceptual idea on circular motion and terms related to circular motion such as angular displacement, angular velocity and angular acceleration.</b>  |
|  | <b>4<sup>th</sup></b>                      | <b>Unit-3: Kinematics</b><br><b>Derivations of Relation between- (i) Linear &amp; angular velocity, (ii) Linear &amp; Angular acceleration</b>   |
| <b>4<sup>th</sup></b>                        | <b>1<sup>st</sup> &amp; 2<sup>nd</sup></b> | <b>Unit-3: KINEMATICS</b><br><b>Projectile motion: Definition and examples, Expression for equation of Trajectory, Time of Flight, Maximum Height and Horizontal Range for a projectile fired at an angle, condition for maximum horizontal range with simple numericals</b> |
|  | <b>3<sup>rd</sup></b>                      | <b>Unit-4: WORK AND FRICTION</b><br><b>Definition of work, its formula and SI unit with simple numericals</b>  |
|  | <b>4<sup>th</sup></b>                      | <b>Unit-4: WORK AND FRICTION</b><br><b>Concept of friction with definition and simple examples, Types of friction</b>  |



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| 5 <sup>th</sup>  | 1 <sup>st</sup>                         | Unit-4: WORK AND FRICTION<br>Definition with concept on limiting friction, and laws of limiting friction (statement only)   |
|                  | 2 <sup>nd</sup>                         | Unit-4: WORK AND FRICTION<br>Theory on Coefficient of Friction and simple numericals  |
|                  | 3 <sup>rd</sup>                         | Unit-4: WORK AND FRICTION<br>Methods to reduce friction with practical examples   |
|                  | 4 <sup>th</sup>                         | Unit-5: GRAVITATION<br>Introduction, a detail explanation on Newton's Laws of Gravitation (1 <sup>st</sup> and 2 <sup>nd</sup> law)   |
| 6 <sup>th</sup>  | 1 <sup>st</sup>                         | Unit-5: GRAVITATION<br>A detail explanation on Newton's Laws of Gravitation (3 <sup>rd</sup> law) and Definition of Universal Gravitational Constant (G) with its unit and dimensions   |
|                  | 2 <sup>nd</sup><br>&<br>3 <sup>rd</sup> | Unit-5: GRAVITATION<br>Definition and concept of acceleration due to gravity (g), Relation between 'g' and 'G' and definition of mass and weight  |
|                  | 4 <sup>th</sup><br>&                    | Unit-5: GRAVITATION<br>Explanation (No derivation) on variation of 'g' with altitude and depth, statements on Kepler's Laws of Planetary motion   |
|                  | 1 <sup>st</sup>                         | Unit-6: OSCILLATIONS AND WAVES<br>Definition and examples on Simple Harmonic Motion (SHM), expressions for displacement, velocity and acceleration of a body or particle in SHM   |
| 7 <sup>th</sup>  | 2 <sup>nd</sup><br>&<br>3 <sup>rd</sup> | Unit-6: OSCILLATIONS AND WAVES<br>Wave Motion (Definition & Concept), Transverse and Longitudinal wave motion (Definition, examples and Comparison)   |
|                  | 4 <sup>th</sup><br>&                    | Unit-6: OSCILLATIONS AND WAVES<br>Wave Motion (Definition & Concept), Transverse and Longitudinal wave motion (Definition, examples and Comparison)   |
|                  | 1 <sup>st</sup>                         | Unit-6: OSCILLATIONS AND WAVES<br>Wave Motion (Definition & Concept), Transverse and Longitudinal wave motion (Definition, examples and Comparison)   |
|                  | 2 <sup>nd</sup><br>&<br>3 <sup>rd</sup> | Unit-6: OSCILLATIONS AND WAVES<br>Wave parameters and Establish a relation between velocity, frequency and Time period, Ultrasonics-Definition, properties & Applications   |
| 8 <sup>th</sup>  | 4 <sup>th</sup>                         | Unit-7: HEAT AND THERMODYNAMICS<br>Heat & temperature-Definition and difference, Units of Heat (FPS, CGS, MKS & SI)   |
|                  | 1 <sup>st</sup><br>&<br>2 <sup>nd</sup> | Unit-7: HEAT AND THERMODYNAMICS<br>Fundamental ideas on Specific heat, Change of State and Latent Heat with simple numericals   |
|                  | 3 <sup>rd</sup> , 4 <sup>th</sup>       | Unit-7: HEAT AND THERMODYNAMICS<br>Concept on Thermal expansion and Coefficient of linear ( $\alpha$ ), superficial ( $\beta$ ) and cubical ( $\gamma$ ) expansions of Solids, Relation between $\alpha$ , $\beta$ and $\gamma$ |
|                  | &<br>1 <sup>st</sup>                    | Unit-7: HEAT AND THERMODYNAMICS<br>Concept on Thermal expansion and Coefficient of linear ( $\alpha$ ), superficial ( $\beta$ ) and cubical ( $\gamma$ ) expansions of Solids, Relation between $\alpha$ , $\beta$ and $\gamma$ |
| 9 <sup>th</sup>  | 2 <sup>nd</sup><br>&<br>3 <sup>rd</sup> | Unit-7: HEAT AND THERMODYNAMICS<br>Definition and Relation between Work and Heat, Joule's Mechanical Equivalent of Heat, Statement and explanation on 1 <sup>st</sup> law of thermodynamics                                     |
|                  | 4 <sup>th</sup>                         | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
|                  | & 1 <sup>st</sup>                       | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
|                  |   | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
| 10 <sup>th</sup> |   | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
|                  |   | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
|                  |   | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
|                  |   | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |



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| 11 <sup>th</sup> | 2 <sup>nd</sup>                   | Unit-8: OPTICS<br>Concept and Explanation of Total Internal Reflection and Critical angle  |
|                  | 3 <sup>rd</sup>                   | Unit-8: OPTICS<br>Definition, Properties and Applications on Fiber Optics  |
|                  | 4 <sup>th</sup> &                 | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Concept of Electric field and Electric field intensity, Statement and Explanation of Coulomb's law and definition of Unit charge, Absolute & Relative Permittivity(Definition, Relation & Unit).  |
| 12 <sup>th</sup> | 1 <sup>st</sup>                   | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Electric potential & Electric potential difference(Definition, formula & SI units), Concept of capacitor and capacitance, Series and parallel combination of capacitors: Formula for equivalent capacitance and simple numericals   |
|                  | 2 <sup>nd</sup> & 3 <sup>rd</sup> | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Fundamental idea on magnet, Coulomb's law in magnetism and definition of Unit pole  |
|                  | 4 <sup>th</sup>                   | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Fundamental idea on magnet, Coulomb's law in magnetism and definition of Unit pole  |
| 13 <sup>th</sup> | 1 <sup>st</sup>                   | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Definition of magnetic field and Magnetic field Intensity (H) with its formula and SI unit, Magnetic lines of force- Definition and Properties, ELECTROSTATICS AND MAGNETOSTATICS<br>Magnetic flux( $\phi$ ) and Magnetic flux density (B)                                      |
|                  | 2 <sup>nd</sup>                   | Unit-10: CURRENT ELECTRICITY<br>Introduction to Electric Current, Ohm's law and its applications, Series and parallel combination of resistors: Formula for equivalent resistance and simple numericals  |
|                  | 3 <sup>rd</sup> & 4 <sup>th</sup> | Unit-10: CURRENT ELECTRICITY<br>Kirchhoff's laws: Statements & Explanation with diagram, Application of Kirchhoff's laws to Wheatstone bridge- Derivation of balance condition of Wheatstone bridge  |
| 14 <sup>th</sup> | 1 <sup>st</sup> & 2 <sup>nd</sup> | Unit-11: ELECTROMAGNETISM AND ELECTROMAGNETIC INDUCTION<br>Introduction, Force acting on a current carrying conductor placed in a uniform magnetic field, Fleming's left hand rule, Statement on Faraday's Laws of Electromagnetic Induction & Lenz's law, Fleming's Right Hand Rule, Comparison between Fleming's RHR & LHR |
|                  | 3 <sup>rd</sup> & 4 <sup>th</sup> | Unit-12: MODERN PHYSICS<br>Introduction to LASER and laser beam, its principle: Population inversion & Optical Pumping, Concept on Wireless Transmission- Ground waves, Sky waves & Space Waves  |

Tabbara  
(Teacher Sanjay Mohanta)  
Sr. Lect. Math & Ec.  
H.O. D. Math & Ec.

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Principal

Govt. Polytechnic

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Chinnmaya Kumar Panda.  
Lecturer in Physics

Gau. Polytechnic

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| Discipline:<br>Civil/Electrical<br>/Mechanical | Semester: 1st                         | Name of the Teaching Faculty: MONALISA SAHOO<br>PTGF   |
| Subject: Engg.<br>Mathematics<br>II<br>(Th 3)  | No. of days/week<br>class allotted: 6 | Semester from date: 25/10/2021 To date: 31/01/2022<br>No. of weeks: 14   |
| Week   | Class Day                             | Theory Topics  |
| 1 <sup>st</sup>                                | 1 <sup>st</sup>                       | Chapter 2: LIMITS and CONTINUITY:<br>a) Definition of a function (Based on set theory)<br>b) Types of functions<br>i) Constant function,<br>ii) Identity function<br>iii) Absolute value function<br>iv) The Greatest Integer Function |
|  | 2 <sup>nd</sup>                       | v) Trigonometric function with example<br>vi) Exponential function<br>vii) Logarithmic function<br>With examples   |
|  | 3 <sup>rd</sup>                       | c) Introduction of limit: definition, example<br>d) Existence of limit with example  |
|  | 4 <sup>th</sup>                       | e) Methods of evaluation of limit  |
|  | 5 <sup>th</sup>                       | Methods of evaluation of limit continues with some examples  |
|  | 6 <sup>th</sup> (Tutorial class)      | Problems on existence of limit and evaluation of limit   |
| 2 <sup>nd</sup>                                | 1 <sup>st</sup>                       | i) $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a} = na^{n-1}$<br>ii) $\lim_{x \rightarrow 0} \frac{a^x - 1}{x} = \ln a = \log_e a$<br>Some problems using these formulae  |
|  | 2 <sup>nd</sup>                       | iii) $\lim_{x \rightarrow 0} \frac{e^x - 1}{x} = 1$<br>iv) $\lim_{x \rightarrow 0} (1+x)^{\frac{1}{x}} = e$<br>Some problems using these formulae  |
|  | 3 <sup>rd</sup>                       | v) $\lim_{x \rightarrow \infty} (1 + \frac{1}{x})^x = e$<br>vi) $\lim_{x \rightarrow 0} \frac{\log(1+x)}{x} = 1$<br>Some problems using these formulae   |
|  | 4 <sup>th</sup>                       | vii) $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$<br>viii) $\lim_{x \rightarrow 0} \frac{\tan x}{x} = 1$ Some problems using these  |



|                 |                                  | formulae   |
|-----------------|----------------------------------|--|
|                 | 5 <sup>th</sup>                  | f) Definition of continuity of a function at a point, Existence of continuity with example   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on limit and continuity   |
| 3 <sup>rd</sup> | 1 <sup>st</sup>                  | <b>Chapter 3: DERIVATIVES:</b><br>a) Derivative of a function at a point<br>b) Algebra of derivative                                 |
|                 | 2 <sup>nd</sup>                  | c) Derivative of standard functions:<br>$x^n, a^x, \log x, e^x$  |
|                 | 3 <sup>rd</sup>                  | Derivative of standard functions continues:<br>$\sin x, \cos x, \tan x$  |
|                 | 4 <sup>th</sup>                  | Derivative of standard functions continues:<br>$\cot x, \sec x, \csc x, \sin^{-1} x$   |
|                 | 5 <sup>th</sup>                  | Derivative of standard functions continues:<br>$\cos^{-1} x, \tan^{-1} x, \cot^{-1} x$   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problem solving on trigonometric functions   |
| 4 <sup>th</sup> | 1 <sup>st</sup>                  | Derivative of standard functions continues:<br>$\sec^{-1} x, \csc^{-1} x,$<br>d) Derivatives of composite function                   |
|                 | 2 <sup>nd</sup>                  | Derivatives of composite function (Chain rule) continues with examples   |
|                 | 3 <sup>rd</sup>                  | Derivatives of composite function (Chain rule) continues with examples   |
|                 | 4 <sup>th</sup>                  | e) Methods of differentiation of,<br>i) Parametric function with examples  |
|                 | 5 <sup>th</sup>                  | Methods of differentiation of<br>ii) Implicit function with examples   |
|                 | 6 <sup>th</sup> (Tutorial class) | Solving problems on derivatives of parametric function and implicit function   |
| 5 <sup>th</sup> | 1 <sup>st</sup>                  | Methods of differentiation of<br>iii) Logarithmic function with example  |
|                 | 2 <sup>nd</sup>                  | Methods of differentiation of<br>iv) A function wrt another function with example  |
|                 | 3 <sup>rd</sup>                  | f) Applications of derivatives:<br>i) Successive differentiation (up to second order)<br>Some problems on successive differentiation |
|                 | 4 <sup>th</sup>                  | Solving problems on successive differentiation   |
|                 | 5 <sup>th</sup>                  | ii) Partial differentiation (function of two variables up to second order)   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on derivative of logarithmic function and successive differentiation.   |
| 6 <sup>th</sup> | 1 <sup>st</sup>                  | Partial differentiation continues  |
|                 | 2 <sup>nd</sup>                  | Some more problems on partial differentiation  |
|                 | 3 <sup>rd</sup>                  | Revision of derivative   |
|                 | 4 <sup>th</sup>                  | <b>Chapter 4: INTEGRATION:</b>   |

|                 |                                  |  |
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|                 |                                  | a) Definition of integration as inverse of differentiation<br>b) Integral of standard functions  |
|                 | 5 <sup>th</sup>                  | c) Methods of integration:   |
|                 | 6 <sup>th</sup> (Tutorial class) | i) Integration by substitution with examples<br>Problems on integration by substitution  |
| 7 <sup>th</sup> | 1 <sup>st</sup>                  | ii) Integration by parts with examples   |
|                 | 2 <sup>nd</sup>                  | Problems on integration by parts   |
|                 | 3 <sup>rd</sup>                  | d) Integration of the following forms<br>i) $\int \frac{dx}{x^2+a^2}$ ii) $\int \frac{dx}{x^2-a^2}$ iii) $\int \frac{dx}{a^2-x^2}$<br>iv) $\int \frac{dx}{\sqrt{2-x^2}}$ with examples                     |
|                 | 4 <sup>th</sup>                  | Integration of the following forms<br>v) $\int \frac{dx}{\sqrt{a^2-x^2}}$ vi) $\int \frac{dx}{\sqrt{x^2-a^2}}$ vii) $\int \frac{dx}{x\sqrt{x^2+a^2}}$ viii) $\int \frac{dx}{\sqrt{a^2-x^2}}$ with examples |
|                 | 5 <sup>th</sup>                  | Integration of the following forms   |
|                 | 6 <sup>th</sup> (Tutorial class) | ix) $\int \sqrt{a^2+x^2} dx$ x) $\int \sqrt{x^2-a^2} dx$ with problems<br>Problems on integration by parts   |
| 8 <sup>th</sup> | 1 <sup>st</sup>                  | e) Definite integrals and properties<br>i) $\int_0^a f(x) dx = \int_0^a f(a-x) dx$<br>ii) $\int_a^b f(x) dx = -\int_b^a f(x) dx$<br>With problems  |
|                 | 2 <sup>nd</sup>                  | iii) $\int_a^c f(x) dx = \int_a^b f(x) dx + \int_b^c f(x) dx, a < b < c$<br>iv) $\int_{-a}^a f(x) dx = 0$ , if $f(x)$ is odd<br>$= 2 \int_0^a f(x) dx$ , if $f(x)$ is even<br>With examples                |
|                 | 3 <sup>rd</sup>                  | Solving problems on properties of definite integration   |
|                 | 4 <sup>th</sup>                  | f) Application of integration  |



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|                  |                                  | i) Area enclosed by a curve and X-axis and example   |
|                  | 5 <sup>th</sup>                  | ii) Area of a circle with centre at origin   |
|                  | 6 <sup>th</sup> (Tutorial class) | Solving problems on application of integration   |
| 9 <sup>th</sup>  | 1 <sup>st</sup>                  | <b>Chapter 5: DIFFERENTIAL EQUATION:</b><br>Definition, ODE, PDE,<br>a) Order and degree of a differential equation  |
|                  | 2 <sup>nd</sup>                  | Determining Order and degree of a differential equation with examples  |
|                  | 3 <sup>rd</sup>                  | b) Solution of differential equation<br>Definition   |
|                  | 4 <sup>th</sup>                  | i) By method of separation of variable with examples<br>method of separation of variable continues with problem solving  |
|                  | 5 <sup>th</sup>                  | <b>Some more problems on separation of variables</b>   |
|                  | 6 <sup>th</sup> (Tutorial class) | Problems on determination of degree and order of a differential equation   |
| 10 <sup>th</sup> | 1 <sup>st</sup>                  | ii) Linear equation example  |
|                  | 2 <sup>nd</sup>                  | $\frac{dy}{dx}$<br>Solving linear equation $\frac{dy}{dx} + Py = Q$ , where P, Q are functions of x  |
|                  | 3 <sup>rd</sup>                  | Problems on linear differential equation   |
|                  | 4 <sup>th</sup>                  | Some more Problems on linear differential equation   |
|                  | 5 <sup>th</sup>                  | <b>Revision of differential equation</b>   |
|                  | 6 <sup>th</sup> (Tutorial class) | <b>Revision of differential equation</b>   |
| 11 <sup>th</sup> | 1 <sup>st</sup>                  | <b>Chapter 1: VECTOR ALGEBRA:</b><br>a) Introduction: definition of scalar, vector with examples<br>b) Types of vectors: null vector, parallel vector, collinear vectors with examples |
|                  | 2 <sup>nd</sup>                  | c) Representation of a vector  |
|                  | 3 <sup>rd</sup>                  | d) Magnitude and direction of vectors with examples  |
|                  | 4 <sup>th</sup>                  | e) Addition and subtraction of vectors with examples   |
|                  | 5 <sup>th</sup>                  | Properties of vector addition and position vector  |
|                  | 6 <sup>th</sup> (Tutorial class) | Problems on magnitude and<br>f) position vector  |
| 12 <sup>th</sup> | 1 <sup>st</sup>                  | g) scalar product of two vectors with examples   |
|                  | 2 <sup>nd</sup>                  | h) Geometrical meaning of dot product  |
|                  | 3 <sup>rd</sup>                  | Problems on dot product  |
|                  | 4 <sup>th</sup>                  | i) Angle between two vectors with example  |
|                  | 5 <sup>th</sup>                  | j) Scalar and vector projection of two vectors with examples   |
|                  | 6 <sup>th</sup> (Tutorial class) | Problems on Scalar and vector projection of two vectors  |

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|------------------|-----------------|---|
| 13 <sup>th</sup> | 1 <sup>st</sup> | k) Vector product and geometrical meaning |
|                  | 2 <sup>nd</sup> | Problems on vector product                |
|                  | 3 <sup>rd</sup> | Revision                                  |
|                  | 4 <sup>th</sup> |   |
|                  | 5 <sup>th</sup> |   |
|                  | 6 <sup>th</sup> |   |
| 14 <sup>th</sup> | 1 <sup>st</sup> | Previous year question discussion         |
|                  | 2 <sup>nd</sup> |   |
|                  | 3 <sup>rd</sup> |   |
|                  | 4 <sup>th</sup> |   |
|                  | 5 <sup>th</sup> |   |
|                  | 6 <sup>th</sup> |   |

Trainers  
 (Tushar Ranjan Mahanta)  
 Sr. Lect. Mathematics  
 H.O.D. Math & Sci.

Manalisa Saheo.  
 PT&F, Mathematics

C.S.

Principal  
**Govt. Polytechnic**  
 Angul



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| Discipline:<br><b>Electrical Engg.</b> | Semester :<br><b>1st</b>                          | Name of the Teaching Faculty: <b>Swatileena Satapathy</b>  |
| Subject: <b>ENGG CHEMISTRY</b>         | No. of days/per week class allotted:<br><b>04</b> | Semester From date : 25/10/2021 to 31/01/2022<br><br>No. of Weeks: 14  |
| Week                                   | Class Day   | <b>Theory</b>  |
| <b>1<sup>ST</sup></b>                  | <b>1<sup>ST</sup></b>                             | Fundamental particles ( electron, proton & neutron), Definition, mass and charge .   |
|  | <b>2<sup>ND</sup></b>                             | Rutherford's Atomic model ( Experiment, postulates and limitations)  |
|  | <b>3<sup>RD</sup></b>                             | Atomic mass and mass number, Definition, examples and properties of Isotopes, isobars and isotones, Bohr's Atomic model (Postulates only), |
|  | <b>4<sup>TH</sup></b>                             | Bohr's Atomic model (contd), Bohr-Bury scheme, Aufbau's principle,   |
| <b>2<sup>ND</sup></b>                  | <b>1<sup>ST</sup></b>                             | Hund's rule, Pauli's Exclusion Principle, Electronic configuration (up to atomic no 30)  |
|  | <b>2<sup>ND</sup></b>                             | Chemical Bonding: Definition, Types, Electrovalent bond: NaCl, MgCl <sub>2</sub>   |
|  | <b>3<sup>RD</sup></b>                             | Covalent Bond with examples H <sub>2</sub> , Cl <sub>2</sub> , O <sub>2</sub> , N <sub>2</sub> , H <sub>2</sub> O, CH <sub>4</sub>         |
|  | <b>4<sup>TH</sup></b>                             | Covalent Bonding in NH <sub>3</sub> ,Coordinate bond NH <sub>4</sub> <sup>+</sup> , SO <sub>2</sub>  |
| <b>3<sup>RD</sup></b>                  | <b>1<sup>ST</sup></b>                             | Concept of Arrhenius, Bronsted & Lowry for acid and base with examples ( Postulates and limitations only).                                 |
|  | <b>2<sup>ND</sup></b>                             | Concept of Lewis theory( Postulates and limitations only). Neutralization of acid & base,  |
|  | <b>2<sup>ND</sup></b>                             | Types of salts ( Normal, acidic, basic, double, complex and mixed salts, definitions with 2 examples from each).                           |
|  | <b>3<sup>RD</sup></b>                             | Definitions of atomic weight, molecular weight, Equivalent Weight, Determination of equivalent weight of Acid                              |
|  | <b>4<sup>TH</sup></b>                             | Determination of equivalent weight of Acid, Base and Salt, Modes of expression of the concentrations ( Molarity with simple problems)      |
| <b>4<sup>TH</sup></b>                  | <b>1<sup>ST</sup></b>                             | Modes of expression of the concentrations (Normality & Molality) with Simple Problems  |
|  | <b>2<sup>ND</sup></b>                             | pH of solution ( definition with simple numericals )   |
|  | <b>3<sup>RD</sup></b>                             | Problems on pH(contd.), Importance of pH in industry ( sugar, textile, paper industries only)  |
|  | <b>4<sup>TH</sup></b>                             | Definition and types (Strong & weak) of Electrolytes with example.   |
| <b>5<sup>TH</sup></b>                  | <b>1<sup>ST</sup></b>                             | Electrolysis (Principle & process) with example of NaCl (fused and aqueous solution).  |
|  | <b>2<sup>ND</sup></b>                             | Faraday's 1st law of Electrolysis (Statement, mathematical expression, numerical)  |
|  | <b>3<sup>RD</sup></b>                             | Faraday's 1st law of Electrolysis (Statement, mathematical expression)   |
|  | <b>4<sup>TH</sup></b>                             | Industrial application of Electrolysis- Electroplating ( Zinc only)  |

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| 6 <sup>TH</sup>  | 1 <sup>ST</sup> | Definition of Corrosion, Types of Corrosion- Atmospheric Corrosion  |
|                  | 2 <sup>ND</sup> | Waterline corrosion. Mechanism of rusting of Iron only. Protection from Corrosion by (i) Alloying and (ii) Galvanization      |
|                  | 3 <sup>RD</sup> | Definition of alloy. Types of alloys ( Ferro, Non Ferro & Amalgam) with example   |
|                  | 4 <sup>TH</sup> | Composition and uses of Brass, Bronze, Alnico, Duralumin  |
| 7 <sup>TH</sup>  | 1 <sup>ST</sup> | Sources of water, Soft water, Hard water, hardness, types of Hardness (temporary or carbonate and permanent or non-carbonate) |
|                  | 2 <sup>ND</sup> | Removal of hardness by lime soda method ( hot lime—Principle, process & advantages )  |
|                  | 3 <sup>RD</sup> | Advantages of Hot lime over cold lime process   |
|                  | 4 <sup>TH</sup> | Organic Ion exchange method ( principle, process)   |
| 8 <sup>TH</sup>  | 1 <sup>ST</sup> | (Regeneration of exhausted resins).   |
|                  | 2 <sup>ND</sup> | Definition of lubricant, Types ( solid, liquid and semisolid with examples only )   |
|                  | 3 <sup>RD</sup> | Specific uses of lubricants ( Graphite, Oils, Grease), Purpose of lubrication   |
|                  | 4 <sup>TH</sup> | Definition and classification of fuel, Definition of calorific value of fuel, Choice of good fuel                             |
| 9 <sup>TH</sup>  | 1 <sup>ST</sup> | Liquid: Diesel, Petrol, and Kerosene --- Composition and uses   |
|                  | 2 <sup>ND</sup> | Gaseous: Producer gas and Water gas (Composition and uses).   |
|                  | 3 <sup>RD</sup> | Elementary idea about LPG, CNG and coal gas (Composition and uses only).  |
|                  | 4 <sup>TH</sup> | Definition of Monomer, Polymer, Homo-polymer, Co-polymer and Degree of polymerization   |
| 10 <sup>TH</sup> | 1 <sup>ST</sup> | Difference between Thermosetting and Thermoplastic  |
|                  | 2 <sup>ND</sup> | Composition and uses of Polythene, & Poly-Vinyl Chloride and Bakelite   |
|                  | 3 <sup>RD</sup> | Definition of Elastomer ( Rubber). Natural Rubber (it's drawbacks)  |
|                  | 4 <sup>TH</sup> | Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber  |
| 11 <sup>TH</sup> | 1 <sup>ST</sup> | Pesticides: Insecticides, herbicides, fungicides Examples and uses.   |
|                  | 2 <sup>ND</sup> | Bio Fertilizers: Definition, examples and uses  |
|                  | 3 <sup>RD</sup> | Definition of Mineral, ores , gangue with example. Distinction between Ores And Minerals.                                     |
|                  | 4 <sup>TH</sup> | Metallurgy (definition) & steps in it<br>i. Ore Dressing ii) Concentration ( Gravity separation)                              |



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|------------------|-----------------|---|
| 6 <sup>TH</sup>  | 1 <sup>ST</sup> | Definition of Corrosion, Types of Corrosion- Atmospheric Corrosion  |
|                  | 2 <sup>ND</sup> | Waterline corrosion. Mechanism of rusting of Iron only. Protection from Corrosion by (i) Alloying and (ii) Galvanization      |
|                  | 3 <sup>RD</sup> | Definition of alloy. Types of alloys ( Ferro, Non Ferro & Amalgam) with example   |
|                  | 4 <sup>TH</sup> | Composition and uses of Brass, Bronze, Alnico, Duralumin  |
| 7 <sup>TH</sup>  | 1 <sup>ST</sup> | Sources of water, Soft water, Hard water, hardness, types of Hardness (temporary or carbonate and permanent or non-carbonate) |
|                  | 2 <sup>ND</sup> | Removal of hardness by lime soda method ( hot lime—Principle, process & advantages )  |
|                  | 3 <sup>RD</sup> | Advantages of Hot lime over cold lime process   |
|                  | 4 <sup>TH</sup> | Organic Ion exchange method ( principle, process)   |
| 8 <sup>TH</sup>  | 1 <sup>ST</sup> | (Regeneration of exhausted resins).   |
|                  | 2 <sup>ND</sup> | Definition of lubricant, Types ( solid, liquid and semisolid with examples only )   |
|                  | 3 <sup>RD</sup> | Specific uses of lubricants ( Graphite, Oils, Grease), Purpose of lubrication   |
|                  | 4 <sup>TH</sup> | Definition and classification of fuel, Definition of calorific value of fuel, Choice of good fuel                             |
| 9 <sup>TH</sup>  | 1 <sup>ST</sup> | Liquid: Diesel, Petrol, and Kerosene --- Composition and uses   |
|                  | 2 <sup>ND</sup> | Gaseous: Producer gas and Water gas (Composition and uses).   |
|                  | 3 <sup>RD</sup> | Elementary idea about LPG, CNG and coal gas (Composition and uses only).  |
|                  | 4 <sup>TH</sup> | Definition of Monomer, Polymer, Homo-polymer, Co-polymer and Degree of polymerization   |
| 10 <sup>TH</sup> | 1 <sup>ST</sup> | Difference between Thermosetting and Thermoplastic  |
|                  | 2 <sup>ND</sup> | Composition and uses of Polythene, & Poly-Vinyl Chloride and Bakelite   |
|                  | 3 <sup>RD</sup> | Definition of Elastomer ( Rubber). Natural Rubber (it's drawbacks)  |
|                  | 4 <sup>TH</sup> | Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber  |
| 11 <sup>TH</sup> | 1 <sup>ST</sup> | Pesticides: Insecticides, herbicides, fungicides Examples and uses.   |
|                  | 2 <sup>ND</sup> | Bio Fertilizers: Definition, examples and uses  |
|                  | 3 <sup>RD</sup> | Definition of Mineral, ores , gangue with example. Distinction between Ores And Minerals.                                     |
|                  | 4 <sup>TH</sup> | Metallurgy (definition) & steps in it<br>i. Ore Dressing ii) Concentration ( Gravity separation)                              |

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|------|-----|--|
| 12TH | 1ST | magnetic separation, Froth floatation & leaching   |
|      | 2ND | Oxidation (Calcinations, Roasting)   |
|      | 3RD | Reduction (Smelting, Definition & examples of flux, slag)  |
|      | 4TH | Refining of the metal ( Electro refining, & Distillation only)   |
| 13TH | 1ST | Hydrocarbons & homologous Series   |
|      | 2ND | Saturated and Unsaturated Hydrocarbons ( Definition with example)  |
|      | 3RD | Aliphatic and Aromatic Hydrocarbons ( Huckel's rule only). Difference between Aliphatic and aromatic hydrocarbons                      |
|      | 4TH | IUPAC system of nomenclature of Alkane (up to 6 carbons) with bond line notation.  |
| 14TH | 1ST | IUPAC system of nomenclature of Alkene (up to 6 carbons) with bond line notation   |
|      | 2ND | IUPAC system of nomenclature of Alkyne (up to 6 carbons) with bond line notation   |
|      | 3RD | IUPAC system of nomenclature of alkyl halide and alcohol ( up to 6 carbons ) with bond line notation<br>Problems on IUPAC Nomenclature |
|      | 4TH | Uses of some common aromatic compounds ( Benzene, Toluene, BHC, Phenol, Naphthalene, Anthracene and Benzoic acid) in daily life        |

Tushant  
(Tushant Rajan Mohanta)  
Sr. Lect. Math & C  
H.O.D. Math & C

Smita Sathpathy  
(Lect. In Chemistry)  
G. P. ANGUL.

cc  
Deo  
Principal  
Govt. Polytechnic  
Angul



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|--|------------------------------------|--|
| Discipline:<br>Civil/Electrical/<br>Mechanical | Semester: 1st                      | Name of the Teaching Faculty: <i>Nayan Kumar Pradhan</i>   |
| Subject: Engg. Mathematics II (Th 3)           | No. of days/week class allotted: 6 | Semester from date: 25/10/2021 To date: 31/01/2022<br>No. of weeks: 14   |
| Week   | Class Day                          | Theory Topics  |
| 1 <sup>st</sup>                                | 1 <sup>st</sup>                    | Chapter 2: LIMITS and CONTINUITY:<br>a) Definition of a function (Based on set theory)<br>b) Types of functions<br>i) Constant function,<br>ii) Identity function<br>iii) Absolute value function<br>iv) The Greatest Integer Function |
|  | 2 <sup>nd</sup>                    | v) Trigonometric function with example<br>vi) Exponential function<br>vii) Logarithmic function<br>With examples   |
|  | 3 <sup>rd</sup>                    | c) Introduction of limit: definition, example<br>d) Existence of limit with example  |
|  | 4 <sup>th</sup>                    | e) Methods of evaluation of limit  |
|  | 5 <sup>th</sup>                    | Methods of evaluation of limit continues with some examples  |
|  | 6 <sup>th</sup> (Tutorial class)   | Problems on existence of limit and evaluation of limit   |
| 2 <sup>nd</sup>                                | 1 <sup>st</sup>                    | i) $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a} = na^{n-1}$<br>ii) $\lim_{x \rightarrow 0} \frac{a^x - 1}{x} = \ln a = \log_e a$<br>Some problems using these formulae  |
|  | 2 <sup>nd</sup>                    | iii) $\lim_{x \rightarrow 0} \frac{e^x - 1}{x} = 1$<br>iv) $\lim_{x \rightarrow 0} (1+x)^{\frac{1}{x}} = e$<br>Some problems using these formulae  |
|  | 3 <sup>rd</sup>                    | v) $\lim_{x \rightarrow \infty} (1 + \frac{1}{x})^x = e$<br>vi) $\lim_{x \rightarrow 0} \frac{\log(1+x)}{x} = 1$<br>Some problems using these formulae   |
|  | 4 <sup>th</sup>                    | vii) $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$<br>viii) $\lim_{x \rightarrow 0} \frac{\tan x}{x} = 1$ Some problems using these  |

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|                 |                                  | formulae   |
|                 | 5 <sup>th</sup>                  | f) Definition of continuity of a function at a point, Existence of continuity with example   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on limit and continuity   |
| 3 <sup>rd</sup> | 1 <sup>st</sup>                  | <b>Chapter 3: DERIVATIVES:</b><br>a) Derivative of a function at a point<br>b) Algebra of derivative                                 |
|                 | 2 <sup>nd</sup>                  | c) Derivative of standard functions:<br>$x^n, a^x, \log x, e^x$  |
|                 | 3 <sup>rd</sup>                  | Derivative of standard functions continues:<br>$\sin x, \cos x, \tan x$  |
|                 | 4 <sup>th</sup>                  | Derivative of standard functions continues:<br>$\cot x, \sec x, \csc x, \sin^{-1} x$   |
|                 | 5 <sup>th</sup>                  | Derivative of standard functions continues:<br>$\cos^{-1} x, \tan^{-1} x, \cot^{-1} x$   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problem solving on trigonometric functions   |
| 4 <sup>th</sup> | 1 <sup>st</sup>                  | Derivative of standard functions continues:<br>$\sec^{-1} x, \csc^{-1} x,$<br>d) Derivatives of composite function                   |
|                 | 2 <sup>nd</sup>                  | Derivatives of composite function (Chain rule) continues with examples   |
|                 | 3 <sup>rd</sup>                  | Derivatives of composite function (Chain rule) continues with examples   |
|                 | 4 <sup>th</sup>                  | e) Methods of differentiation of<br>i) Parametric function with examples   |
|                 | 5 <sup>th</sup>                  | Methods of differentiation of<br>ii) Implicit function with examples   |
|                 | 6 <sup>th</sup> (Tutorial class) | Solving problems on derivatives of parametric function and implicit function   |
| 5 <sup>th</sup> | 1 <sup>st</sup>                  | Methods of differentiation of<br>iii) Logarithmic function with example  |
|                 | 2 <sup>nd</sup>                  | Methods of differentiation of<br>iv) A function wrt another function with example  |
|                 | 3 <sup>rd</sup>                  | f) Applications of derivatives:<br>i) Successive differentiation (up to second order)<br>Some problems on successive differentiation |
|                 | 4 <sup>th</sup>                  | Solving problems on successive differentiation   |
|                 | 5 <sup>th</sup>                  | ii) Partial differentiation (function of two variables up to second order)   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on derivative of logarithmic function and successive differentiation.   |
| 6 <sup>th</sup> | 1 <sup>st</sup>                  | Partial differentiation continues  |
|                 | 2 <sup>nd</sup>                  | Some more problems on partial differentiation  |
|                 | 3 <sup>rd</sup>                  | Revision of derivative   |
|                 | 4 <sup>th</sup>                  | <b>Chapter 4: INTEGRATION:</b>   |



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|                  |                                  | i) Area enclosed by a curve and X-axis and example   |
|                  | 5 <sup>th</sup>                  | ii) Area of a circle with centre at origin   |
|                  | 6 <sup>th</sup> (Tutorial class) | Solving problems on application of integration   |
| 9 <sup>th</sup>  | 1 <sup>st</sup>                  | <b>Chapter 5: DIFFERENTIAL EQUATION:</b><br>Definition, ODE, PDE,<br>a) Order and degree of a differential equation  |
|                  | 2 <sup>nd</sup>                  | Determining Order and degree of a differential equation with examples  |
|                  | 3 <sup>rd</sup>                  | b) Solution of differential equation<br>Definition   |
|                  | 4 <sup>th</sup>                  | i) By method of separation of variable with examples   |
|                  | 5 <sup>th</sup>                  | method of separation of variable continues with problem solving  |
|                  | 6 <sup>th</sup> (Tutorial class) | Some more problems on separation of variables  |
|                  |                                  | Problems on determination of degree and order of a differential equation   |
| 10 <sup>th</sup> | 1 <sup>st</sup>                  | ii) Linear equation example  |
|                  | 2 <sup>nd</sup>                  | $\frac{dy}{dx}$ Solving linear equation $\frac{dy}{dx} + Py = Q$ , where P, Q are functions of x   |
|                  | 3 <sup>rd</sup>                  | Problems on linear differential equation   |
|                  | 4 <sup>th</sup>                  | Some more Problems on linear differential equation   |
|                  | 5 <sup>th</sup>                  | Revision of differential equation  |
|                  | 6 <sup>th</sup> (Tutorial class) | Revision of differential equation  |
| 11 <sup>th</sup> | 1 <sup>st</sup>                  | <b>Chapter 1: VECTOR ALGEBRA:</b><br>a) Introduction: definition of scalar, vector with examples<br>b) Types of vectors: null vector, parallel vector, collinear vectors with examples |
|                  | 2 <sup>nd</sup>                  | c) Representation of a vector  |
|                  | 3 <sup>rd</sup>                  | d) Magnitude and direction of vectors with examples  |
|                  | 4 <sup>th</sup>                  | e) Addition and subtraction of vectors with examples   |
|                  | 5 <sup>th</sup>                  | Properties of vector addition and position vector  |
|                  | 6 <sup>th</sup> (Tutorial class) | Problems on magnitude and<br>f) position vector  |
| 12 <sup>th</sup> | 1 <sup>st</sup>                  | g) scalar product of two vectors with examples   |
|                  | 2 <sup>nd</sup>                  | h) Geometrical meaning of dot product  |
|                  | 3 <sup>rd</sup>                  | Problems on dot product  |
|                  | 4 <sup>th</sup>                  | i) Angle between two vectors with example  |
|                  | 5 <sup>th</sup>                  | j) Scalar and vector projection of two vectors with examples   |
|                  | 6 <sup>th</sup> (Tutorial class) | Problems on Scalar and vector projection of two vectors  |

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|                 |                                  | a) Definition of integration as inverse of differentiation<br>b) Integral of standard functions  |
|                 | 5 <sup>th</sup>                  | c) Methods of integration:   |
|                 | 6 <sup>th</sup> (Tutorial class) | i) Integration by substitution with examples<br>Problems on integration by substitution<br>ii) Integration by parts with examples<br>Problems on integration by parts                                      |
| 7 <sup>th</sup> | 1 <sup>st</sup>                  |  |
|                 | 2 <sup>nd</sup>                  |  |
|                 | 3 <sup>rd</sup>                  | d) Integration of the following forms<br>i) $\int \frac{dx}{x^2+a^2}$ ii) $\int \frac{dx}{x^2-a^2}$ iii) $\int \frac{dx}{a^2-x^2}$<br>iv) $\int \frac{dx}{\sqrt{a^2-x^2}}$ with examples                   |
|                 | 4 <sup>th</sup>                  | Integration of the following forms<br>v) $\int \frac{dx}{\sqrt{a^2-x^2}}$ vi) $\int \frac{dx}{\sqrt{x^2-a^2}}$ vii) $\int \frac{dx}{x\sqrt{x^2+a^2}}$ viii) $\int \frac{dx}{\sqrt{a^2-x^2}}$ with examples |
|                 | 5 <sup>th</sup>                  | Integration of the following forms<br>ix) $\int \sqrt{a^2+x^2} dx$ x) $\int \sqrt{x^2-a^2} dx$ with problems   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on integration by parts   |
| 8 <sup>th</sup> | 1 <sup>st</sup>                  | e) Definite integrals and properties<br>i) $\int_0^a f(x) dx = \int_0^a f(a-x) dx$<br>ii) $\int_a^b f(x) dx = -\int_b^a f(x) dx$<br>With problems  |
|                 | 2 <sup>nd</sup>                  | iii) $\int_a^c f(x) dx = \int_a^b f(x) dx + \int_b^c f(x) dx, a < b < c$<br>iv) $\int_{-a}^a f(x) dx = 0$ , if $f(x)$ is odd<br>$= 2 \int_0^a f(x) dx$ , if $f(x)$ is even<br>With examples                |
|                 | 3 <sup>rd</sup>                  | Solving problems on properties of definite integration   |
|                 | 4 <sup>th</sup>                  | f) Application of integration  |



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| 13 <sup>th</sup> | 1 <sup>st</sup> | k) Vector product and geometrical meaning |
|                  | 2 <sup>nd</sup> | Problems on vector product                |
|                  | 3 <sup>rd</sup> | Revision                                  |
|                  | 4 <sup>th</sup> |   |
|                  | 5 <sup>th</sup> |   |
|                  | 6 <sup>th</sup> |   |
| 14 <sup>th</sup> | 1 <sup>st</sup> | Previous year question discussion         |
|                  | 2 <sup>nd</sup> |   |
|                  | 3 <sup>rd</sup> |   |
|                  | 4 <sup>th</sup> |   |
|                  | 5 <sup>th</sup> |   |
|                  | 6 <sup>th</sup> |   |

Tushant  
 (Tushan Ranjan Noharia)  
 B.Sc. Lect. Math & So.  
 H.O.D. Math & So.

PTGF MATHEMATICS  
 Nayan Kumar Praetihar

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Principle

Tushant  
**Principal**  
**Govt. Polytechnic**  
**Angul**

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| Discipline:<br>Civil & Mechanical<br>Engg. | Semester :<br>2 <sup>nd</sup>                       | Name of the Teaching Faculty: Tushar Ranjan Mohanta &<br>Swatilena Salfathy  |
| Subject: ENGG<br>CHEMISTRY                 | No. of<br>days/per<br>week class<br>allotted:<br>04 | Semester From date : 14/03/2022 to<br>18/06/2022<br><br>No. of Weeks: 14   |
| Week                                       | Class Day   | Theory   |
| 1 <sup>ST</sup>                            | 1 <sup>ST</sup>                                     | Fundamental particles ( electron, proton & neutron), Definition, mass and charge .   |
|  | 2 <sup>ND</sup>                                     | Rutherford's Atomic model ( Experiment, postulates and limitations)  |
|  | 3 <sup>RD</sup>                                     | Atomic mass and mass number, Definition, examples and properties of Isotopes, isobars and isotones, Bohr's Atomic model (Postulates only), |
|  | 4 <sup>TH</sup>                                     | Bohr's Atomic model (contd), Bohr-Bury scheme, Aufbau's principle,   |
| 2 <sup>ND</sup>                            | 1 <sup>ST</sup>                                     | Hund's rule, Pauli's Exclusion Principle, Electronic configuration (up to atomic no 30)  |
|  | 2 <sup>ND</sup>                                     | Chemical Bonding: Definition, Types, Electrovalent bond: NaCl, MgCl <sub>2</sub>   |
|  | 3 <sup>RD</sup>                                     | Covalent Bond with examples H <sub>2</sub> , Cl <sub>2</sub> , O <sub>2</sub> , N <sub>2</sub> , H <sub>2</sub> O, CH <sub>4</sub>         |
|  | 4 <sup>TH</sup>                                     | Covalent Bonding in NH <sub>3</sub> ,Coordinate bond NH <sub>4</sub> <sup>+</sup> , SO <sub>2</sub>  |
| 3 <sup>RD</sup>                            | 1 <sup>ST</sup>                                     | Concept of Arrhenius, Bronsted & Lowry for acid and base with examples ( Postulates and limitations only).                                 |
|  | 2 <sup>ND</sup>                                     | Concept of Lewis theory( Postulates and limitations only). Neutralization of acid & base,  |
|  | 2 <sup>ND</sup>                                     | Types of salts ( Normal, acidic, basic, double, complex and mixed salts, definitions with 2 examples from each).                           |
|  | 3 <sup>RD</sup>                                     | Definitions of atomic weight, molecular weight, Equivalent Weight, Determination of equivalent weight of Acid                              |
|  | 4 <sup>TH</sup>                                     | Determination of equivalent weight of Acid, Base and Salt, Modes of expression of the concentrations ( Molarity with simple problems)      |
| 4 <sup>TH</sup>                            | 1 <sup>ST</sup>                                     | Modes of expression of the concentrations (Normality & Molality) with Simple Problems  |
|  | 2 <sup>ND</sup>                                     | pH of solution ( definition with simple numericals )   |
|  | 3 <sup>RD</sup>                                     | Problems on pH(contd.), Importance of pH in industry ( sugar, textile, paper industries only)  |
|  | 4 <sup>TH</sup>                                     | Definition and types (Strong & weak) of Electrolytes with example.   |
| 5 <sup>TH</sup>                            | 1 <sup>ST</sup>                                     | Electrolysis (Principle & process) with example of NaCl (fused and aqueous solution).  |
|  | 2 <sup>ND</sup>                                     | Faraday's 1st law of Electrolysis (Statement, mathematical expression, numerical)  |
|  | 3 <sup>RD</sup>                                     | Faraday's 1st law of Electrolysis (Statement, mathematical expression)   |
|  | 4 <sup>TH</sup>                                     | Industrial application of Electrolysis- Electroplating ( Zinc only)  |



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| 6 <sup>TH</sup>  | 1 <sup>ST</sup> | Definition of Corrosion, Types of Corrosion- Atmospheric Corrosion  |
|                  | 2 <sup>ND</sup> | Waterline corrosion. Mechanism of rusting of Iron only. Protection from Corrosion by (i) Alloying and (ii) Galvanization      |
|                  | 3 <sup>RD</sup> | Definition of alloy. Types of alloys ( Ferro, Non Ferro & Amalgam) with example   |
|                  | 4 <sup>TH</sup> | Composition and uses of Brass, Bronze, Alnico, Duralumin  |
| 7 <sup>TH</sup>  | 1ST             | Sources of water, Soft water, Hard water, hardness, types of Hardness (temporary or carbonate and permanent or non-carbonate) |
|                  | 2ND             | Removal of hardness by lime soda method ( hot lime—Principle, process & advantages )  |
|                  | 3RD             | Advantages of Hot lime over cold lime process   |
|                  | 4TH             | Organic Ion exchange method ( principle, process)   |
| 8 <sup>TH</sup>  | 1ST             | (Regeneration of exhausted resins).   |
|                  | 2ND             | Definition of lubricant, Types ( solid, liquid and semisolid with examples only )   |
|                  | 3RD             | Specific uses of lubricants ( Graphite, Oils, Grease), Purpose of lubrication   |
|                  | 4TH             | Definition and classification of fuel, Definition of calorific value of fuel, Choice of good fuel                             |
| 9 <sup>TH</sup>  | 1ST             | Liquid: Diesel, Petrol, and Kerosene --- Composition and uses   |
|                  | 2ND             | Gaseous: Producer gas and Water gas (Composition and uses).   |
|                  | 3RD             | Elementary idea about LPG, CNG and coal gas (Composition and uses only).  |
|                  | 4TH             | Definition of Monomer, Polymer, Homo-polymer, Co-polymer and Degree of polymerization   |
| 10 <sup>TH</sup> | 1ST             | Difference between Thermosetting and Thermoplastic  |
|                  | 2ND             | Composition and uses of Polythene, & Poly-Vinyl Chloride and Bakelite   |
|                  | 3RD             | Definition of Elastomer ( Rubber). Natural Rubber (it's drawbacks)  |
|                  | 4TH             | Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber  |
| 11 <sup>TH</sup> | 1ST             | Pesticides: Insecticides, herbicides, fungicides Examples and uses.   |
|                  | 2ND             | Bio Fertilizers: Definition, examples and uses  |
|                  | 3RD             | Definition of Mineral, ores , gangue with example. Distinction between Ores And Minerals,                                     |
|                  | 4TH             | Metallurgy (definition) & steps in it , i. Ore Dressing ii) Concentration ( Gravity separation)                               |
|                  | 1 <sup>ST</sup> | magnetic separation, Froth floatation & leaching  |

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| 12TH | 2ND | Oxidation (Calcinations, Roasting)   |
|      | 3RD | Reduction (Smelting, Definition & examples of flux, slag)  |
|      | 4TH | Refining of the metal ( Electro refining, & Distillation only)   |
| 13TH | 1ST | Hydrocarbons & homologous Series   |
|      | 2ND | Saturated and Unsaturated Hydrocarbons ( Definition with example)  |
|      | 3RD | Aliphatic and Aromatic Hydrocarbons ( Huckle's rule only). Difference between Aliphatic and aromatic hydrocarbons                    |
|      | 4TH | IUPAC system of nomenclature of Alkane (up to 6 carbons) with bond line notation.  |
| 14TH | 1ST | IUPAC system of nomenclature of Alkene (up to 6 carbons) with bond line notation   |
|      | 2ND | IUPAC system of nomenclature of Alkyne (up to 6 carbons) with bond line notation   |
|      | 3RD | IUPAC system of nomenclature of alkyl halide and alcohol ( up to 6 carbons ) with bond line notation, Problems on IUPAC Nomenclature |
|      | 4TH | Uses of some common aromatic compounds ( Benzene, Toluene, BHC, Phenol, Naphthalene, Anthracene and Benzoic acid) in daily life      |

T Mohanta  
(Tushan Rajin Mohanta)  
Asst. Lect. (Math & Sci)  
H.O.D. Math & Sci,

Ge

Principal  
Govt. Polytechnic  
Angul  
T Mohanta

T Mohanta

(Tushan Rajin Mohanta)  
Asst. Lect. (Math & Sci)

Salpaty

Savitilene Salpaty  
(Asst. Lect. Chem)



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|--------------------------------------|-------------------------------------|---|
| Discipline:<br><b>Electrical</b>     | Semester: 2nd                       | Name of the teaching faculty: <b>Shri Chinmmaya Ku. Panda</b>   |
| Subject: <b>Engg. Physics(Th.2a)</b> | No. of days/week class allotted: 04 | Semester From date: 14/03/2022 To date:18/06/2022<br>No. of weeks:14  |
| Week                                 | Class Day                           | Theory Topics   |
| 1 <sup>st</sup>                      | 1 <sup>st</sup>                     | Introduction to:  |
|                                      | 2 <sup>nd</sup>                     | <b>Engg. Physics (Th.2a) and its syllabus, Question paper pattern and motivation</b>  |
|                                      | 3 <sup>rd</sup>                     | Unit-1: UNIT & DIMENSIONS<br><b>Physical quantities, Units, types of units and system of units</b>  |
|                                      | 4 <sup>th</sup>                     | Unit-1: UNIT & DIMENSIONS<br><b>Dimension and dimensional formulae of physical quantities</b>   |
| 2 <sup>nd</sup>                      | 1 <sup>st</sup>                     | Unit-1: UNIT & DIMENSIONS<br><b>Principle of homogeneity and application of dimensional analysis: Checking the correctness of physical relations and Numerical</b>  |
|                                      | 2 <sup>nd</sup>                     | Unit-2:SCALARS AND VECTORS<br><b>Concept of scalar and vector quantities with definition,types of vectors, Rules of vector addition: Statements of Triangle law of vectoraddition</b>   |
|                                      | 3 <sup>rd</sup>                     | Unit-2: SCALARS AND VECTORS<br><b>Parallelogram law of vector addition and simplenumericals, Concept on Resolution of vectors with simple numerical on Horizontal and verticalcomponents</b>  |
|                                      | 4 <sup>th</sup>                     | Unit-2: SCALARS AND VECTORS<br><b>Vector multiplication: Dot product and Cross Product with simple numericals on dot and cross products</b>   |
| 3 <sup>rd</sup>                      | 1 <sup>st</sup> & 2 <sup>nd</sup>   | Unit-3: KINEMATICS<br><b>Concept of Rest and Motion with examples, Fundamental ideas on distance, displacement, speed, velocity, acceleration and force, equations of motion under gravity both for upward and downward motion</b>                                    |
|                                      | 3 <sup>rd</sup>                     | Unit-3: KINEMATICS<br><b>Circular motion: Conceptual idea on circular motion and terms related to circular motion such as angular displacement, angular velocity and angular acceleration.</b>  |
|                                      | 4 <sup>th</sup>                     | Unit-3: Kinematics<br><b>Derivations of Relation between- (i) Linear &amp; angular velocity, (ii) Linear &amp; Angular acceleration</b>   |
| 4 <sup>th</sup>                      | 1 <sup>st</sup> & 2 <sup>nd</sup>   | Unit-3: KINEMATICS<br><b>Projectile motion: Definition and examples, Expression for equation of Trajectory, Time of Flight, Maximum Height and Horizontal Range for a projectile fired at an angel, condition for maximum horizontal range with simple numericals</b> |
|                                      | 3 <sup>rd</sup>                     | Unit-4: WORK AND FRICTION<br><b>Definition of work, its formula and SI unit with simple numericals</b>  |
|                                      | 4 <sup>th</sup>                     | Unit-4: WORK AND FRICTION<br><b>Concept of friction with definition and simple examples, Types of friction</b>  |

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| 5 <sup>th</sup>  | 1 <sup>st</sup>                   | Unit-4: WORK AND FRICTION<br>Definition with concept on limiting friction, and laws of limiting friction (statement only)   |
|                  | 2 <sup>nd</sup>                   | Unit-4: WORK AND FRICTION<br>Theory on Coefficient of Friction and simple numericals  |
|                  | 3 <sup>rd</sup>                   | Unit-4: WORK AND FRICTION<br>Methods to reduce friction with practical examples   |
|                  | 4 <sup>th</sup>                   | Unit-5: GRAVITATION<br>Introduction, a detail explanation on Newton's Laws of Gravitation (1 <sup>st</sup> and 2 <sup>nd</sup> law)   |
| 6 <sup>th</sup>  | 1 <sup>st</sup>                   | Unit-5: GRAVITATION<br>A detail explanation on Newton's Laws of Gravitation (3 <sup>rd</sup> law) and Definition of Universal Gravitational Constant (G) with its unit and dimensions   |
|                  | 2 <sup>nd</sup> & 3 <sup>rd</sup> | Unit-5: GRAVITATION<br>Definition and concept of acceleration due to gravity (g), Relation between 'g' and 'G' and definition of mass and weight  |
|                  | 4 <sup>th</sup> &                 | Unit-5: GRAVITATION<br>Explanation (No derivation) on variation of 'g' with altitude and depth, statements on Kepler's Laws of Planetary motion   |
| 7 <sup>th</sup>  | 1 <sup>st</sup>                   | Unit-6: OSCILLATIONS AND WAVES<br>Definition and examples on Simple Harmonic Motion (SHM), expressions for displacement, velocity and acceleration of a body or particle in SHM   |
|                  | 2 <sup>nd</sup> & 3 <sup>rd</sup> | Unit-6: OSCILLATIONS AND WAVES<br>Wave Motion (Definition & Concept), Transverse and Longitudinal wave motion (Definition, examples and Comparison)   |
|                  | 4 <sup>th</sup> &                 | Unit-6: OSCILLATIONS AND WAVES<br>Wave parameters and Establish a relation between velocity, frequency and Time period, Ultrasonics-Definition, properties & Applications   |
| 8 <sup>th</sup>  | 1 <sup>st</sup>                   | Unit-7: HEAT AND THERMODYNAMICS<br>Heat & temperature-Definition and difference, Units of Heat (FPS, CGS, MKS & SI)   |
|                  | 2 <sup>nd</sup> & 3 <sup>rd</sup> | Unit-7: HEAT AND THERMODYNAMICS<br>Fundamental ideas on Specific heat, Change of State and Latent Heat with simple numericals   |
|                  | 4 <sup>th</sup>                   | Unit-7: HEAT AND THERMODYNAMICS<br>Concept on Thermal expansion and Coefficient of linear ( $\alpha$ ), superficial ( $\beta$ ) and cubical ( $\gamma$ ) expansions of Solids, Relation between $\alpha$ , $\beta$ and $\gamma$ |
| 9 <sup>th</sup>  | 1 <sup>st</sup> & 2 <sup>nd</sup> | Unit-7: HEAT AND THERMODYNAMICS<br>Definition and Relation between Work and Heat, Joule's Mechanical Equivalent of Heat, Statement and explanation on 1 <sup>st</sup> law of thermodynamics                                     |
|                  | 3 <sup>rd</sup> , 4 <sup>th</sup> | Unit-7: HEAT AND THERMODYNAMICS<br>Definition and Relation between Work and Heat, Joule's Mechanical Equivalent of Heat, Statement and explanation on 1 <sup>st</sup> law of thermodynamics                                     |
| 10 <sup>th</sup> | & 1 <sup>st</sup>                 | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
|                  | 2 <sup>nd</sup> & 3 <sup>rd</sup> | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
|                  | 4 <sup>th</sup>                   | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |
|                  | & 1 <sup>st</sup>                 | Unit-8: OPTICS<br>Concept of Reflection and laws of Reflection, Concept of Refraction and laws of Refraction and Refractive index (Definition, formula and Simple numericals)   |



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| 11 <sup>th</sup> | 2 <sup>nd</sup>                   | Unit-8: OPTICS<br>Concept and Explanation of Total Internal Reflection and Critical angle  |
|                  | 3 <sup>rd</sup>                   | Unit-8: OPTICS<br>Definition, Properties and Applications on Fiber Optics  |
|                  | 4 <sup>th</sup> &                 | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Concept of Electric field and Electric field intensity, Statement and Explanation of Coulomb's law and definition of Unit charge, Absolute & Relative Permittivity(Definition, Relation & Unit),  |
| 12 <sup>th</sup> | 1 <sup>st</sup>                   |  |
|                  | 2 <sup>nd</sup> & 3 <sup>rd</sup> | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Electric potential & Electric potential difference(Definition, formula & SI units), Concept of capacitor and capacitance, Series and parallel combination of capacitors: Formula for equivalent capacitance and simple numericals   |
|                  | 4 <sup>th</sup>                   | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Fundamental idea on magnet, Coulomb's law in magnetism and definition of Unit pole  |
| 13 <sup>th</sup> | 1 <sup>st</sup>                   | Unit-9: ELECTROSTATICS AND MAGNETOSTATICS<br>Definition of magnetic field and Magnetic field Intensity (H) with its formula and SI unit, Magnetic lines of force- Definition and Properties, ELECTROSTATICS AND MAGNETOSTATICS<br>Magnetic flux( $\phi$ ) and Magnetic flux density (B)                                      |
|                  | 2 <sup>nd</sup>                   | Unit-10: CURRENT ELECTRICITY<br>Introduction to Electric Current, Ohm's law and its applications, Series and parallel combination of resistors: Formula for equivalent resistance and simple numericals  |
|                  | 3 <sup>rd</sup> & 4 <sup>th</sup> | Unit-10: CURRENT ELECTRICITY<br>Kirchhoff's laws: Statements & Explanation with diagram, Application of Kirchhoff's laws to Wheatstone bridge- Derivation of balance condition of Wheatstone bridge  |
| 14 <sup>th</sup> | 1 <sup>st</sup> & 2 <sup>nd</sup> | Unit-11: ELECTROMAGNETISM AND ELECTROMAGNETIC INDUCTION<br>Introduction, Force acting on a current carrying conductor placed in a uniform magnetic field, Fleming's left hand rule, Statement on Faraday's Laws of Electromagnetic Induction & Lenz's law, Fleming's Right Hand Rule, Comparison between Fleming's RHR & LHR |
|                  | 3 <sup>rd</sup> & 4 <sup>th</sup> | Unit-12: MODERN PHYSICS<br>Introduction to LASER and laser beam, its principle: Population inversion & Optical Pumping, Concept on Wireless Transmission- Ground waves, Sky waves & Space Waves  |

T Mohan  
Tushar Rajan Mohan  
For Lect Math & E  
H.O.D. Math & E

cc  
Principal  
Govt Polytechnic  
Mahanagar, Angul

Gandhi

Chinnmaya Kumar Panda  
Lecturer in Physics  
Govt. Polytechnic, Angul

| Discipline:<br>Civil/Electrical<br>/Mechanical | Semester: 2 <sup>nd</sup>               | Name of the Teaching Faculty: MONALISA SAHOO<br>PTGF   |
|--|---|--|
| Subject: Engg.<br>Mathematics<br>II<br>(Th 3)  | No. of days/week<br>class allotted: 5+1 | Semester from date: 14/03/2022 To date: 18/06/2022<br>No. of weeks: 14   |
| Week   | Class Day                               | Theory Topics  |
| 1 <sup>st</sup>                                | 1 <sup>st</sup>                         | Chapter 2: LIMITS and CONTINUITY:<br>a) Definition of a function (Based on set theory)<br>b) Types of functions<br>i) Constant function,<br>ii) Identity function<br>iii) Absolute value function<br>iv) The Greatest Integer Function |
|  | 2 <sup>nd</sup>                         | v) Trigonometric function with example<br>vi) Exponential function<br>vii) Logarithmic function<br>With examples   |
|  | 3 <sup>rd</sup>                         | c) Introduction of limit: definition, example<br>d) Existence of limit with example  |
|  | 4 <sup>th</sup>                         | e) Methods of evaluation of limit  |
|  | 5 <sup>th</sup>                         | Methods of evaluation of limit continues with some examples  |
|  | 6 <sup>th</sup> (Tutorial class)        | Problems on existence of limit and evaluation of limit   |
| 2 <sup>nd</sup>                                | 1 <sup>st</sup>                         | i) $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a} = na^{n-1}$<br>ii) $\lim_{x \rightarrow 0} \frac{a^x - 1}{x} = \ln a = \log_e a$<br>Some problems using these formulae  |
|  | 2 <sup>nd</sup>                         | iii) $\lim_{x \rightarrow 0} \frac{e^x - 1}{x} = 1$<br>iv) $\lim_{x \rightarrow 0} (1+x)^{\frac{1}{x}} = e$<br>Some problems using these formulae  |
|  | 3 <sup>rd</sup>                         | v) $\lim_{x \rightarrow \infty} (1 + \frac{1}{x})^x = e$<br>vi) $\lim_{x \rightarrow 0} \frac{\log(1+x)}{x} = 1$<br>Some problems using these formulae   |
|  | 4 <sup>th</sup>                         | vii) $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$<br>viii) $\lim_{x \rightarrow 0} \frac{\tan x}{x} = 1$ Some problems using these  |



|                 |                                  | formulae   |
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|                 | 5 <sup>th</sup>                  | f) Definition of continuity of a function at a point, Existence of continuity with example   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on limit and continuity   |
| 3 <sup>rd</sup> | 1 <sup>st</sup>                  | <b>Chapter 3: DERIVATIVES:</b><br>a) Derivative of a function at a point<br>b) Algebra of derivative                                 |
|                 | 2 <sup>nd</sup>                  | c) Derivative of standard functions:<br>$x^n, a^x, \log x, e^x$  |
|                 | 3 <sup>rd</sup>                  | Derivative of standard functions continues:<br>$\sin x, \cos x, \tan x$  |
|                 | 4 <sup>th</sup>                  | Derivative of standard functions continues:<br>$\cot x, \sec x, \csc x, \sin^{-1} x$   |
|                 | 5 <sup>th</sup>                  | Derivative of standard functions continues:<br>$\cos^{-1} x, \tan^{-1} x, \cot^{-1} x$   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problem solving on trigonometric functions   |
| 4 <sup>th</sup> | 1 <sup>st</sup>                  | Derivative of standard functions continues:<br>$\sec^{-1} x, \csc^{-1} x,$<br>d) Derivatives of composite function                   |
|                 | 2 <sup>nd</sup>                  | Derivatives of composite function (Chain rule) continues with examples   |
|                 | 3 <sup>rd</sup>                  | Derivatives of composite function (Chain rule) continues with examples   |
|                 | 4 <sup>th</sup>                  | e) Methods of differentiation of<br>i) Parametric function with examples   |
|                 | 5 <sup>th</sup>                  | Methods of differentiation of<br>ii) Implicit function with examples   |
|                 | 6 <sup>th</sup> (Tutorial class) | Solving problems on derivatives of parametric function and implicit function   |
| 5 <sup>th</sup> | 1 <sup>st</sup>                  | Methods of differentiation of<br>iii) Logarithmic function with example  |
|                 | 2 <sup>nd</sup>                  | Methods of differentiation of<br>iv) A function wrt another function with example  |
|                 | 3 <sup>rd</sup>                  | f) Applications of derivatives:<br>i) Successive differentiation (up to second order)<br>Some problems on successive differentiation |
|                 | 4 <sup>th</sup>                  | Solving problems on successive differentiation   |
|                 | 5 <sup>th</sup>                  | ii) Partial differentiation (function of two variables up to second order)   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on derivative of logarithmic function and successive differentiation.   |
| 6 <sup>th</sup> | 1 <sup>st</sup>                  | Partial differentiation continues  |
|                 | 2 <sup>nd</sup>                  | Some more problems on partial differentiation  |
|                 | 3 <sup>rd</sup>                  | Revision of derivative   |
|                 | 4 <sup>th</sup>                  | <b>Chapter 4: INTEGRATION:</b>   |

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|                 |                                  | <p>a) Definition of integration as inverse of differentiation</p> <p>b) Integral of standard functions</p>  |
|                 | 5 <sup>th</sup>                  | c) Methods of integration:  |
|                 | 6 <sup>th</sup> (Tutorial class) | <p>i) Integration by substitution with examples</p> <p>Problems on integration by substitution</p>  |
| 7 <sup>th</sup> | 1 <sup>st</sup>                  | ii) Integration by parts with examples  |
|                 | 2 <sup>nd</sup>                  | Problems on integration by parts  |
|                 | 3 <sup>rd</sup>                  | <p>d) Integration of the following forms</p> <p>i) <math>\int \frac{dx}{x^2+a^2}</math> ii) <math>\int \frac{dx}{x^2-a^2}</math> iii) <math>\int \frac{dx}{a^2-x^2}</math> iv) <math>\int \frac{dx}{x^2+a^2}</math> with examples</p>   |
|                 | 4 <sup>th</sup>                  | <p>Integration of the following forms</p> <p>v) <math>\int \frac{dx}{\sqrt{a^2-x^2}}</math> vi) <math>\int \frac{dx}{\sqrt{x^2-a^2}}</math> vii) <math>\int \frac{dx}{x\sqrt{x^2+a^2}}</math> viii) <math>\int \frac{dx}{\sqrt{a^2-x^2}}</math> with examples</p>                             |
|                 | 5 <sup>th</sup>                  | <p>Integration of the following forms</p> <p>ix) <math>\int \sqrt{a^2+x^2} dx</math> x) <math>\int \sqrt{x^2-a^2} dx</math> with problems</p>   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on integration by parts  |
| 8 <sup>th</sup> | 1 <sup>st</sup>                  | <p>e) Definite integrals and properties</p> <p>i) <math>\int_0^a f(x) dx = \int_0^a f(a-x) dx</math></p> <p>ii) <math>\int_a^b f(x) dx = -\int_b^a f(x) dx</math></p> <p>With problems</p>  |
|                 | 2 <sup>nd</sup>                  | <p>iii) <math>\int_a^c f(x) dx = \int_a^b f(x) dx + \int_b^c f(x) dx, a &lt; b &lt; c</math></p> <p>iv) <math>\int_{-a}^a f(x) dx = 0</math>, if <math>f(x)</math> is odd</p> <p><math>\int_{-a}^a f(x) dx = 2 \int_0^a f(x) dx</math>, if <math>f(x)</math> is even</p> <p>With examples</p> |
|                 | 3 <sup>rd</sup>                  | Solving problems on properties of definite integration  |
|                 | 4 <sup>th</sup>                  | f) Application of integration   |



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|                  |                                  | i) Area enclosed by a curve and X-axis and example   |
|                  | 5 <sup>th</sup>                  | ii) Area of a circle with centre at origin   |
|                  | 6 <sup>th</sup> (Tutorial class) | Solving problems on application of integration   |
| 9 <sup>th</sup>  | 1 <sup>st</sup>                  | <b>Chapter 5: DIFFERENTIAL EQUATION:</b><br>Definition, ODE, PDE,<br>a) Order and degree of a differential equation  |
|                  | 2 <sup>nd</sup>                  | Determining Order and degree of a differential equation with examples  |
|                  | 3 <sup>rd</sup>                  | b) Solution of differential equation<br>Definition   |
|                  | 4 <sup>th</sup>                  | i) By method of separation of variable with examples   |
|                  | 5 <sup>th</sup>                  | method of separation of variable continues with problem solving  |
|                  | 6 <sup>th</sup> (Tutorial class) | <b>Some more problems on separation of variables</b><br>Problems on determination of degree and order of a differential equation   |
| 10 <sup>th</sup> | 1 <sup>st</sup>                  | ii) Linear equation example  |
|                  | 2 <sup>nd</sup>                  | $\frac{dy}{dx}$ Solving linear equation $\frac{dy}{dx} + Py = Q$ , where P, Q are functions of x   |
|                  | 3 <sup>rd</sup>                  | Problems on linear differential equation   |
|                  | 4 <sup>th</sup>                  | Some more Problems on linear differential equation   |
|                  | 5 <sup>th</sup>                  | Revision of differential equation  |
|                  | 6 <sup>th</sup> (Tutorial class) | Revision of differential equation  |
| 11 <sup>th</sup> | 1 <sup>st</sup>                  | <b>Chapter 1: VECTOR ALGEBRA:</b><br>a) Introduction: definition of scalar, vector with examples<br>b) Types of vectors: null vector, parallel vector, collinear vectors with examples |
|                  | 2 <sup>nd</sup>                  | c) Representation of a vector  |
|                  | 3 <sup>rd</sup>                  | d) Magnitude and direction of vectors with examples  |
|                  | 4 <sup>th</sup>                  | e) Addition and subtraction of vectors with examples   |
|                  | 5 <sup>th</sup>                  | Properties of vector addition and position vector  |
|                  | 6 <sup>th</sup> (Tutorial class) | Problems on magnitude and<br>f) position vector  |
| 12 <sup>th</sup> | 1 <sup>st</sup>                  | g) scalar product of two vectors with examples   |
|                  | 2 <sup>nd</sup>                  | h) Geometrical meaning of dot product  |
|                  | 3 <sup>rd</sup>                  | Problems on dot product  |
|                  | 4 <sup>th</sup>                  | i) Angle between two vectors with example  |
|                  | 5 <sup>th</sup>                  | j) Scalar and vector projection of two vectors with examples   |
|                  | 6 <sup>th</sup> (Tutorial class) | Problems on Scalar and vector projection of two vectors  |

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| 13 <sup>th</sup> | 1 <sup>st</sup> | k) Vector product and geometrical meaning |
|                  | 2 <sup>nd</sup> | Problems on vector product                |
|                  | 3 <sup>rd</sup> | Revision                                  |
|                  | 4 <sup>th</sup> |   |
|                  | 5 <sup>th</sup> |   |
|                  | 6 <sup>th</sup> |   |
| 14 <sup>th</sup> | 1 <sup>st</sup> | Previous year question discussion         |
|                  | 2 <sup>nd</sup> |   |
|                  | 3 <sup>rd</sup> |   |
|                  | 4 <sup>th</sup> |   |
|                  | 5 <sup>th</sup> |   |
|                  | 6 <sup>th</sup> |   |

T. Mahanta  
(Tushan Ranjan Mahanta)  
Pr. Lect. (Math & Sci.)  
H.O.D. (Math & Sci.)

Monalisa Sahoo  
PTO/F, Mathematics

es.

Principal  
Govt. Polytechnic  
Angul  
14/03/2022



| Discipline:<br>Civil/Electrical<br>/Mechanical | Semester: 2 <sup>nd</sup>               | Name of the Teaching Faculty: <i>Nayan Kumar Pradhan</i>   |
|--|---|--|
| Subject: Engg.<br>Mathematics<br>II<br>(Th 3)  | No. of days/week<br>class allotted: 5+1 | Semester from date: 14/03/2022 To date: 18/06/2022<br>No. of weeks: 14   |
| Week   | Class Day                               | Theory Topics  |
| 1 <sup>st</sup>                                | 1 <sup>st</sup>                         | Chapter 2: LIMITS and CONTINUITY:<br>a) Definition of a function (Based on set theory)<br>b) Types of functions<br>i) Constant function,<br>ii) Identity function<br>iii) Absolute value function<br>iv) The Greatest Integer Function |
|  | 2 <sup>nd</sup>                         | v) Trigonometric function with example<br>vi) Exponential function<br>vii) Logarithmic function<br>With examples   |
|  | 3 <sup>rd</sup>                         | c) Introduction of limit: definition, example<br>d) Existence of limit with example  |
|  | 4 <sup>th</sup>                         | e) Methods of evaluation of limit  |
|  | 5 <sup>th</sup>                         | Methods of evaluation of limit continues with some examples  |
|  | 6 <sup>th</sup> (Tutorial class)        | Problems on existence of limit and evaluation of limit   |
| 2 <sup>nd</sup>                                | 1 <sup>st</sup>                         | i) $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a} = na^{n-1}$<br>ii) $\lim_{x \rightarrow 0} \frac{a^x - 1}{x} = \ln a = \log_e a$<br>Some problems using these formulae  |
|  | 2 <sup>nd</sup>                         | iii) $\lim_{x \rightarrow 0} \frac{e^x - 1}{x} = 1$<br>iv) $\lim_{x \rightarrow 0} (1+x)^{\frac{1}{x}} = e$<br>Some problems using these formulae  |
|  | 3 <sup>rd</sup>                         | v) $\lim_{x \rightarrow \infty} (1 + \frac{1}{x})^x = e$<br>vi) $\lim_{x \rightarrow 0} \frac{\log(1+x)}{x} = 1$<br>Some problems using these formulae   |
|  | 4 <sup>th</sup>                         | vii) $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$<br>viii) $\lim_{x \rightarrow 0} \frac{\tan x}{x} = 1$ Some problems using these  |

|                 |                                  |  |
|-----------------|----------------------------------|--|
|                 |                                  | formulae   |
|                 | 5 <sup>th</sup>                  | f) Definition of continuity of a function at a point, Existence of continuity with example   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on limit and continuity   |
| 3 <sup>rd</sup> | 1 <sup>st</sup>                  | <b>Chapter 3: DERIVATIVES:</b><br>a) Derivative of a function at a point<br>b) Algebra of derivative                                 |
|                 | 2 <sup>nd</sup>                  | c) Derivative of standard functions:<br>$x^n, a^x, \log x, e^x$  |
|                 | 3 <sup>rd</sup>                  | Derivative of standard functions continues:<br>$\sin x, \cos x, \tan x$  |
|                 | 4 <sup>th</sup>                  | Derivative of standard functions continues:<br>$\cot x, \sec x, \csc x, \sin^{-1} x$   |
|                 | 5 <sup>th</sup>                  | Derivative of standard functions continues:<br>$\cos^{-1} x, \tan^{-1} x, \cot^{-1} x$   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problem solving on trigonometric functions   |
| 4 <sup>th</sup> | 1 <sup>st</sup>                  | Derivative of standard functions continues:<br>$\sec^{-1} x, \csc^{-1} x,$<br>d) Derivatives of composite function                   |
|                 | 2 <sup>nd</sup>                  | Derivatives of composite function (Chain rule) continues with examples   |
|                 | 3 <sup>rd</sup>                  | Derivatives of composite function (Chain rule) continues with examples   |
|                 | 4 <sup>th</sup>                  | e) Methods of differentiation of<br>i) Parametric function with examples   |
|                 | 5 <sup>th</sup>                  | Methods of differentiation of<br>ii) Implicit function with examples   |
|                 | 6 <sup>th</sup> (Tutorial class) | Solving problems on derivatives of parametric function and implicit function   |
| 5 <sup>th</sup> | 1 <sup>st</sup>                  | Methods of differentiation of<br>iii) Logarithmic function with example  |
|                 | 2 <sup>nd</sup>                  | Methods of differentiation of<br>iv) A function wrt another function with example  |
|                 | 3 <sup>rd</sup>                  | f) Applications of derivatives:<br>i) Successive differentiation (up to second order)<br>Some problems on successive differentiation |
|                 | 4 <sup>th</sup>                  | Solving problems on successive differentiation   |
|                 | 5 <sup>th</sup>                  | ii) Partial differentiation (function of two variables up to second order)   |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on derivative of logarithmic function and successive differentiation.   |
| 6 <sup>th</sup> | 1 <sup>st</sup>                  | Partial differentiation continues  |
|                 | 2 <sup>nd</sup>                  | Some more problems on partial differentiation  |
|                 | 3 <sup>rd</sup>                  | Revision of derivative   |
|                 | 4 <sup>th</sup>                  | <b>Chapter 4: INTEGRATION:</b>   |



|                 |                                  |   |
|-----------------|----------------------------------|---|
|                 |                                  | a) Definition of integration as inverse of differentiation<br>b) Integral of standard functions   |
|                 | 5 <sup>th</sup>                  | c) Methods of integration:  |
|                 | 6 <sup>th</sup> (Tutorial class) | i) Integration by substitution with examples<br>Problems on integration by substitution   |
| 7 <sup>th</sup> | 1 <sup>st</sup>                  | ii) Integration by parts with examples  |
|                 | 2 <sup>nd</sup>                  | Problems on integration by parts  |
|                 | 3 <sup>rd</sup>                  | d) Integration of the following forms<br>i) $\int \frac{dx}{x^2+a^2}$ ii) $\int \frac{dx}{x^2-a^2}$ iii) $\int \frac{dx}{a^2-x^2}$<br>iv) $\int \frac{dx}{\sqrt{a^2-x^2}}$ with examples  |
|                 | 4 <sup>th</sup>                  | Integration of the following forms<br>v) $\int \frac{dx}{x^2-a^2}$ vi) $\int \frac{dx}{\sqrt{a^2-x^2}}$ vii) $\int \frac{dx}{x^2+a^2}$ viii) $\int \frac{dx}{\sqrt{a^2-x^2}}$ with examples   |
|                 | 5 <sup>th</sup>                  | Integration of the following forms<br>ix) $\int \frac{dx}{\sqrt{a^2+x^2}}$ x) $\int \frac{dx}{\sqrt{x^2-a^2}}$ with problems  |
|                 | 6 <sup>th</sup> (Tutorial class) | Problems on integration by parts  |
| 8 <sup>th</sup> | 1 <sup>st</sup>                  | e) Definite integrals and properties<br>i) $\int_0^a f(x) dx = \int_0^a f(a-x) dx$<br>ii) $\int_a^b f(x) dx = -\int_b^a f(x) dx$<br>With problems   |
|                 | 2 <sup>nd</sup>                  | iii) $\int_a^c f(x) dx = \int_a^b f(x) dx + \int_b^c f(x) dx, a < b < c$<br>iv) $\int_{-a}^a f(x) dx = 0, \text{ if } f(x) = \text{odd}$<br>$\int_{-a}^a f(x) dx = 2 \int_0^a f(x) dx, \text{ if } f(x) = \text{even}$<br>With examples |
|                 | 3 <sup>rd</sup>                  | Solving problems on properties of definite integration  |
|                 | 4 <sup>th</sup>                  | f) Application of integration   |

|                  |                                  |  |
|------------------|----------------------------------|--|
|                  |                                  | i) Area enclosed by a curve and X-axis and example   |
|                  | 5 <sup>th</sup>                  | ii) Area of a circle with centre at origin   |
|                  | 6 <sup>th</sup> (Tutorial class) | Solving problems on application of integration   |
| 9 <sup>th</sup>  | 1 <sup>st</sup>                  | <b>Chapter 5: DIFFERENTIAL EQUATION:</b><br>Definition, ODE, PDE,<br>a) Order and degree of a differential equation  |
|                  | 2 <sup>nd</sup>                  | Determining Order and degree of a differential equation with examples  |
|                  | 3 <sup>rd</sup>                  | b) Solution of differential equation<br>Definition   |
|                  | 4 <sup>th</sup>                  | i) By method of separation of variable with examples   |
|                  | 5 <sup>th</sup>                  | method of separation of variable continues with problem solving  |
|                  | 6 <sup>th</sup> (Tutorial class) | Some more problems on separation of variables  |
|                  |                                  | Problems on determination of degree and order of a differential equation   |
| 10 <sup>th</sup> | 1 <sup>st</sup>                  | ii) Linear equation example  |
|                  | 2 <sup>nd</sup>                  | $\frac{dy}{dx} + Py = Q$ , where P, Q are functions of x   |
|                  | 3 <sup>rd</sup>                  | Problems on linear differential equation   |
|                  | 4 <sup>th</sup>                  | Some more Problems on linear differential equation   |
|                  | 5 <sup>th</sup>                  | Revision of differential equation  |
|                  | 6 <sup>th</sup> (Tutorial class) | Revision of differential equation  |
| 11 <sup>th</sup> | 1 <sup>st</sup>                  | <b>Chapter 1: VECTOR ALGEBRA:</b><br>a) Introduction: definition of scalar, vector with examples<br>b) Types of vectors: null vector, parallel vector, collinear vectors with examples |
|                  | 2 <sup>nd</sup>                  | c) Representation of a vector  |
|                  | 3 <sup>rd</sup>                  | d) Magnitude and direction of vectors with examples  |
|                  | 4 <sup>th</sup>                  | e) Addition and subtraction of vectors with examples   |
|                  | 5 <sup>th</sup>                  | Properties of vector addition and position vector  |
|                  | 6 <sup>th</sup> (Tutorial class) | f) Problems on magnitude and position vector   |
| 12 <sup>th</sup> | 1 <sup>st</sup>                  | g) scalar product of two vectors with examples   |
|                  | 2 <sup>nd</sup>                  | h) Geometrical meaning of dot product  |
|                  | 3 <sup>rd</sup>                  | Problems on dot product  |
|                  | 4 <sup>th</sup>                  | i) Angle between two vectors with example  |
|                  | 5 <sup>th</sup>                  | j) Scalar and vector projection of two vectors with examples   |
|                  | 6 <sup>th</sup> (Tutorial class) | Problems on Scalar and vector projection of two vectors  |



|                  |                 |   |
|------------------|-----------------|---|
| 13 <sup>th</sup> | 1 <sup>st</sup> | k) Vector product and geometrical meaning |
|                  | 2 <sup>nd</sup> | Problems on vector product                |
|                  | 3 <sup>rd</sup> | Revision                                  |
|                  | 4 <sup>th</sup> |   |
|                  | 5 <sup>th</sup> |   |
|                  | 6 <sup>th</sup> |   |
| 14 <sup>th</sup> | 1 <sup>st</sup> | Previous year question discussion         |
|                  | 2 <sup>nd</sup> |   |
|                  | 3 <sup>rd</sup> |   |
|                  | 4 <sup>th</sup> |   |
|                  | 5 <sup>th</sup> |   |
|                  | 6 <sup>th</sup> |   |

T Mohanta  
(Tushan Ranjan Mohanta)  
85. Lect. Math & Sci.  
Govt. Polytechnic Angul

PTGF MATHEMATICS  
Nayan Kumar Pradhan




  
Principal 14/03/2022  
Govt. Polytechnic  
Angul

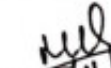
## LESSON PLAN

|                                       |   |  |
|---------------------------------------|---|--|
| Discipline :<br>Electrical Engg.      | Semester : 1st                                    | Name of the Teaching Faculty : Miss Meerarani Parida       |
| Subject :<br>Communicative<br>English | No.of days/Per<br>weeks Class<br>Alloted Weeks :4 | Semester :1st<br>No.of Weeks : 15                          |
| Weeks                                 | Class day   | Theory   |
| 1st(NOV-2021)                         | 1st   | Sub skills of reading- skimmimg, scnning,                  |
|                                       | 2nd   | close reading, main idea & supporting ponts                |
|                                       | 3rd   | Guessing the meaning of unfamiliar words & note making     |
|                                       | 4th   | Note making, summerizing, supplying suitsble title         |
| 2nd(NOV-2021)                         | 1st   | Standing Up for yourself.                                  |
|                                       | 2nd   | Standing Up for yourself.                                  |
|                                       | 3rd   | Standing Up for yourself.                                  |
|                                       | 4th   | To my true friend  |
| 3rd(NOV-2021)                         | 1st   | To my true friend  |
|                                       | 2nd   | synonyms, antonyms   |
|                                       | 3rd   | countable & uncountable nouns                              |
|                                       | 4th   | ARTICLE, Determiers, Modal verbs                           |
| 4th(NOV-2021)                         | 1st   | The magic of Teamwork                                      |
|                                       | 2nd   | The magic of Teamwork                                      |
|                                       | 3rd   | The magic of Teamwork                                      |
|                                       | 4th   | The magic of Teamwork                                      |
| 1st(DEC-2021)                         | 1st   | Tense- Present Tense                                       |
|                                       | 2nd   | Tense- Past Tense  |
|                                       | 3rd   | Inchcape Rock  |
|                                       | 4th   | Inchcape Rock  |
| 2nd(DEC-2021)                         | 1st   | Inchcape Rock  |
|                                       | 2nd   | Paragraph Writing  |
|                                       | 3rd   | Notice & Agenda  |
|                                       | 4th   | Report Writing   |
| 3rd(DEC-2021)                         | 1st   | Writing Personal Letter                                    |
|                                       | 2nd   | Letter to Principal, Librarian, HOD, Hostel Superintendent |
|                                       | 3rd   | Business Letters- Letter of Enquiry                        |
|                                       | 4th   | Letter for Placing Order                                   |
| 4th(DEC-2021)                         | 1st   | Letter of Complaint  |
|                                       | 2nd   | Execution of order, cancellation of order                  |
|                                       | 3rd   | Job Application  |
|                                       | 4th   | Job Application  |
| 1st(JAN-2022)                         | 1st   | voice change   |
|                                       | 2nd   | voice change   |
|                                       | 3rd   | voice change   |
|                                       | 4th   | subject veb agreement                                      |
| 2nd(JAN-2022)                         | 1st   | subject veb agreement                                      |



|               |     |   |
|---------------|-----|---|
|               | 2nd | subject veb agreement                           |
|               | 3rd | Meaning definition, concept of communication    |
|               | 4th | Good and Bad Communication                      |
| 3rd(JAN-2022) | 1st | Communication Models                            |
|               | 2nd | Process of Communication                        |
|               | 3rd | Meaning of Professional Communication           |
|               | 4th | Formal Communication- Upward Communication      |
| 4th(JAN-2022) | 1st | Down ward communication                         |
|               | 2nd | Parallel Communication                          |
|               | 3rd | In-formal communication-Grapevine Communication |
|               | 4th | Non-verbal Communication                        |
| 1st(FEB-2022) | 1st | Non-verbal Communication                        |
|               | 2nd | Non-verbal Communication                        |
|               | 3rd | Non-verbal Communication                        |
|               | 4th | Non-verbal Communication                        |
| 2nd(FEB-2022) | 1st | Grammar Practice                                |
|               | 2nd | Grammar Practice                                |
|               | 3rd | Grammar Practice                                |
|               | 4th | Grammar Practice                                |
| 3rd(FEB-2022) | 1st | Writing of Letters                              |
|               | 2nd | Writing of Letters                              |
|               | 3rd | Writing of Letters                              |
|               | 4th | Writing of Letters                              |

  
Principal  
Govt. Polytechnic  
Angul

  
5/11/2021  
U. Panida  
(Asst. Prof.)

### LESSON PLAN

|                                 |   |   |
|---------------------------------|---|---|
| Discipline : Electrical Engg.   | Semester : 1st                              | Name of the Teaching Faculty : Miss Meerarani Parida              |
| Subject : Communicative English | No.of days/Per weeks Class Alloted Weeks :4 | Semester :1st No.of Weeks : 15                                    |
| Weeks                           | Class day                                   | Practical   |
| 1st(NOV-2021)                   | 1st   | Listening text & reading aloud- Practice                          |
|                                 | 2nd   | Listening, fill in blanks by students                             |
|                                 | 3rd   | Listening, fill in blanks by students                             |
|                                 | 4th   | Choose a suitable title & making summary of given text            |
| 2nd(NOV-2021)                   | 1st   | Choose a suitable title & making summary of given text            |
|                                 | 2nd   | Choose a suitable title & making summary of given text            |
|                                 | 3rd   | Supplying required information & answering comprehension question |
|                                 | 4th   | Supplying required information & answering comprehension question |
| 3rd(NOV-2021)                   | 1st   | Supplying required information & answering comprehension question |
|                                 | 2nd   | Reading aloud text, poem, speech                                  |
|                                 | 3rd   | Reading aloud text, poem, speech                                  |
|                                 | 4th   | Reading aloud text, poem, speech                                  |
| 4th(NOV-2021)                   | 1st   | Reading aloud text, poem, speech                                  |
|                                 | 2nd   | Self introduction   |
|                                 | 3rd   | Self introduction- Practice                                       |
|                                 | 4th   | Self introduction- Practice                                       |
| 1st(DEC-2021)                   | 1st   | Role play by students   |
|                                 | 2nd   | Role play by students   |
|                                 | 3rd   | Role play by students   |
|                                 | 4th   | Role play by students   |
| 2nd(DEC-2021)                   | 1st   | Telephonic conversation   |
|                                 | 2nd   | Telephonic conversation   |
|                                 | 3rd   | Telephonic conversation   |
|                                 | 4th   | Telephonic conversation   |
| 3rd(DEC-2021)                   | 1st   | Initiation by teacher   |



|               |     |   |
|---------------|-----|---|
|               | 2nd | Initiation by students  |
|               | 3rd | Physical appearance   |
|               | 4th | Audience Purpose  |
| 4th(DEC-2021) | 1st | Audience Purpose  |
|               | 2nd | Audience Purpose  |
|               | 3rd | Audience Purpose  |
|               | 4th | Non-verbal skill in face to face communication                      |
| 1st(JAN-2022) | 1st | Non-verbal skill in face to face communication via voice            |
|               | 2nd | Non-verbal skill in face to face communication via group interviews |
|               | 3rd | Non-verbal skill in face to face communication via GDs              |
|               | 4th | Non-verbal skill in face to face communication via GDs              |
| 2nd(JAN-2022) | 1st | Non-verbal skill in face to face communication via GDs              |
|               | 2nd | Non-verbal skill in face to face communication via Seminars         |
|               | 3rd | Non-verbal skill in face to face communication via Seminars         |
|               | 4th | Non-verbal skill in face to face communication via Seminars         |
| 3rd(JAN-2022) | 1st | Leadership quality  |
|               | 2nd | Leadership quality  |
|               | 3rd | Leadership quality  |
|               | 4th | Time management   |
| 4th(JAN-2022) | 1st | Time management   |
|               | 2nd | Time management   |
|               | 3rd | Achieving the target  |
|               | 4th | Achieving the target  |
| 1st(FEB-2022) | 1st | Achieving the target  |
|               | 2nd | Achieving the target  |
|               | 3rd | Achieving the target  |
|               | 4th | Achieving the target  |
| 2nd(FEB-2022) | 1st | Practice  |
|               | 2nd | Practice  |
|               | 3rd | Practice  |
|               | 4th | Practice  |

CIS Daxaspeo  
Principal 5/11/2021  
Govt. Polytechnic  
Angul

WIP  
5/11/2021  
(M. Parida,  
Asst. Prof.)

### LESSON PLAN

|                                       |   |   |
|---------------------------------------|---|---|
| Discipline : Civil & Mechanical Engg. | Semester : 2nd                              | Name of the Teaching Faculty : Miss Meerarani Parida              |
| Subject : Communicative English       | No.of days/Per weeks Class Alloted Weeks :4 | Semester :2nd No.of Weeks : 13                                    |
| Weeks                                 | Class day                                   | Practical   |
| 3rd(March 2022)                       | 1st   | Listening text & reading aloud- Practice                          |
|                                       | 2nd   | Listening, fill in blanks by students                             |
|                                       | 3rd   | Listening, fill in blanks by students                             |
|                                       | 4th   | Choose a suitable title & making summary of given text            |
| 4th(March 2022)                       | 1st   | Choose a suitable title & making summary of given text            |
|                                       | 2nd   | Choose a suitable title & making summary of given text            |
|                                       | 3rd   | Supplying required information & answering comprehension question |
|                                       | 4th   | Supplying required information & answering comprehension question |
| 1st(April-2022)                       | 1st   | Supplying required information & answering comprehension question |
|                                       | 2nd   | Reading aloud text, poem, speech                                  |
|                                       | 3rd   | Reading aloud text, poem, speech                                  |
|                                       | 4th   | Reading aloud text, poem, speech                                  |
| 2nd(April-2022)                       | 1st   | Reading aloud text, poem, speech                                  |
|                                       | 2nd   | Self introduction   |
|                                       | 3rd   | Self introduction- Practice                                       |
|                                       | 4th   | Self introduction- Practice                                       |
| 3rd(April-2022)                       | 1st   | Role play by students   |
|                                       | 2nd   | Role play by students   |
|                                       | 3rd   | Role play by students   |
|                                       | 4th   | Role play by students   |
| 4th(April-2022)                       | 1st   | Telephonic conversation   |
|                                       | 2nd   | Telephonic conversation   |
|                                       | 3rd   | Telephonic conversation   |
|                                       | 4th   | Telephonic conversation   |




|                |     |   |
|----------------|-----|---|
| 1st(May-2022)  | 1st | Initiation by teacher   |
|                | 2nd | Initiation by students  |
|                | 3rd | Physical appearance   |
|                | 4th | Audience Purpose  |
| 2nd(May-2022)  | 1st | Audience Purpose  |
|                | 2nd | Audience Purpose  |
|                | 3rd | Non-verbal skill in face to face communication                      |
|                | 4th | Non-verbal skill in face to face communication via voice            |
| 3rd(May-2022)  | 1st | Non-verbal skill in face to face communication via group interviews |
|                | 2nd | Non-verbal skill in face to face communication via GDs              |
|                | 3rd | Non-verbal skill in face to face communication via GDs              |
|                | 4th | Non-verbal skill in face to face communication via GDs              |
| 4th(May-2022)  | 1st | Non-verbal skill in face to face communication via Seminars         |
|                | 2nd | Non-verbal skill in face to face communication via Seminars         |
|                | 3rd | Non-verbal skill in face to face communication via Seminars         |
|                | 4th | Non-verbal skill in face to face communication via Seminars         |
| 1st(June-2022) | 1st | Leadership quality  |
|                | 2nd | Leadership quality  |
|                | 3rd | Leadership quality  |
|                | 4th | Time management   |
| 2nd(June-2022) | 1st | Time management   |
|                | 2nd | Time management   |
|                | 3rd | Achieving the target  |
|                | 4th | Achieving the target  |
| 3rd(June-2022) | 1st | Achieving the target  |
|                | 2nd | Achieving the target  |
|                | 3rd | Achieving the target  |
|                | 4th | Achieving the target  |


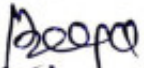
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 Principal  
 Govt. Polytechnic  
 W. Angul  
 14/03/2022  
 (K. Parida  
 Head of)

| LESSON PLAN                           |  |  |
|---------------------------------------|--|--|
| Discipline : Civil & Mechanical Engg. | Semester : 2nd                                 | Name of the Teaching Faculty : Miss Meerarani Parida       |
| Subject : Communicative English       | No.of days/Per weeks<br>Class Alloted Weeks :4 | Semester :2nd No.of Weeks : 13                             |
| Weeks                                 | Class day                                      | Theory   |
| 3rd(March 2022)                       | 1st  | Sub skills of reading- skimming, scanning,                 |
|                                       | 2nd  | close reading, main idea & supporting points               |
|                                       | 3rd  | Guessing the meaning of unfamiliar words & note making     |
|                                       | 4th  | Note making, summarizing, supplying suitable title         |
| 4th(March 2022)                       | 1st  | Standing Up for yourself.                                  |
|                                       | 2nd  | Standing Up for yourself.                                  |
|                                       | 3rd  | Standing Up for yourself.                                  |
|                                       | 4th  | To my true friend  |
| 1st(April-2022)                       | 1st  | To my true friend  |
|                                       | 2nd  | synonyms, antonyms   |
|                                       | 3rd  | countable & uncountable nouns                              |
|                                       | 4th  | ARTICLE, Determiners, Modal verbs                          |
| 2nd(April-2022)                       | 1st  | The magic of Teamwork                                      |
|                                       | 2nd  | The magic of Teamwork                                      |
|                                       | 3rd  | The magic of Teamwork                                      |
|                                       | 4th  | The magic of Teamwork                                      |
| 3rd(April-2022)                       | 1st  | Tense- Present Tense                                       |
|                                       | 2nd  | Tense- Past Tense  |
|                                       | 3rd  | Inchcape Rock  |
|                                       | 4th  | Inchcape Rock  |
| 4th(April-2022)                       | 1st  | Inchcape Rock  |
|                                       | 2nd  | Paragraph Writing  |
|                                       | 3rd  | Notice & Agenda  |
|                                       | 4th  | Report Writing   |
| 1st(May-2022)                         | 1st  | Writing Personal Letter                                    |
|                                       | 2nd  | Letter to Principal, Librarian, HOD, Hostel Superintendent |
|                                       | 3rd  | Business Letters- Letter of Enquiry                        |
|                                       | 4th  | Letter for Placing Order                                   |
| 2nd(May-2022)                         | 1st  | Letter of Complaint  |
|                                       | 2nd  | Execution of order, cancellation of order                  |
|                                       | 3rd  | Job Application  |
|                                       | 4th  | Job Application  |
| 3rd(May-2022)                         | 1st  | voice change   |
|                                       | 2nd  | voice change   |
|                                       | 3rd  | voice change   |
|                                       | 4th  | subject verb agreement                                     |
| 4th(May-2022)                         | 1st  | subject verb agreement                                     |



|                |     |   |
|----------------|-----|---|
|                | 2nd | subject veb agreement                           |
|                | 3rd | Meaning definition, concept of communication    |
|                | 4th | Good and Bad Communication                      |
| 1st(June-2022) | 1st | Communication Models                            |
|                | 2nd | Process of Communication                        |
|                | 3rd | Meaning of Professional Communication           |
|                | 4th | Formal Communication- Upward Communication      |
| 2nd(June-2022) | 1st | Down ward communication                         |
|                | 2nd | Parallel Communication                          |
|                | 3rd | In-formal communication-Grapevine Communication |
|                | 4th | Non-verbal Communication                        |
| 3rd(June-2022) | 1st | Non-verbal Communication                        |
|                | 2nd | Non-verbal Communication                        |
|                | 3rd | Non-verbal Communication                        |
|                | 4th | Non-verbal Communication                        |

  
 14/03/2022  
 (M. M. Parida,  
 Lect English)

  
  
 Principal  
 Govt. Polytechnic  
 Angul

# LESSON PLAN

| Discipline : Mechanical Engg.  | Semester : 1st                                | Name of the Teaching Faculty : Shri Asit Ranjan Prusty   |
|--------------------------------|---|--|
| Subject : Computer Application | No. of days/Per Weeks Class Alloted Weeks : 4 | Semester : 1st No. of Weeks : 15   |
| Weeks                          | Class day                                     | Theory   |
| 1st(Nov- 2021)                 | 1st   | Introduction to Computer   |
|                                | 2nd   | Evolution of Computer, Generation Of Computer  |
|                                | 3rd   | Classification Of Computer   |
|                                | 4th   | Basic Organisation of Computer With Functional Block Diagram   |
| 2nd(Nov- 2021)                 | 1st   | Input Devices ,CPU ,Output Devices,Memory Classification   |
|                                | 2nd   | Software concept, System software, Application software  |
|                                | 3rd   | Overview of Operating System Objectives  |
|                                | 4th   | Functions of O.S ,<br>Types of Operating System: Batch Processing, Multiprogramming, Time Sharing OS |
| 3rd(Nov- 2021)                 | 1st   | Features of DOS, Windows and UNIX  |
|                                | 2nd   | Programming Languages Compiler, interpreter Computer Virus   |
|                                | 3rd   | Different Types of computer virus  |
|                                | 4th   | Detection and prevention of Virus  |
| 4th(Nov- 2021)                 | 1st   | Application of computers in different Domain   |
|                                | 2nd   | Networking concept, Protocol, Connecting Media, Data Transmission Mode                               |
|                                | 3rd   | Network Topologies, Types of Network   |
|                                | 4th   | Networking Devices like Hub, Repeater, Switch, Bridge, Router, Gateway & NIC                         |
| 1st(Dec- 2021)                 | 1st   | Internet Services like E-Mail, WWW, FTP, Chatting  |
|                                | 2nd   | Internet Conferencing,   |
|                                | 3rd   | Electronic Newspaper & Online Shopping   |
|                                | 4th   | Different types of Internet connectivity and ISP   |
| 2nd(Dec- 2021)                 | 1st   | Different types of Internet connectivity and ISP   |
|                                | 2nd   | Concept of File and Folder   |
|                                | 3rd   | File Access and Storage methods. Sequential, Direct, ISAM  |
|                                | 4th   | File Access and Storage methods. Sequential, Direct, ISAM  |
| 3rd(Dec- 2021)                 | 1st   | Data Capture, Data storage   |
|                                | 2nd   | Data Processing and Retrieval  |
|                                | 3rd   | Algorithm, Pseudo code and Flowchart Generation of Programming Languages                             |
|                                | 4th   | Algorithm, Pseudo code and Flowchart Generation of Programming Languages                             |
| 4th(Dec- 2021)                 | 1st   | Structured Programming Language  |
|                                | 2nd   | Examples of Problem solving through Flowchart  |
|                                | 3rd   | Examples of Problem solving through Flowchart  |
|                                | 4th   | Constants, Variables and Data types in C   |
| 1st(Jan-2022)                  | 1st   | Constants, Variables and Data types in C   |
|                                | 2nd   | Managing Input and Output operations.  |
|                                | 3rd   | Operators, Expressions, Type conversion & Typecasting  |
|                                | 4th   | Managing Input and Output operations.  |
| 2nd(Jan-2022)                  | 1st   | Operators, Expressions, Type conversion & Typecasting  |
|                                | 2nd   | Decision Control and Looping Statements  |
|                                | 3rd   | (If, If-else, If-else-if, Switch, While)   |
|                                | 4th   | Do while,  |
| 3rd(Jan-2022)                  | 1st   | For, Break, Continue & Goto  |
|                                | 2nd   | Programming Assignments using the above features   |
|                                | 3rd   | Programming Assignments using the above features   |
|                                | 4th   | Programming Assignments using the above features   |
| 4th(Jan-2022)                  | 1st   | Programming Assignments using the above features   |
|                                | 2nd   | Programming Assignments using the above features   |
|                                | 3rd   | Functions and Passing Parameters to the Function (Call by Value)                                     |
|                                | 4th   | Call By Reference)   |
| 1st(Feb-2022)                  | 1st   | Scope of Variables and Storage Classes   |
|                                | 2nd   | Recursion Function and Types of Recursion  |
|                                | 3rd   | One Dimensional Array and Multidimensional Array   |
|                                | 4th   | String Operations and pointers, Structure and Union Concept Only                                     |
| 2nd(Feb-2022)                  | 1st   | Revision   |
|                                | 2nd   | Sample Paper Practice  |
|                                | 3rd   | Sample Paper Practice  |
|                                | 4th   | Sample Paper Practice  |
| 3rd(Feb-2022)                  | 1st   | Sample Paper Practice  |
|                                | 2nd   | Sample Paper Practice  |
|                                | 3rd   | Sample Paper Practice  |
|                                | 4th   | Sample Paper Practice  |

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Asit Ranjan Prusty  
5/11/2021  
Leet. (CA)

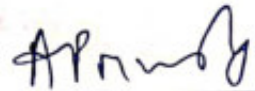


### LESSON PLAN

|                                |   |  |
|--------------------------------|---|--|
| Discipline :<br>Mechanical     | Semester : 1st                              | Name of the Teachnig Faculty :Shri Asit Ranjan Prusty  |
| Subject : Computer Application | No.of days/Per weeks<br>Class Alloted Weeks | Semester :1st No.of Weeks : 15   |
| Weeks                          | Class day                                   | Practical  |
| 1st(Nov 2021)                  | 1st   | Identification of different components of Computer Switch on and Booting   |
|                                | 2nd   | Study of device and power supply form factor of Personal Computer<br>System Identification of various Mother Board components Identification |
|                                | 3rd   | Identification of different ports  |
|                                | 4th   | type of connectors, and their purpose  |
| 2nd(Nov-2021)                  | 1st   | Case Identification and Study of ROM   |
|                                | 2nd   | RAM, Adapter Cards   |
|                                | 3rd   | Expansion Slots,SATA connectors  |
|                                | 4th   | Study of Adapters and Converters   |
| 3rd(Nov-2021)                  | 1st   | Study of various types of LAB Safety measures (General Safety, Electrical Safety,  |
|                                | 2nd   | Analysis of various Power Fluctuation Types (Blackout, Brownout, Noise, Spike,   |
|                                | 3rd   | Power Protection Devices (Surge suppressor, UPS, Standby power supply)   |
|                                | 4th   | Procedures for proper disposal or recycling of hazardous computer components   |
| 4th(Nov-2021)                  | 1st   | Toner Kits, Cartridges   |
|                                | 2nd   | Chemical Solvents and Aerosol Cans)  |
|                                | 3rd   | ESD tools, Hand tools,   |
|                                | 4th   | cable tools,   |
| 1st(Dec-2021)                  | 1st   | Cleaning tools, Diagnostic tools),   |
|                                | 2nd   | Disk Management Tools  |
|                                | 3rd   | Basic DOS commands (CLS, DIR, DATE, TIME, VERSION  |
|                                | 4th   | MD, CD, RD,  |
| 2nd(Dec-2021)                  | 1st   | DEL, COPYREN,  |
|                                | 2nd   | USE OF WILD CARDS, PATH),  |
|                                | 3rd   | Basic Windows OS operations, MOUSE OPERATIONS, Utilities and Accessories,  |
|                                | 4th   | Basic operations of Word Processing Package. (MS-Word)   |
| 3rd(Dec-2021)                  | 1st   | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 2nd   | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 3rd   | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 4th   | Basic operations of Word Processing Package. (MS-Word)   |
| 4th(Dec-2021)                  | 1st   | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 2nd   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 3rd   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 4th   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
| 1st(Jan-2022)                  | 1st   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 2nd   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 3rd   | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 4th   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
| 2nd(Jan-2022)                  | 1st   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 2nd   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 3rd   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 4th   | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
| 3rd(Jan-2022)                  | 1st   | Getting acquainted with Internet connection, Browser, website  |

|               |     |   |
|---------------|-----|---|
|               | 2nd | URL, webpage, http, WWW, net browsing   |
|               | 3rd | URL, webpage, http, WWW, net browsing   |
|               | 4th | Creating E-Mail Id, sending and receiving E-mail Chatting                         |
| 4th(Jan-2022) | 1st | 1. Write a Program in C to find the greatest number among three numbers.          |
|               | 2nd | 2. Write a Program in C to find the average of n numbers by using for loop        |
|               | 3rd | 2. Write a Program in C to find the average of n numbers by using for loop        |
|               | 4th | 3. Write a program in C to determine whether a number is prime or not?            |
| 1st(Feb-2022) | 1st | 3. Write a program in C to determine whether a number is prime or not?            |
|               | 2nd | 4. Write a program in C to check whether a given number is palindrome or not?     |
|               | 3rd | 4. Write a program in C to check whether a given number is palindrome or not?     |
|               | 4th | 5. Write a program in C to compute the sine series?                               |
| 2nd(Feb-2022) | 1st | 6. Write a program in C to accept row wise and column wise element in a two       |
|               | 2nd | 7. Write a program in C to find the vowels in a given string.                     |
|               | 3rd | 8. Write a program in C to find the factorial of a number, by using recursion     |
|               | 4th | 9. Write a program in C to find the sum of Fibonacci series, by using function.   |
|               |     | 10. Write a program in C to accept a number from keyboard and print it in reverse |

  
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04/11/2021

  
5/11/2021  
Lect. (CA)



# LESSON PLAN

|                                |   |  |                   |
|--------------------------------|---|--|-------------------|
| Discipline : Civil Engg.       | Semester : 1st                                    | Name of the Teaching Faculty : Miss Bidyut Prabha Pradhan                    |                   |
| Subject : Computer Application | No. of days/Per weeks Class Allotted<br>Weeks : 4 | Semester : 1st   | No. of Weeks : 15 |
| Weeks                          | Class day   | Theory   |                   |
| 1st(Nov- 2021)                 | 1st   | Introduction to Computer   |                   |
|                                | 2nd   | Evolution of Computer, Generation Of Computer                                |                   |
|                                | 3rd   | Classification Of Computer   |                   |
|                                | 4th   | Basic Organisation of Computer With Functional Block Diagram                 |                   |
| 2nd(Nov- 2021)                 | 1st   | Input Devices ,CPU ,Output Devices,Memory Classification                     |                   |
|                                | 2nd   | Software concept, System software, Application software                      |                   |
|                                | 3rd   | Overview of Operating System Objectives                                      |                   |
|                                | 4th   | Functions of O.S ,   |                   |
| 3rd(Nov- 2021)                 | 1st   | Features of DOS, Windows and UNIX  |                   |
|                                | 2nd   | Programming Languages Compiler, interpreter Computer Virus                   |                   |
|                                | 3rd   | Different Types of computer virus  |                   |
|                                | 4th   | Detection and prevention of Virus  |                   |
| 4th(Nov- 2021)                 | 1st   | Application of computers in different Domain                                 |                   |
|                                | 2nd   | Networking concept, Protocol, Connecting Media, Data Transmission Mode       |                   |
|                                | 3rd   | Network Topologies, Types of Network   |                   |
|                                | 4th   | Networking Devices like Hub, Repeater, Switch, Bridge, Router, Gateway & NIC |                   |
| 1st(Dec- 2021)                 | 1st   | Internet Services like E-Mail, WWW, FTP, Chatting                            |                   |
|                                | 2nd   | Internet Conferencing,   |                   |
|                                | 3rd   | Electronic Newspaper & Online Shopping                                       |                   |
|                                | 4th   | Different types of Internet connectivity and ISP                             |                   |
| 2nd(Dec- 2021)                 | 1st   | Different types of Internet connectivity and ISP                             |                   |
|                                | 2nd   | Concept of File and Folder   |                   |
|                                | 3rd   | File Access and Storage methods. Sequential, Direct, ISAM                    |                   |
|                                | 4th   | File Access and Storage methods. Sequential, Direct, ISAM                    |                   |
| 3rd(Dec- 2021)                 | 1st   | Data Capture, Data storage   |                   |
|                                | 2nd   | Data Processing and Retrieval  |                   |
|                                | 3rd   | Algorithm, Pseudo code and Flowchart Generation of Programming Languages     |                   |
|                                | 4th   | Algorithm, Pseudo code and Flowchart Generation of Programming Languages     |                   |
| 4th(Dec- 2021)                 | 1st   | Structured Programming Language  |                   |
|                                | 2nd   | Examples of Problem solving through Flowchart                                |                   |
|                                | 3rd   | Examples of Problem solving through Flowchart                                |                   |
|                                | 4th   | Constants, Variables and Data types in C                                     |                   |
| 1st(Jan-2022)                  | 1st   | Constants, Variables and Data types in C                                     |                   |
|                                | 2nd   | Managing Input and Output operations.  |                   |
|                                | 3rd   | Operators, Expressions, Type conversion & Typecasting                        |                   |
|                                | 4th   | Managing Input and Output operations.  |                   |
| 2nd(Jan-2022)                  | 1st   | Operators, Expressions, Type conversion & Typecasting                        |                   |
|                                | 2nd   | Decision Control and Looping Statements                                      |                   |
|                                | 3rd   | (If, If-else, If-else-if, Switch, While)                                     |                   |
|                                | 4th   | Do while,  |                   |
| 3rd(Jan-2022)                  | 1st   | For, Break, Continue & Goto  |                   |
|                                | 2nd   | Programming Assignments using the above features                             |                   |
|                                | 3rd   | Programming Assignments using the above features                             |                   |
|                                | 4th   | Programming Assignments using the above features                             |                   |
| 4th(Jan-2022)                  | 1st   | Programming Assignments using the above features                             |                   |
|                                | 2nd   | Programming Assignments using the above features                             |                   |
|                                | 3rd   | Functions and Passing Parameters to the Function (Call by Value)             |                   |
|                                | 4th   | Call By Reference)   |                   |
| 1st(Feb-2022)                  | 1st   | Scope of Variables and Storage Classes                                       |                   |
|                                | 2nd   | Recursion Function and Types of Recursion                                    |                   |
|                                | 3rd   | One Dimensional Array and Multidimensional Array                             |                   |
|                                | 4th   | String Operations and pointers, Structure and Union Concept Only             |                   |
| 2nd(Feb-2022)                  | 1st   | Revision   |                   |
|                                | 2nd   | Sample Paper Practice  |                   |
|                                | 3rd   | Sample Paper Practice  |                   |
|                                | 4th   | Sample Paper Practice  |                   |
| 3rd(Feb-2022)                  | 1st   | Sample Paper Practice  |                   |
|                                | 2nd   | Sample Paper Practice  |                   |
|                                | 3rd   | Sample Paper Practice  |                   |
|                                | 4th   | Sample Paper Practice  |                   |

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Am Angul

Bpradhan  
5/11/21  
Leet CSE



# LESSON PLAN

| Discipline : Civil             | Semester : 1st                                 | Name of the Teachnig Faculty : Miss Bidyut Prabha Pradhan  |
|--------------------------------|--|--|
| Subject : Computer Application | No.of days/Per weeks<br>Class Alloted Weeks :4 | Semester :1st<br>No.of Weeks : 15  |
| Weeks                          | Class day                                      | Practical  |
| 1st(Nov 2021)                  | 1st  | Identification of different components of Computer Switch on and Booting   |
|                                | 2nd  | Study of device and power supply form factor of Personal Computer<br>System Identification of various Mother Board components Identification |
|                                | 3rd  | Identification of different ports  |
|                                | 4th  | type of connectors, and their purpose  |
| 2nd(Nov-2021)                  | 1st  | Case Identification and Study of ROM   |
|                                | 2nd  | RAM, Adapter Cards   |
|                                | 3rd  | Expansion Slots,SATA connectors  |
|                                | 4th  | Study of Adapters and Converters   |
| 3rd(Nov-2021)                  | 1st  | Study of various types of LAB Safety measures (General Safety, Electrical Safety,  |
|                                | 2nd  | Analysis of various Power Fluctuation Types (Blackout, Brownout, Noise, Spike,   |
|                                | 3rd  | Power Protection Devices (Surge suppressor, UPS, Standby power supply)   |
|                                | 4th  | Procedures for proper disposal or recycling of hazardous computer components   |
| 4th(Nov-2021)                  | 1st  | Toner Kits, Cartridges   |
|                                | 2nd  | Chemical Solvents and Aerosol Cans)  |
|                                | 3rd  | ESD tools, Hand tools,   |
|                                | 4th  | cable tools,   |
| 1st(Dec-2021)                  | 1st  | Cleaning tools, Diagnostic tools),   |
|                                | 2nd  | Disk Management Tools  |
|                                | 3rd  | Basic DOS commands (CLS, DIR, DATE, TIME, VERSION  |
|                                | 4th  | MD, CD, RD,  |
| 2nd(Dec-2021)                  | 1st  | DEL, COPYREN,  |
|                                | 2nd  | USE OF WILD CARDS, PATH),  |
|                                | 3rd  | Basic Windows OS operations, MOUSE OPERATIONS, Utilities and Accessories,  |
|                                | 4th  | Basic operations of Word Processing Package. (MS-Word)   |
| 3rd(Dec-2021)                  | 1st  | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 2nd  | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 3rd  | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 4th  | Basic operations of Word Processing Package. (MS-Word)   |
| 4th(Dec-2021)                  | 1st  | Basic operations of Word Processing Package. (MS-Word)   |
|                                | 2nd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 3rd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 4th  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
| 1st(Jan-2022)                  | 1st  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 2nd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 3rd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |
|                                | 4th  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
| 2nd(Jan-2022)                  | 1st  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 2nd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 3rd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
|                                | 4th  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |
| 3rd(Jan-2022)                  | 1st  | Getting acquainted with Internet connection, Browser, website  |
|                                | 2nd  | URL, webpage, http, WWW, net browsing  |
|                                | 3rd  | URL, webpage, http, WWW, net browsing  |
|                                | 4th  | Creating E-Mail Id, sending and receiving E-mail Chatting  |



|               |     |   |
|---------------|-----|---|
| 4th(Jan-2022) | 1st | 1. Write a Program in C to find the greatest number among three numbers.          |
|               | 2nd | 2. Write a Program in C to find the average of n numbers by using for loop        |
|               | 3rd | 2. Write a Program in C to find the average of n numbers by using for loop        |
|               | 4th | 3. Write a program in C to determine whether a number is prime or not?            |
| 1st(Feb-2022) | 1st | 3. Write a program in C to determine whether a number is prime or not?            |
|               | 2nd | 4. Write a program in C to check whether a given number is palindrome or not?     |
|               | 3rd | 4. Write a program in C to check whether a given number is palindrome or not?     |
|               | 4th | 5. Write a program in C to compute the sine series?                               |
| 2nd(Feb-2022) | 1st | 6. Write a program in C to accept row wise and column wise element in a two       |
|               | 2nd | 7. Write a program in C to find the vowels in a given string.                     |
|               | 3rd | 8. Write a program in C to find the factorial of a number, by using recursion     |
|               | 4th | 9. Write a program in C to find the sum of Fibonacci series, by using function.   |
|               |     | 10. Write a program in C to accept a number from keyboard and print it in reverse |

  
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 Govt. Polytechnic  
 Angul  
 05/11/21

Apuradhan  
 5/11/21  
 Lect(CSE)

# LESSON PLAN

| Discipline :Electrical Engg.   | Semester : 2nd                                 | Name of the Teaching Faculty : Miss Bidyut Prabha Pradhan/Mr.Asit Ranjan Prusty                      |                  |
|--------------------------------|--|--|------------------|
| Subject : Computer Application | No.of days/Per weeks Class Alloted<br>Weeks :4 | Semester :2nd  | No.of Weeks : 13 |
| Weeks                          | Class day                                      | Theory   |                  |
| 3rd(March- 2022)               | 1st  | Introduction to Computer   |                  |
|                                | 2nd  | Evolution of Computer,Generation Of Computer   |                  |
|                                | 3rd  | Classification Of Computer   |                  |
|                                | 4th  | Basic Organisation of Computer With Functional Block Diagram   |                  |
| 4th(March- 2022)               | 1st  | Input Devices ,CPU ,Output Devices,Memory Classification   |                  |
|                                | 2nd  | Software concept, System software, Application software  |                  |
|                                | 3rd  | Overview of Operating System Objectives  |                  |
|                                | 4th  | Functions of O.S ,<br>Types of Operating System: Batch Processing, Multiprogramming, Time Sharing OS |                  |
| 1st(April-2022)                | 1st  | Features of DOS, Windows and UNIX  |                  |
|                                | 2nd  | Programming Languages Compiler, interpreter Computer Virus   |                  |
|                                | 3rd  | Different Types of computer virus  |                  |
|                                | 4th  | Detection and prevention of Virus  |                  |
| 2nd(April-2022)                | 1st  | Application of computers in different Domain   |                  |
|                                | 2nd  | Networking concept, Protocol, Connecting Media, Data Transmission Mode                               |                  |
|                                | 3rd  | Network Topologies, Types of Network   |                  |
|                                | 4th  | Networking Devices like Hub, Repeater, Switch, Bridge, Router, Gateway & NIC                         |                  |
| 3rd(April- 2022)               | 1st  | Internet Services like E-Mail, WWW, FTP, Chatting  |                  |
|                                | 2nd  | Internet Conferencing,   |                  |
|                                | 3rd  | Electronic Newspaper & Online Shopping   |                  |
|                                | 4th  | Different types of Internet connectivity and ISP   |                  |
| 4th(April-2022)                | 1st  | Different types of Internet connectivity and ISP   |                  |
|                                | 2nd  | Concept of File and Folder   |                  |
|                                | 3rd  | File Access and Storage methods. Sequential, Direct, ISAM  |                  |
|                                | 4th  | File Access and Storage methods. Sequential, Direct, ISAM  |                  |
| 1st(May-2022)                  | 1st  | Data Capture, Data storage   |                  |
|                                | 2nd  | Data Processing and Retrieval  |                  |
|                                | 3rd  | Algorithm, Pseudo code and Flowchart Generation of Programming Languages                             |                  |
|                                | 4th  | Algorithm, Pseudo code and Flowchart Generation of Programming Languages                             |                  |
| 2nd(May-2022)                  | 1st  | Structured Programming Language  |                  |
|                                | 2nd  | Examples of Problem solving through Flowchart  |                  |
|                                | 3rd  | Examples of Problem solving through Flowchart  |                  |
|                                | 4th  | Constants, Variables and Data types in C   |                  |
| 3rd(May-2022)                  | 1st  | Constants, Variables and Data types in C   |                  |
|                                | 2nd  | Managing Input and Output operations.  |                  |
|                                | 3rd  | Operators, Expressions, Type conversion & Typecasting  |                  |
|                                | 4th  | Managing Input and Output operations.  |                  |
| 4th(May-2022)                  | 1st  | Operators, Expressions, Type conversion & Typecasting  |                  |
|                                | 2nd  | Decision Control and Looping Statements  |                  |
|                                | 3rd  | (If, If-else, If-else-if, Switch, While)   |                  |
|                                | 4th  | Do while,  |                  |
| 1st(June-2022)                 | 1st  | For, Break, Continue & Goto  |                  |
|                                | 2nd  | Programming Assignments using the above features   |                  |
|                                | 3rd  | Programming Assignments using the above features   |                  |
|                                | 4th  | Programming Assignments using the above features   |                  |
| 2nd(June-2022)                 | 1st  | Programming Assignments using the above features   |                  |
|                                | 2nd  | Functions and Passing Parameters to the Function (Call by Value)                                     |                  |
|                                | 3rd  | Call By Reference)   |                  |
|                                | 4th  | Scope of Variables and Storage Classes   |                  |
| 3rd(June-2022)                 | 1st  | Recursion Function and Types of Recursion  |                  |
|                                | 2nd  | One Dimensional Array and Multidimensional Array   |                  |
|                                | 3rd  | String Operations and pointers,Structure and Union Concept Only                                      |                  |
|                                | 4th  |  |                  |

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# LESSON PLAN

|                                |  |  |                  |
|--------------------------------|--|--|------------------|
| Discipline : Electrical        | Semester : 2nd                                 | Name of the Teachnig Faculty :Mr Asit Ranjan Prusty/Miss Bidyut Prabha   |                  |
| Subject : Computer Application | No.of days/Per weeks<br>Class Alloted Weeks :4 | Semester : 2nd   | No.of Weeks : 13 |
| Weeks                          | Class day                                      | Practical  |                  |
| 3rd (March 2022)               | 1st  | Identification of different components of Computer Switch on and Booting Process   |                  |
|                                | 2nd  | Study of device and power supply form factor of Personal Computer System<br>Identification of various Mother Board components Identification |                  |
|                                | 3rd  | Identification of different ports  |                  |
|                                | 4th  | type of connectors, and their purpose  |                  |
| 4th(March-2022)                | 1st  | Case Identification and Study of ROM   |                  |
|                                | 2nd  | RAM, Adapter Cards   |                  |
|                                | 3rd  | Expansion Slots,SATA connectors  |                  |
|                                | 4th  | Study of Adapters and Converters   |                  |
| 1st (April-2022)               | 1st  | Study of various types of LAB Safety measures (General Safety, Electrical Safety, Fire   |                  |
|                                | 2nd  | Analysis of various Power Fluctuation Types (Blackout, Brownout, Noise, Spike, Power surge),   |                  |
|                                | 3rd  | Power Protection Devices (Surge suppressor, UPS, Standby power supply)   |                  |
|                                | 4th  | Procedures for proper disposal or recycling of hazardous computer components   |                  |
| 2nd(April-2022)                | 1st  | Toner Kits, Cartridges   |                  |
|                                | 2nd  | Chemical Solvents and Aerosol Cans)  |                  |
|                                | 3rd  | ESD tools, Hand tools,   |                  |
|                                | 4th  | cable tools,   |                  |
| 3rd(April-2022)                | 1st  | Cleaning tools, Diagnostic tools),   |                  |
|                                | 2nd  | Disk Management Tools  |                  |
|                                | 3rd  | Basic DOS commands (CLS, DIR, DATE, TIME, VERSION  |                  |
|                                | 4th  | MD, CD, RD,  |                  |
| 4th(April-2022)                | 1st  | DEL, COPYREN,  |                  |
|                                | 2nd  | USE OF WILD CARDS, PATH),  |                  |
|                                | 3rd  | Basic Windows OS operations, MOUSE OPERATIONS, Utilities and Accessories,  |                  |
|                                | 4th  | Basic operations of Word Processing Package. (MS-Word)   |                  |
| 1st(May-2022)                  | 1st  | Basic operations of Word Processing Package. (MS-Word)   |                  |
|                                | 2nd  | Basic operations of Word Processing Package. (MS-Word)   |                  |
|                                | 3rd  | Basic operations of Word Processing Package. (MS-Word)   |                  |
|                                | 4th  | Basic operations of Word Processing Package. (MS-Word)   |                  |
| 2nd(May-2022)                  | 1st  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 2nd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 3rd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 4th  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
| 3rd(May-2022)                  | 1st  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 2nd  | Basic operations of Electronic Spread Sheet Package. (MS-Excel),   |                  |
|                                | 3rd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
|                                | 4th  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
| 4th(May-2022)                  | 1st  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
|                                | 2nd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
|                                | 3rd  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
|                                | 4th  | Basic operations of Presentation Package (MS- Power point) (Create, Edit, Format, Save, Print/View in the above three packages)              |                  |
| 1st(June-2022)                 | 1st  | Getting acquainted with Internet connection, Browser, website  |                  |

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|----------------|-----|--|
|                | 2nd | URL, webpage, http, WWW, net browsing  |
|                | 3rd | URL, webpage, http, WWW, net browsing  |
|                | 4th | Creating E-Mail Id, sending and receiving E-mail Chatting  |
| 2nd(June-2022) | 1st | 1. Write a Program in C to find the greatest number among three numbers.                           |
|                | 2nd | 2. Write a Program in C to find the average of n numbers by using for loop                         |
|                | 3rd | 3. Write a program in C to determine whether a number is prime or not?                             |
|                | 4th | 4. Write a program in C to check whether a given number is palindrome or not?                      |
| 3rd(June-2022) | 1st | 5. Write a program in C to compute the sine series?  |
|                | 2nd | 6. Write a program in C to accept row wise and column wise element in a two                        |
|                | 3rd | 7. Write a program in C to find the vowels in a given string.                                      |
|                | 4th | 8. Write a program in C to find the factorial of a number, by using recursion                      |
| 2nd(Feb-2022)  | 1st | 9. Write a program in C to find the sum of Fibonacci series, by using function.                    |
|                | 2nd | 9. Write a program in C to find the sum of Fibonacci series, by using function.                    |
|                | 3rd | 10. Write a program in C to accept a number from keyboard and print it in reverse order of entry?  |
|                | 4th | 10. Write a program in C to accept a number from keyboard and print it in reverse order of entry,? |