

DEPARTMENT OF COMPUTER SCIENCE, MDKG COLLEGE, DIBRUGARH. CLASS ROUTINE FOR B.Sc. 1st, 3th SEMESTER (DEPARTMENT OF COMPUTER SCIENCE) FOR 2024

| Day | Semester | 9-10 | 10-11 | 11-12 | 12-1 | 1-2 | 2-3 | 3-4 | 4-5 |
|-----------|----------|--------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--|--|
| MONDAY | I | GECCSC1(T) CONFERENCE ROOM-NAS | | MINCSC1(T) ICT LAB -RS | - | | | ADD-ON(RS)(T) CONFERENCE ROOT | И |
| | III | | | | | MINCSC3(P) ICT LAB NAS | MINCSC3(P) ICT LAB NAS | | |
| TUESDAY | 1 | | | | MINCSC1(P) ICT LAB -(RS) | MINCSC1(P) ICT LAB -(RS | | ADD-ON(P)(RS) | I |
| | | | | | | | GECCSC3(T) ICT LAB RS | | |
| WEDNESDAY | 1 | | | | GECCSC1(P) ICT LAB (RS) | GECCSC1(P) ICT LAB (RS) | | MINCSC1(T) ICT LAB (NAS <mark>)</mark> | MINCSC1(T) REMIDIAL CLASS ICT LAB (NAS |
| | 111 | MINCSC3(T) ICT LAB NAS | GECCSC3(P)) ICT LAP RS | GECCSC3(P)) ICT LAB RS | | | | MINCSC3(T) CONFEREENCE ROOM RS | |
| THURSDAY | 1 | | | MINCSC1(P) ICT LAB NAS | MINCSC1(P) ICT LAB NAS | GECSC1(P) ICT LAB NAS | GECSC1(P) ICT LAB NAS | | |
| | | | | | | MINCSC3(P) RS (ICT-LAB) | MINCSC3(P) RS (ICT-LAB) | GECCSC3(T) REMIDIAL CLASS CONFERENCE | |



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| | | | | | | | ROOM NAS | |
|----------|---|------------------------------|---|--|---|------------------------------|--------------------------|--------------|
| FRIDAY | 1 | | | GECCSC1(T) CONFERENCE ROOM RS | | | | |
| | | MINCSC3(T) ICT LAB NAS | | | GECCSC3(P) ICT LAB NAS | GECCSC3(P) ICT LAB NAS | VAC5(ROOMNO -2 RS,NAS | 01)/ICT-LAB) |
| SATURDAY | 1 | | MINCSC1(T) REMIDIAL CLASS ICT LAB RS | | GECCSC1(T) ICT LAB(RS) REMIDIAL CLASS | | | |
| | | | | | | | | |

P: PRACTICAL T: THEORY

STUDENT'S STRENGTH: UNPREDICTABLE

MINCSC1: CYBER SECURITY ; STUDENT'S STRENGTH: UNPREDICTABLE

GECCSC1: OFFICE AUTOMATION

MINCSC3: CLOUD COMPUTING

STUDENT'S STRENGTH: 9

GECCSC 3: BASICS OF PHOTOSHOP

STUDENT'S STRENGTH: 27

DEPARTMENT OF COMPUTER SCIENCE, MDKG COLLEGE, DIBRUGARH. DISTRIBUTION OF CLASSES:

| ABBRIVIATION | NAME OF THE TEACHER | NO. OF CLASSES PAPER | NO. OF CLASSES PER WEEK |
|--------------|---------------------|-------------------------|-------------------------|
| | | WISE | |
| NAS | Dr. NIAZ ALI SHAH | GECCSC1=3 (T=1,P=2) | |
| | | MINCSC1=4(T=2P=2) | 3+4+3+4+2=16 |
| | | GECCSC3=3(T=1,P=2) | |
| | | MINCSC3=4(T=2,P=2) | |
| | | VAC5=2(T/P=2) | |
| RS | RIMPI SARMA | GECCSC1=4 (T=2,P=2) | 4+4+3+3+4+2=20 |
| | | MINCSC1=4(T=2P=2) | |
| | | GECCSC3=3(T=1,P=2) | |
| | | MINCSC3=3(T=1,P=2) | |
| | | ADDON COURSE=4(T=2,P=2) | |
| | | VAC5=2(T/P=2) | |



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Total

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B.Sc. IN COMPUTER SCIENCE PROGRAMME(NEP)DETAILED SYLLABUS OF 1^sSEMESTER

| Title of the C | ourse | : | Cyber Security | | | |
|----------------------|----------|----------|---------------------------------|------|---|---|
| Course Code | | : | MINCSC1 | | | |
| Nature of the | Course | : | Minor | | | |
| Total Credits | ; | : | 04 | | | |
| Distribution | of Marks | : | 80 (End Sem)(60T+20P) + 20 (In- | Sem) | | |
| UNITS | | CONTENTS | | AT | L | Т |

| UNIIS | CONTENTS | AI | L | 1 | r | Hours |
|--------------|---|----|-----|----|----|-------|
| 1 | Introduction to Cyber security: Defining Cyberspace and Overview of Computer and Web- | RS | 06 | 01 | - | 07 |
| (Marks) | technology, Architecture of cyberspace, Communication and | | | | | |
| 12 TH | web technology, Internet, World wide web, Advent of internet, | | | | | |
| 12 11 | Internet infrastructure for data transfer and governance, | | | | | |
| | Internet society, Regulation of cyberspace, Concept of cyber | | | | | |
| | security, Issues and challenges of cyber security. | | | | | |
| 2 | Cyber crime and Cyber law: | RS | 07 | 01 | - | 08 |
| (Manlag) | Classification of cyber crimes, Common cyber crimes- cyber | | | | | |
| (Marks) | crime targeting computers and mobiles, cyber crime against | | | | | |
| 12 TH | women and children, financial frauds, social engineering | | | | | |
| | attacks, malware and ransomware attacks, zero day and zero | | | | | |
| | click attacks, Cyberchiminals modus-operandi, Reporting of | | | | | |
| | perspective of cyber crime. IT Act 2000 and its | | | | | |
| | amendments Cyber crime and offences Organisations dealing | | | | | |
| | with Cyber crime and Cyber security in India. | | | | | |
| 3 | Social Media Overview and Security: | NS | 09 | 01 | 10 | 20 |
| | Introduction to Social networks. Types of Social media, Social | | ••• | - | | |
| (Marks) | media platforms, Social media monitoring, Hashtag, Viral | | | | | |
| 12 TH + 6 DD | content, Social media marketing, Social media privacy, | | | | | |
| 12 IH + 0 FK | Challenges, opportunities and pitfalls in online social network, | | | | | |
| | Security issues related to social media, Flagging and reporting | | | | | |
| | of inappropriate content, Laws regarding posting of | | | | | |
| | inappropriate content, Best practices for the use of Social | | | | | |
| | media. | | | | | |
| 4 | Commerce and Digital Payments | NS | 09 | 01 | 10 | 20 |
| (Marke) | Definition of E- Commerce, Main components of E- | | | | | |
| (Iviai KS) | Commerce, Elements of E-Commerce security, E- Commerce | | | | | |
| 12 TH + 8 PR | threats, E-Commerce security bestpractices, introduction to | | | | | |
| | holders Modes of digital payments Banking Cards Unified | | | | | |
| | Payment Interface (IIPI) e-Wallets Unstructured | | | | | |
| | Supplementary Service Data (USSD). Aadhar enabled | | | | | |
| | payments, Digital payments related common frauds and | | | | | |
| | preventive measures. RBI guidelines on digital payments and | | | | | |
| | customer protection in unauthorised banking transactions. | | | | | |
| | Relevant provisions of Payament Settlement Act,2007 | | | | | |



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| 5 | Digital Devices Security, Tools and Technologies for | RS | 09 | 01 | 10 | 20 |
|--------------|---|-------|--------|--------|------|-------|
| (Marks) | Cyber Security: End Point device and Mobile phone security, Password | | | | | |
| 12 TH + 6 PR | policy, Security patch management, Data backup, Downloading and management of third party software, | | | | | |
| | Device security policy, Cyber Security best practices, Significance of host firewall and Ant-virus, Management of host firewall and Anti-virus, Wi-Fi | | | | | |
| | permissions. | | | | | |
| | Total (in Hrs) | | 40 | 05 | 30 | 75 |
| Where, | L: Lectures T: Tutorials | P: Pr | actica | ls (1P | =2 H | ours) |

| : | OFFICE AUTOMATION |
|---|-------------------------------------|
| : | GECCSC1 |
| : | GENERIC |
| : | 03 |
| : | 80 (End Sem)(60T+20P) + 20 (In-Sem) |
| | : : : : |

| UNITS | CONTENTS | AL | L | Т | Р | Total Hours |
|------------------------------|---|------|---------|---------|--------|----------------|
| 1 (Marks) 12 TH + 2 PR | Introduction to office suite: Installation and basics of MS office/Libre office | NS | 04 | 01 | 04 | 09 |
| 2 (Marks) 12 TH + 2 PR | Word Processing: Working with Documents- Formatting Documents - Setting Page style- Creating Tables - Drawing- Tools - Printing Documents - Operating with MS Word documents. | NS | 06 | 01 | 04 | 11 |
| 3 (Marks) 12 TH + 4 PR | Spreadsheets: Worksheets, Formatting data, creating charts and graphs, using basic formulas and functions, macros, Pivot Table | RS | 05 | 01 | 06 | 12 |
| 4 (Marks) 12 TH + 4 PR | Presentation Tools: Adding and formatting text, pictures, graphic objects, including charts, objects, formatting slides, notes, hand-outs, slide shows, using transitions, animations | RS | 05 | 01 | 06 | 12 |
| 5 (Marks) 12 TH + 8 PR | Cloud: Introduction to cloud office automation using office- 365. | NS | 05 | 01 | 10 | 16 |
| | Total (in Hrs) | | 25 | 05 | 30 | 60 |
| Where, | L: Lectures T: Tutorials | P: 1 | Practio | cals(11 | P = 21 | Hours) |



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DETAILED SYLLABUS OF 3rd SEMESTER **CLOUD COMPUTING**

Title of the Course : **Course Code** : Nature of the Course: **Total Credits** : **Distribution of Mark:**

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MINCSC3 Minor 04

80 (End Sem)(60T+20P) + 20 (In-Sem)

| 1 Cloud architecture and model Technologies for Network-Based System – System Models for Distributed and Cloud Computing – NIST Cloud Computing Reference Architecture. Cloud Models: - Characteristics – Cloud Services – Cloud Models: - Characteristics – Cloud Services – Cloud Models: - Cloud ecosystem – Service management – Computing on demand. RS 09 01 01 01 2 Virtualization Basics of Virtualization - Types of Virtualization – Structures – Tools and Mechanisms – Virtualization of CPU, Memory, I/O Devices – Virtual Clusters and Resource management – Virtualization for Data-center Automation. RS 09 01 10 3 Cloud infrastructure Provisioning and Platform Deployment – Global Exchange of Cloud Resources. RS 08 01 10 4 Programming model Prarallel and Distributed Programming Paradigms – MapReduce , Twister and Iterative MapReduce – Hadoop I2 TH + 8 NS 08 01 10 19 5 Sceurity inthe cloud Scurity Overview – Cloud Scurity Challenges and Risks – Software-as-ascrice Scurity – Software Environments - Eucalyptus, Open Nebula, OpenStack, Aneka, CloudSim NS 08 01 10 19 5 Sceurity in the cloud Scurity Overview – Cloud Scurity Challenges and Risks – Software-as-ascrice Scurity – Applications Scurity – Virtual Machine Security – Identity Management and Access Control – Autonomic Scurity. NS 08 01 10 19 <th>UNITS</th> <th>CONTENTS</th> <th>AT</th> <th>L</th> <th>Т</th> <th>Р</th> <th>Total Hours</th> | UNITS | CONTENTS | AT | L | Т | Р | Total Hours |
|--|---------------------------------|--|----|----|----|----|----------------|
| 2 Virtualization Basics of Virtualization - Types of Virtualization Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices - Virtual Clusters and Resource management - Virtualizationfor Data-center Automation. RS 08 01 10 3 Cloud infrastructure Architectural Design of Compute and Storage Clouds (Marks) RS 08 01 10 19 12 TH + 4 PR Challenges - Inter Cloud Architecture Development - Design of Cloud Resources. NS 08 01 10 19 4 Programming model Parallel and Distributed Programming Paradigms - MapReduce, Twister and Iterative MapReduce - Hadoop Library from Apache - Mapping Applications PR NS 08 01 10 19 5 Security in the cloud Security Overview - Cloud Security Challenges and Risks - Software-as-a-Service Security - Security Governance - Software-as-a-Service Security - Security Governance - 12 TH + 8 NS 08 01 10 19 5 Security Overview - Cloud Security Challenges and Risks - Software-as-a-Service Security - Security Governance - Software-as-a-Service Security - Security Governance - 12 TH + 8 NS 08 01 10 19 7 Total (in Hrs) I dent first | 1 (Marks) 12 TH | Cloud architecture and model Technologies for Network-Based System – System Models for Distributed and Cloud Computing – NIST Cloud Computing Reference Architecture. Cloud Models: - Characteristics – Cloud Services – Cloud models (IaaS, PaaS, SaaS) – Public vs Private Cloud – Cloud Solutions - Cloud ecosystem – Service management – Computing on demand. | RS | 07 | 01 | - | 08 |
| 3 Cloud infrastructure RS 08 01 10 19 Architectural Design of Compute and Storage Clouds - Layered Cloud Architecture Development – Design 12 TH + 4 Challenges - Inter Cloud Resource Management – Resource PR Programming and Platform Deployment – Global Exchange of Cloud Resources. NS 08 01 10 19 4 Programming model Parallel and Distributed Programming Paradigms – MapReduce , Twister and Iterative MapReduce – Hadoop NS 08 01 10 19 12 TH + 8 Library from Apache – Mapping Applications PR Programming Support - Google App Engine, Amazon AWS - Cloud Software Environments - Eucalyptus, Open Nebula, OpenStack, Aneka, CloudSim NS 08 01 10 19 5 Security in the cloud Security Challenges and Risks – Software-as-a-Service Security – Security Governance – IS Software-as-a-Service Security – Application Security PR NS 08 01 10 19 12 TH + 8 Risk Management – Security Monitoring – Security Architecture Design – Data Security – Application Security – Virtual Machine Security - Identity Management and Access Control – Autonomic Security. 40 05 30 75 | 2 (Marks) 12 TH | Virtualization Basics of Virtualization - Types of Virtualization - Implementation Levels of Virtualization - Virtualization Structures - Tools and Mechanisms - Virtualization of CPU, Memory, I/O Devices - Virtual Clusters and Resource management – Virtualizationfor Data-center Automation. | RS | 09 | 01 | - | 10 |
| 4 Programming model Parallel and Distributed Programming Paradigms – MapReduce , Twister and Iterative MapReduce – Hadoop 12 TH + 8 NS 08 01 10 19 (Marks) MapReduce , Twister and Iterative MapReduce – Hadoop Library from Apache – Mapping Applications PR - 19 - | 3 (Marks) 12 TH + 4 PR | Cloud infrastructure Architectural Design of Compute and Storage Clouds – Layered Cloud Architecture Development – Design Challenges - Inter Cloud Resource Management – Resource Provisioning and Platform Deployment – Global Exchange of Cloud Resources. | RS | 08 | 01 | 10 | 19 |
| 5 Security in the cloud NS 08 01 10 19 (Marks) Software-as-a-Service Security – Security Governance – NS 08 01 10 19 12 TH + 8 Risk Management – Security Monitoring – Security Architecture Design – Data Security – Application Security Image: Architecture Design – Data Security – Application Security Image: Architecture Design – Data Security Image: Architecture Design – Data Security – Application Security Image: Architecture Design – Data Security Image: Architecture Design – Data Security – Application Security Image: Architecture Design – Data Security Image: Architecture Design – Data Security – Application Security Image: Architecture Design – Data Security Ima | 4 (Marks) 12 TH + 8 PR | Programming model Parallel and Distributed Programming Paradigms – MapReduce, Twister and Iterative MapReduce – Hadoop Library from Apache – Mapping Applications Programming Support - Google App Engine, Amazon AWS - Cloud Software Environments - Eucalyptus, Open Nebula, OpenStack, Aneka, CloudSim | NS | 08 | 01 | 10 | 19 |
| Total (in Hrs) 40 05 30 75 | 5 (Marks) 12 TH + 8 PR | Security in the cloud Security Overview – Cloud Security Challenges and Risks – Software-as-a-Service Security – Security Governance – Risk Management – Security Monitoring – Security Architecture Design – Data Security – Application Security – Virtual Machine Security - Identity Management and Access Control – Autonomic Security. | NS | 08 | 01 | 10 | 19 |
| | | Total (in Hrs) | | 40 | 05 | 30 | 75 |



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| Title of the Course | : | BASICS OF PHOTOSHOP |
|-----------------------|---|-------------------------------------|
| Course Code | : | GECCSC3 |
| Nature of the Course | : | GENERIC |
| ELECTIVETotal Credits | : | 03 |
| Distribution of Marks | : | 80 (End Sem)(60T+20P) + 20 (In-Sem) |
| | | |

| UNITS | CONTENTS | AT | L | Т | Р | Total Hours |
|------------------------------|---|----|--------------|----------------|--------------|----------------|
| 1 (Marks) 12 TH + 2 PR | Introduction to Photoshop Interface and Tools: Introduction to the Photoshop interface, Understanding the different tools and palettes, Setting up a workspace. | RS | 05 | 01 | 03 | 09 |
| 2 (Marks) 12 TH + 2 PR | Importing and Saving Files: Importing files into Photoshop, Understanding file formats and resolutions, Saving files in different formats. | RS | 05 | 01 | 03 | 09 |
| 3 (Marks) 12 TH + 2 PR | Working with Layers, Masks, and Selections: Understanding layers and how to use them, Creating masks and selections, Understanding the difference between raster and vector graphics. | NS | 05 | 01 | 03 | 09 |
| 4 (Marks) 12 TH + 6 PR | Basic Retouching Tools: Using the spot healing brush tool, Using the clone stamp tool, Understanding the patch tool. | NS | 05 | 01 | 10 | 16 |
| 5 (Marks) 12 TH + 8 PR | Color Correction Tools and Text: Uderstanding color modes, Using the curves tool, Using the levels tool, Using the hue/saturation tool, Creating text layers, Formatting text, Applying effects to text. | RS | 05 | 01 | 11 | 17 |
| Where | Total (in Hrs) L: Lectures T: Tutorials | | 25 P: Pro | 05 ucticals | 30 5(1P=2 | 60 2 Hours) |



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| Title of the Course |
|-----------------------|
| Course Code |
| Nature of the Course |
| COURSETotal Credits |
| Distribution of Marks |

DIGITAL FLUENCY VAC 3 (OPTION 1) VALUE ADDED 02

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40 (End Sem) (30T+10P) + 20 (In-Sem)

| 1Introduction to Digital Fluency (Marks) 8 TH + 2 PRNS020108112Computer Basics Introduction to computer hardware and software, Basic computer componentsand their functions, Basics of Operating system and file management, Internet and Web Browsing.RS040108133Introduction to the Internet, email and Social Marks) 14 TH + 6 PRNS060114214Media Navigating the web, Search engines and search strategies, Creating and managing email accounts, Composing, and sending emails, Email etiquette and best practices, Introduction to social media platforms, Privacy, and security settings, Creating and managing social media accounts, Posting, and sharing content.12033045 | UNITS | CONTENTS | AT | L | Т | Р | Total Hours |
|--|------------------------------|---|----|----|----|----|----------------|
| 2Computer BasicsRS04010813Introduction to computer hardware and software, Basic computer componentsand their functions, Basics of Operating system and file management, Internet and Web Browsing.NS060114213Introduction to the Internet, email and Social | 1 (Marks) 8 TH + 2 PR | Introduction to Digital Fluency Understanding digital fluency, Importance of digital fluency,Skills required fordigital fluency | NS | 02 | 01 | 08 | 11 |
| 3 (Marks) 14 TH + 6 PRIntroduction to the Internet, email and Social Media Navigating the web, Search engines and search strategies, Creating and managing email accounts, Composing, and sending emails, Email etiquette and best practices, Introduction to social media platforms, Privacy, and security settings, Creating and managing social media accounts, Posting, and sharing content.NS06011421Total (in Hrs)12033045 | 2 (Marks) 8 TH + 2 PR | Computer Basics Introduction to computer hardware and software, Basic computer componentsand their functions, Basics of Operating system and file management, Internet and Web Browsing. | RS | 04 | 01 | 08 | 13 |
| Total (in Hrs) 12 03 30 45 | 3 (Marks) 14 TH + 6 PR | Introduction to the Internet, email and Social Media Navigating the web, Search engines and search strategies, Creating and managing email accounts, Composing, and sending emails, Email etiquette and best practices, Introduction to social media platforms, Privacy, and security settings, Creating and managing social media accounts, Posting, and sharing content. | NS | 06 | 01 | 14 | 21 |
| | | Total (in Hrs) | | 12 | 03 | 30 | 45 |

Where, AL: ALLOTED TEACHER RS: RIMPI SARMA NS: NIAZ ALI SHAH